Volksbanken Raiffeisenbanken
cooperative financial network

INITIATIVE IMPACT

Taking the Initiative Today,
Making an Impact on Tomorrow.

2016 Annual Report

DZ BANK Group

Key figures

DZ BANK GROUP

€ million	2016	2015
FINANCIAL PERFORMANCE		
Operating income[1]	6,110	5,858
Allowances for losses on loans and advances	-569	-153
Profit before taxes	2,197	2,453
Net profit	1,606	1,796
Cost/income ratio (percent)[2]	58.9	55.5

	Dec. 31, 2016	Dec. 31, 2015
FINANCIAL POSITION		
Assets		
Loans and advances to banks	107,253	80,735
Loans and advances to customers	176,532	126,850
Financial assets held for trading	49,279	49,520
Investments	70,180	54,305
Investments held by insurance companies	90,373	84,744
Remaining assets	15,830	12,187
Equity and liabilities		
Deposits from banks	129,280	97,227
Deposits from customers	124,425	96,186
Debt certificates issued including bonds	78,238	54,951
Financial liabilities held for trading	50,204	45,377
Insurance liabilities	84,125	78,929
Remaining liabilities	20,285	15,942
Equity	22,890	19,729
Total assets/total equity and liabilities	**509,447**	**408,341**
Volume of business	**843,130**	**701,591**

	Dec. 31, 2016	Dec. 31, 2015
LIQUIDITY ADEQUACY		
DZ BANK Group		
Economic liquidity adequacy (€ billion)[3]	11.2	8.9
DZ BANK banking group		
Liquidity coverage ratio – LCR (percent)	151.0	125.8
CAPITAL ADEQUACY		
DZ BANK Group		
Economic capital adequacy (percent)[4]	163.5	173.5
DZ BANK financial conglomerate		
Coverage ratio for the financial conglomerate (percent)[5]	178.6	185.1
DZ BANK banking group		
Common equity Tier 1 capital ratio (percent)[6]	14.5	13.9
Common equity Tier 1 capital ratio applying CRR in full (percent)[7]	14.5	13.0
Tier 1 capital ratio (percent)[6]	16.0	15.6
Total capital ratio (percent)[6]	18.6	18.8
Leverage ratio (percent)[6]	4.4	4.5
Leverage ratio applying CRR in full (percent)[7]	4.1	4.0
AVERAGE NUMBER OF EMPLOYEES DURING THE YEAR	**29,341**	**30,029**
LONG-TERM RATING		
Standard & Poor's	AA-	AA-
Moody's Investors Service	Aa3	Aa3
Fitch Ratings	AA-	AA-

1 Total of net interest income, net fee and commission income, gains and losses on trading activities, gains and losses on investments, other gains and losses on valuation of financial instruments, net income from insurance business, and other net operating income.
2 Prior-year figure restated.
3 Stress scenario with the lowest minimum liquidity surplus.
4 The figure as at December 31, 2015 differs from the figure in the 2015 Annual Report due to a scheduled recalculation of the overall solvency requirement for the Insurance sector in the second quarter of 2016.
5 December 31, 2016: Provisional coverage ratio including data from R+V in accordance with Solvency II; December 31, 2015: Confirmed final coverage ratio including data from R+V in accordance with Solvency I.
6 In accordance with the requirements applicable as at the reporting date.
7 In accordance with the requirements applicable from 2019.

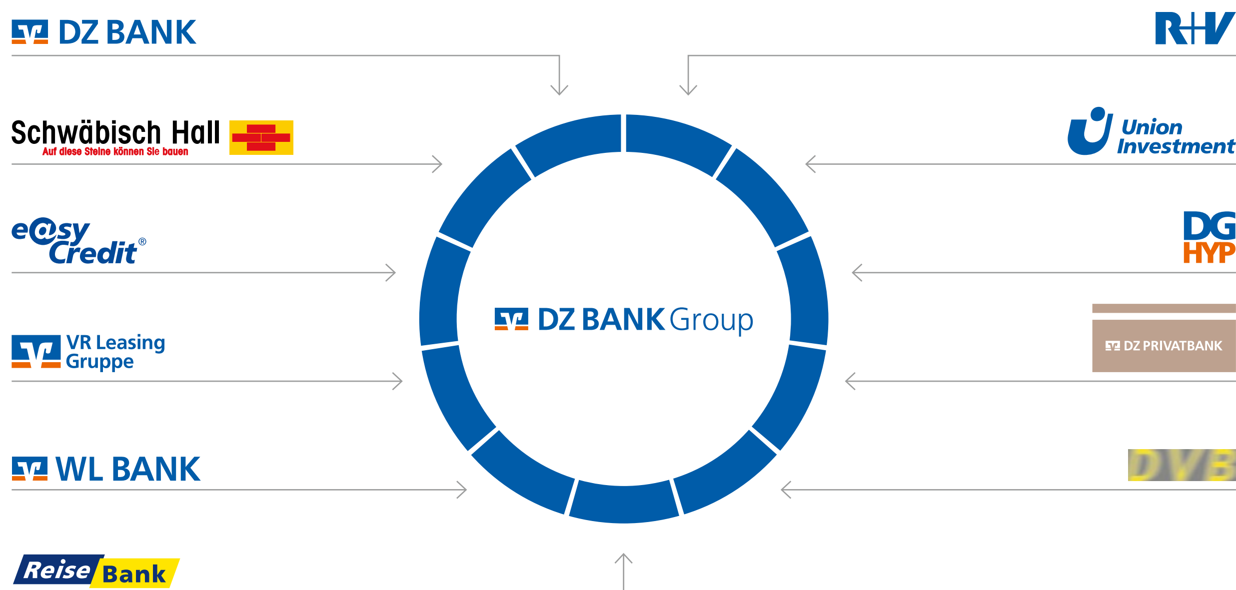
DZ BANK Group
Partners in the Volksbanken Raiffeisenbanken cooperative financial network

The DZ BANK Group forms part of the German cooperative financial network, which includes around 1,000 local cooperative banks and is one of Germany's largest private-sector financial services organizations measured in terms of total assets. Within the cooperative financial network, DZ BANK AG functions as the central institution and is responsible for supporting the business of the cooperative banks in their regions and strengthening their competitiveness. It also operates as a corporate bank and acts as the holding company for the DZ BANK Group.

The DZ BANK Group includes Bausparkasse Schwäbisch Hall, DG HYP, DZ PRIVATBANK, R+V Versicherung, TeamBank, Union Investment Group, VR Leasing Group, WL BANK, and various other specialized institutions. With their strong brands, the entities in the DZ BANK Group constitute key pillars in the range of financial products and services offered by the cooperative financial network. The DZ BANK Group sets out its strategy and range of services for the cooperative banks and their customers through its four business lines – Retail Banking, Corporate Banking, Capital Markets, and Transaction Banking.

This combination of banking, insurance, home savings, and personal investment products and services has a long and successful tradition in the cooperative financial network. The specialized institutions in the DZ BANK Group provide highly competitive products at reasonable prices within their specific areas of expertise. This ensures that the cooperative banks in Germany are able to offer their clients a comprehensive range of outstanding financial services.

Strong brands – strong partners:
Some of the DZ BANK Group's brands



More information on the DZ BANK Group: www.annualreport.dzbank.com.

The magazine
for the 2016 Annual Report

If the magazine accompanying the Annual Report is missing, you can find it online at www.annualreport.dzbank.com

2016 Annual Report

Taking the Initiative Today, Making an Impact on Tomorrow.

Thinking ahead on our own initiative. Taking new paths in order to make progress. The strength to achieve things together. These are the guiding principles of the joint central institution.

Following the merger of DZ BANK and WGZ BANK on August 1, 2016, the cooperative organization now has just one central institution – a key element of ensuring the entire cooperative financial network is ready for the future.

Die Initiativbank, the joint central institution's slogan, is not simply something that we use in communications but an idea that we put into practice every day. Our employees present their initiatives in the magazine accompanying the Annual Report, which you can find enclosed here as well as online at www.annualreport.dzbank.com.

Magazine accompanying the Annual Report

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Wolfgang Kirsch (Chief Executive Officer)

Dear Shareholders,

The DZ BANK Group can look back on a successful and strategically significant year. With profit before taxes of €2.2 billion, we comfortably achieved the target that we had set ourselves for 2016 of a pre-tax profit of more than €2 billion. This result reflects the good performance of our group's customer business and, at the same time, the successful merger with WGZ BANK. The merger, which was accomplished in a very short time frame, underpins our organization's resolve to tackle our shared challenges.

The merger-related income and expenses, which amounted to net income of €256 million, are reported in the income statement under 'Net income from the business combination with WGZ BANK'. All the other line items relate to the business performance of DZ BANK Group before the merger in the first half of 2016 and to the performance of the merged bank in the second half of the year. The figures shown are therefore not comparable with previous years.

Net interest income reached €2.66 billion, with DZ BANK AG's corporate banking business performing particularly well. We have made good progress on attracting new customers and expanding our business relationships. However, there was a negative impact from provisions that were recognized to cover interest rate bonuses at Bausparkasse Schwäbisch Hall (BSH) because of the persistently low interest rates. Allowances for losses on loans and advances stood at €569 million and were primarily affected by negative developments in DVB Bank's shipping finance portfolio but were otherwise unremarkable. At €1.7 billion, net fee and commission income was again at a high level. This was mainly due to continued strong business performance from Union Investment and to increases at DZ BANK AG and BSH. Gains and losses on trading activities amounted to €780 million and were influenced by valuation effects for own issues as well as by the growth of primary market business for bonds. DZ BANK also boosted its sales of structured products and expanded its market share in this business. Gains and losses on investments came to €127 million and included extraordinary income from the disposal of shares in VISA Europe. The net income from insurance business of €760 million is the result of R+V Versicherung's positive operating performance and encouraging level of gains and losses on investments held by insurance companies.

From left to right:
Wolfgang Köhler, Uwe Berghaus, Frank Westhoff, Wolfgang Kirsch (Chief Executive Officer), Hans-Bernd Wolberg (Deputy Chief Executive Officer), Dr. Christian Brauckmann, Thomas Ullrich, Karl-Heinz Moll, Dr. Cornelius Riese, Michael Speth, Lars Hille, Stefan Zeidler

Administrative expenses in the DZ BANK Group amounted to €3.6 billion and were influenced primarily by the extensive portfolio of projects required by current regulatory standards as well as by the continued investment in our market initiatives.

The success of the past financial year and the speedy implementation of our merger reflect the special commitment of the employees in the DZ BANK Group. My colleagues on the Board of Managing Directors and I would like to express our sincere gratitude to them.

These good results have enabled us to again retain profits. We have further strengthened our capital base from our own resources, not least due to the positive effects from the merger. Applying the provisions of the Capital Requirements Regulation (CRR) in full, the DZ BANK Group's common equity Tier 1 capital ratio therefore reached 14.5 percent as at December 31, 2016. At the end of 2015, this ratio for the pre-merger DZ BANK Group stood at 13.0 percent. Effective capital management will continue to be very important to our banking group going forward, in particular as further regulatory requirements – especially those in connection with Basel IV – appear on the horizon, placing a further strain on our capital.

Having weighed up our capital management requirements and the legitimate interests of our owners, we will propose a dividend of 18 cents per share (2015: 16 cents) to the Annual General Meeting.

Looking ahead, we will continue to face challenging conditions. These include heightened political risk, particularly the emerging changes in transatlantic relations and Europe's as-yet unresolved identity crisis. Some European countries are still experiencing structural problems, while the European Central Bank continues with its expansionary monetary policy in spite of mounting evidence for the negative side-effects this is having. On a positive note, the economic sentiment indicators in the eurozone appear much brighter. Economic momentum in our German domestic market is fairly encouraging; employment is at a record level and is likely to continue improving. Our economists predict growth of 1.5 percent in 2017.

Against this economic backdrop, it is important that we continue to focus on our market success while remaining fully confident in our own strengths. The merger has reinforced the DZ BANK Group's strategic and business structures for the long term. We are now even better placed to operate in the market from a position of strength. Our sound capital adequacy and liquidity, good reputation, one of the best bank ratings in Europe and, following the merger, a complete range of products and services are arguments in our favor. The positive feedback from our customers, especially in the corporate banking business, gives us further encouragement.

The next significant step in the structuring of the DZ BANK Group will be the gradual move toward a holding company structure. We will do the necessary groundwork this year. In addition, we are aiming to reorganize our real estate finance activities. We are taking these steps in order to ensure the highly effective management of our business. At the same time, the individual units can concentrate even more on continuously improving their own products and services.

Our earnings for 2017 will be significantly influenced by this structural work following on from our merger, while the full benefit of the synergies will only come to bear in the years ahead. With these factors in mind, we anticipate that profit before taxes will be at the lower end of our long-term earnings range of €1.5 billion to €2 billion in 2017 before rising again in subsequent years.

Ensuring the competitiveness of our cooperative financial network lies at the core of our joint efforts. Completion of the process to consolidate the central institutions was pivotal in this regard. The merger of the computing centers, the pooling of strengths at association level, and also the consolidation of cooperative banks represent further steps in this direction. At the same time, the success that we have achieved sets the bar high for the months and years ahead – a challenge that we are working to meet.

Kind regards,

Wolfgang Kirsch
Chief Executive Officer

Group management report

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Note

DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK), as the parent company in the DZ BANK Group, implements the transparency requirements as specified in section 37v of the German Securities Trading Act (WpHG) and section 315 of the German Commercial Code (HGB) and complies with equivalent requirements in the relevant German accounting standard (GAS 20 Group Management Report) with the publication of this group management report.

All figures are rounded to the nearest whole number. This may result in very small discrepancies in the calculation of totals and percentages.

I. DZ BANK Group fundamentals

DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, and WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank, Düsseldorf, (WGZ BANK) completed their legal merger in the reporting year and started operations as the joint central institution of the local cooperative banks on schedule.

The objectives behind the merger are pooling the strategic expertise and operational strength of the two cooperative central institutions, refining processes, leveraging income and cost synergies, deploying available resources efficiently, and laying the foundations for the further development of the superstructure of the cooperative financial network.

1. Business model

The joint central institution (DZ BANK) formed as a result of the merger focuses closely on the local cooperative banks, which are its customers and owners. The DZ BANK Group makes a significant contribution to helping the cooperative banks strengthen their market position by providing them with competitive products and services on a decentralized basis for incorporation into their end-customer business.

The focus on network-based business is always given priority, especially in times when resources are in short supply. In its role as a corporate bank, DZ BANK offers complementary services using existing products, platforms, and support activities. These services are constantly reviewed both from a strategic perspective (for example, so that there is no direct competition with the cooperative banks) and from an economic perspective (for example, so that the returns are appropriate and the risk acceptable).

2. Strategic focus of the DZ BANK Group as a network-oriented central institution and financial services group

The strategic focus in the DZ BANK Group follows the guiding principle of fulfilling the role of a network-oriented central institution and financial services group. Business activities are centered on the local cooperative banks and their customers in the group's home market of Germany. The objective of this strategic approach is to consolidate the positioning of the cooperative financial network as one of the leading financial services providers in Germany on a long-term basis. To achieve this aim, the DZ BANK Group is steadfastly pursuing a three-pronged strategy of growth oriented to the cooperative financial network, a continuation of the focusing of business activities, and integration within the network and with the cooperative banks.

DZ BANK works jointly with the Special Committees of the Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V., Berlin, (BVR) [National Association of German Cooperative Banks] on key future-related issues to safeguard the competitiveness of the cooperative financial network. At the core of these activities is the Kundenfokus 2020 project, the aim of which is to create an omnichannel customer experience in which the strengths of the cooperative approach are transferred to a digital environment. Various innovative products for the customers of the cooperative financial network have already been developed and established in the market within this framework. One example is the online GENO Broker platform, a support service for the cooperative partner banks offering a range of cutting-edge, forward-looking services in connection with the securities business. In the year under review, Union Asset Management Holding AG, Frankfurt am Main, (Union Asset Management Holding; subgroup abbreviated to UMH) also established VisualVest GmbH, Frankfurt am Main, which offers financial services for retail investors in the form of a robo-advisor on a digital platform. Project participants are currently involved in a number of other activities, including developing a digital network for members of the local cooperative banks and setting up one-and-done processes that will enable certain procedures to be carried out digitally from end to end in the future. Further initiatives are planned as part of the project over the coming years.

In the reporting year, DZ BANK set up an 'innovation lab' as part of its digitalization strategy with the aim of bringing speed and agility to the way it develops and tests new ideas. One such idea pursued in this way is the VR-AgrarInvestplan, an application for agribusiness customers that helps to optimize finances including development loans. To encourage development of concepts for the future of banking in the cooperative

financial network, DZ BANK has also supported various hackathons by providing the necessary infrastructure, technologies, and participants.

2.1. DZ BANK

The merger of DZ BANK and WGZ BANK into one cooperative central institution was completed in the year under review, thereby bringing to an end the steady process of consolidating all these institutions. DZ BANK and the former WGZ BANK have brought together their strategic and operating strengths for the benefit of the entire cooperative financial network, based on a successful business model and complementary market territories.

The merger will generate considerable strategic, business management, and regulatory synergies. One of the core aims is to generate additional growth and earnings. DZ BANK will continue to develop its central institution services in corporate banking, international business, cooperative network business, capital markets business, and transaction banking. It will also retain its decentralized structures for supporting the local cooperative banks and the corporate banking business. DZ BANK's overall aim is to achieve a level of profitability that enables an appropriate dividend to be paid over the long term, taking the cooperative support principle into consideration. At the same time, DZ BANK needs to be able to retain sufficient profits so that it can meet the regulatory requirements for capital adequacy.

Potential savings result from combining and standardizing structures and processes and from avoiding duplication of capital investment on platforms for IT and processes, particularly in view of the growth in regulatory requirements. Integration will include a reduction in the number of jobs. With this in mind, DZ BANK entered into agreements on July 13, 2016 consisting of the reconciliation of interests required by German law and a social compensation plan. Total income and cost synergies of €100–150 million per year are expected after the integration has been completed. The one-off costs of the merger amount to approximately €350 million.

The merger of the two central institutions gave rise to a huge range of IT requirements in 2016 and will continue to do so over the next few years. To date, all the necessary milestones in connection with the merger have been reached on schedule. Shared infrastructure was made available on August 1, 2016. The other divisions will be gradually integrated from both functional and technical perspectives over the period up to the end of 2018, although efforts will be made to complete key stages in the migration process by the end of 2017. This will be accompanied by the process of harmonizing operational and organizational structures as well as existing product portfolios.

Once the central institutions have been successfully integrated, the plan is to refine the governance structure by the end of the decade. This will involve pooling the overarching strategic and steering functions in one unit (holding company) that will only have a few tasks related to the cooperative network and bringing together the operating activities of the central institution in a separate entity at the same level as the other group entities. This will enable the greatest possible transparency regarding the income structure of the merged central institution and its business lines.

2.1.1. Cooperative Banks/Verbund

Support for the local cooperative banks provided by Regionaldirektoren [regional directors] and the consultancy and other services delivered in connection with strategic bank management are the responsibility of the Cooperative Banks/Verbund division. The Regionaldirektoren serve as a central strategic point of contact for the cooperative banks' business relationship with the DZ BANK Group to strengthen the financial products and services they provide.

DZ BANK also offers the local cooperative banks consulting services on regulatory issues and at every stage of the strategic bank management process, from defining the strategy to managing risk and implementing the strategy. It aims to leverage further income synergies going forward by offering a targeted range of outsourcing and process contracting services.

As part of the merger-related integration process, DZ BANK will harmonize the range of services and the processes involved in consulting and strategic bank management. To ensure that customer satisfaction is maintained, it will be particularly important to remain in close contact with customers and shareholders, and to provide detailed support during the migration phase.

2.1.2. Corporate Banking

DZ BANK offers corporate customers in Germany the entire range of corporate banking services, either

directly or on a decentralized basis in collaboration with the local cooperative banks. The holistic relationship management approach is tailored to the needs of the customer and encompasses all the products and services of the DZ BANK Group.

The merger of DZ BANK and WGZ BANK means the customer-focused marketing can be expanded throughout Germany. Currently, five regional divisions (Northern and Eastern Germany, Central Germany, Western Germany, Baden-Württemberg, and Bavaria) operating from a total of fourteen locations look after the business with corporate customers in Germany. This guarantees proximity to the local cooperative banks and the joint customers. The regional customer relationship management structure is a major factor in strengthening the market position of the cooperative financial network, in that it enables DZ BANK to work together with the local cooperative banks to enhance existing customer relationships and attract new customers. This strategy has enabled the cooperative financial network to expand its share of the corporate lending market to more than 20 percent despite the ferocious competition and limited market growth in a persistently challenging market environment. The aim is to increase this figure to 25 percent over the medium term.

As part of the digitalization activities in the reporting year, DZ BANK continuously refined VR BusinessOnline (formerly Easy Entry Business), the online offer and agreement process provided for the cooperative financial network. This service now also allows customers of the local cooperative banks to submit documents electronically and save their inquiries. It provides the user banks with a convenient way of managing customer inquiries. Products from two other entities in the DZ BANK Group, namely UMH and R+V Versicherung AG, Wiesbaden, (R+V Versicherung; subgroup abbreviated to R+V), have now also been integrated into the system. Looking ahead, there are plans to include options for finalizing product orders, including online verification of identity. BankingGuide is a tool that has been developed to follow on from the advisory logic in ProFi ZV. It provides digital support for the local cooperative banks, enabling them to continue to improve the quality of their advice in the payments processing business – regardless of whether advice is given on a website or face-to-face – thereby increasing customer loyalty and product sales. DZ BANK has also invested in TrustBills, an electronic marketplace for selling companies' receivables to international institutional investors.

The increasing internationalization of the German economy remains one of the core issues in corporate banking. For the benefit of its customers, DZ BANK has developed a cash and treasury management tool set in collaboration with BELLIN as well as a special customer approach strategy entitled 'International business for corporate customers of the local cooperative banks' to help the cooperative financial network leverage the considerable opportunities for growth and income in this underdeveloped area of business. DZ BANK is also planning to open a representative office in Jakarta because of the heavy demand for financing from German corporate customers in connection with transactions involving Indonesian partners.

2.1.3. Retail Banking

In the Retail Banking business line, DZ BANK offers the cooperative banks and carefully selected partner or third-party banks end-to-end services (generally platform- and process-driven) in the securities business, focusing on personal investments.

It systematically pursues an omnichannel approach and supports the local cooperative banks with their omnichannel presence. The focus is on customers, with the objective of offering them a comprehensive personal investment solution that is tailored to their needs and available around the clock. Customers benefit not only from conventional banking but also from digital access to their bank, offering mobile login, numerous online tools (such as VR-ProfiBroker and VR-ProfiTrader), and other options such as the derivatives portal at www.dzbank-derivate.de.

DZ BANK is aiming for further growth in product sales, enabling it to continue to strengthen its position as market leader in the overall German market for investment certificates. It is also working to refine its advisory services for the local cooperative banks with a view to leveraging potential from business with high-net-worth individuals in collaboration with DZ PRIVATBANK S.A., Strassen, (DZ PRIVATBANK S.A.; subgroup abbreviated to DZ PRIVATBANK).

2.1.4. Capital Markets

In the Capital Markets business line, DZ BANK offers its customers investment and risk management products, together with advisory services in connection with the interest rate, credit, equities, and currency asset classes. The range of products and services – which includes both primary and secondary market activities – is based mainly on the needs of the cooperative banks, their retail and corporate customers, and the corporate customers and institutional customers in Germany and abroad supported directly by DZ BANK. The offering also includes research services and the provision of e-trading platforms.

As part of DZ BANK's capital market activities, Group Treasury also holds responsibility for cash-pooling for the cooperative financial network, manages liquidity and interest rate risk at DZ BANK, and ensures that the local cooperative banks have access to both global liquidity markets and central bank liquidity. To address the growing challenges presented by the market and regulatory requirements, liquidity management and the funding structure are continuously refined in various projects; a strategic treasury function with integrated resources management is also being set up.

2.1.5. Transaction Banking

To help the local cooperative banks make the most of the potential in the transaction banking market, DZ BANK provides a comprehensive range of services covering payments processing/cash, cards/e- and m-payments, and depositary business. In this way, it supports the cooperative financial network, making optimum use of economies of scale and potential efficiencies.

DZ BANK is one of the major European players in the processing of bulk payments. It has been able to achieve economies of scale for some years by using equensWorldline, the leading European provider in this business. This partnership will also enable DZ BANK to leverage potential synergies in the future because equensWorldline is already geared up for future payments system changes, such as those in connection with instant payments and alternative channels for transferring funds internationally.

In the year under review, the depositary reported a record level of assets under depositary, which means it continues to be ranked number 5 in Germany, behind four international competitors.

In the area of e-payments and m-payments, the paydirekt online payments solution launched back in 2015 continued to be expanded as a core project undertaken by the banks in Germany. The focus was on continually increasing the number of participating merchants, attracting beacon companies, and refining the solution's underlying technology. To satisfy customer demand for faster payments processing, DZ BANK is supporting the initiative of the Euro Retail Payments Board to introduce a European instant payments system. This clearly sets the direction of future developments in payments processing and also offers Europe the opportunity to position itself as a global competitor in this business. In this context, one of the group entities, ReiseBank AG, Frankfurt am Main, (ReiseBank), was involved in a pilot project in the year under review in which it carried out for the first time a real payment using blockchain technology, one of the technologies of the future in banking.

2.2. BSH

Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, (Bausparkasse Schwäbisch Hall; subgroup abbreviated to BSH) bases its activities on the strategic objective of being the profitable market leader in building society operations. In this context, it invests in continuously reviewing and adjusting its scales and charges, developing and introducing product innovations, digitalizing its core business in line with the requirements of the cooperative financial network, and optimizing its home savings portfolio.

The persistently low level of interest rates had a further detrimental effect on BSH's business model in the reporting year. In response, BSH has taken measures to increase productivity and is implementing an IT investment program in the period up to 2018. It is also continuing to expand the home finance division jointly with the local cooperative banks to further diversify the sources of income.

2.3. DG HYP

Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, (DG HYP) is the center of competence for commercial real estate finance in the cooperative financial network and places its comprehensive market

expertise at the disposal of the local cooperative banks to assist them in their regional markets.

DG HYP aims to generate a sustainable level of new business to secure its position in the market. The new business acquired jointly with the cooperative banks continues to play a significant role. DG HYP currently works with more than 400 local cooperative banks on a regular basis. Its decentralized sales operations focus on small and medium-sized enterprises in Germany.

DG HYP also assists the local cooperative banks with public-sector funding inquiries, allowing these banks to strengthen their presence in this market and intensify business relations with local authorities.

As part of its corporate strategy, DG HYP has been continuously winding down certain specified portfolios since 2007.

2.4. DVB

DVB Bank SE, Frankfurt am Main, (DVB Bank; subgroup abbreviated to DVB) is strategically focused on the international transport market, which can be broken down into shipping, offshore, aviation, and rail transport segments.

Lending continues to be DVB's core business, the main component of which consists of arranging and providing structured finance. DVB is also implementing various initiatives to identify and evaluate new sources of income. For example, it is constantly refining its range of advisory services and investment activities for customers and is continuing to expand its corporate finance activities through selected capital market issues and M&A transactions.

In the year under review, DVB received an income subsidy from its parent DZ BANK because of the rising need for allowances for losses on loans and advances caused by the unrelenting challenges in the market for ship and offshore finance, and because of the increasing capital requirements imposed on banks.DZ BANK will also be implementing a squeeze-out in DVB to increase flexibility in the further pursuit of strategic options.

2.5. DZ PRIVATBANK

DZ PRIVATBANK S.A. headquartered in Luxembourg, together with its wholly owned subsidiaries DZ PRIVATBANK (Schweiz) AG, Zurich, (DZ PRIVATBANK Schweiz), IPConcept (Luxemburg) S.A., (IPC LU), and IPConcept (Schweiz) AG, (IPC CH), is the cooperative financial network's center of excellence and solutions provider for private banking, fund services, and financing in all currencies (LuxCredit). Close collaboration with cooperative partner banks is the cornerstone of its decentralized growth strategy. With 100 sales employees based at ten locations, DZ PRIVATBANK has a presence across the whole of the German market so that it can provide sales support locally for the cooperative banks and continue to expand the various areas of business jointly with them.

To address the problems caused by the tough market conditions and low interest rates, DZ PRIVATBANK has implemented a comprehensive package of measures to increase efficiency and productivity as well as optimize costs. In 2016, it relocated more functions to its headquarters in Luxembourg as part of the rationalization of its international offices. In addition, the two wholly-owned subsidiaries Europäische Genossenschaftsbank S.A., (EG Bank) and DZ PRIVATBANK Singapore Ltd., (DZ PB SG) were merged with DZ PRIVATBANK S.A. However, DZ PRIVATBANK will continue to offer customers of the cooperative financial network access to the financial center of Singapore through a partnership with a local private banking provider.

The opportunity to diversify wealth geographically and the provision of specialized international products combined with local advisory expertise remain key components of the cooperative private banking service and form part of DZ PRIVATBANK's holistic advisory approach.

2.6. R+V

R+V, one of the leading insurers in the German market, offers the customers of the cooperative financial network a comprehensive range of products and a high level of advice and service quality in each of its divisions (non-life insurance, life insurance, health insurance, and reinsurance).

The aim of its activities is to generate profitable growth. To gain further market share, R+V is therefore focusing increasingly on leveraging business potential in the cooperative financial network, expanding cross-selling, and accelerating the development of multichannel sales.

The digitalization of business and customer processes is becoming increasingly important in the insurance industry too. R+V is working on transposing its successful business model to a digital environment. The critical factor is the interaction between a smart online presence and face-to-face advice delivered locally. All relevant products will gradually be made available digitally, both at ruv.de and on the websites of R+V's sales partners.

2.7. TeamBank

TeamBank AG Nürnberg, Nuremberg, (TeamBank) is a cooperative consumer finance provider and works closely with the cooperative banks. Its overarching strategic aim is to secure new customers for the cooperative financial network. TeamBank is firmly focused on the customer with its easyCredit product, positioning itself over the long term as a fair consumer finance expert in the German market.

TeamBank believes that technologies fit for the future and an outstanding team are the basis for its ongoing pursuit of growth in the core business. As part of its digitalization strategy, TeamBank has, since July 2016, enabled its customers to complete the entire consumer finance agreement process online, one of the first providers in the market to do so. It is continuing to expand its e-commerce activities and, in 2016, developed for the customers of the cooperative financial network a technology-based method for holistic liquidity planning and provision.

2.8. UMH

UMH is the central asset manager in the cooperative financial network. UMH's activities in its retail client business are based on a fixed earnings and growth strategy with the aim of continuing its dynamic growth and further stabilizing its earnings situation. It focuses on the systematic further development of key products in relevant areas of demand, such as investment solutions suitable for a low interest rate environment. This also increasingly includes the range of multi-asset funds. In the institutional client business, UMH is becoming increasingly successful in its efforts to position itself as a risks/returns manager.

In addition to generating growth in its core business, UMH has further increased its assets under management by entering the Austrian market. It has operated in this market as Union Investment Austria since January 2016 and is stepping up its partnership with Austria's Volksbanken cooperative banks, focusing on selling asset management products.

2.9. VR LEASING

VR-LEASING Aktiengesellschaft, Eschborn, (VR-LEASING AG; subgroup abbreviated to VR LEASING) offers simple, fast liquidity and financing solutions in its core business areas of leasing, loans, rental, hire purchase, factoring, and centralized settlement for customers from Germany's small and medium-sized enterprises, which have strong regional ties. Working in collaboration with the local cooperative banks, VR LEASING supports the growth of the cooperative financial network in its business with German small and medium-sized enterprises by providing a modular range of services and by expanding focus products and services related to the core business according to needs. For example, in 2016, VR LEASING launched a range of business lending products with numerous flexible options under the name VR Leasing flexibel, the agreements for which can be processed digitally and thus concluded simply and quickly.

The strategy to wind down international business took another step forward in the reporting year when the Hungarian subsidiary Lombard Pénzügyi és Lízing Zártkörûen Mûködo Részvénytársaság, Szeged, (Lombard Lízing) was sold in April 2016.

2.10. WL BANK

WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK) was added as a management unit of the DZ BANK Group following the merger of DZ BANK and WGZ BANK. Its core businesses are real estate finance, local authority, and Pfandbrief treasury business with a focus on customers in Germany.

As part of its corporate strategy, WL BANK is aiming to further consolidate its market position in the real estate finance business, primarily by expanding its business with the local cooperative banks nationwide, and to extend its role as the competence center for public-sector customers in the cooperative financial network. A critical factor in this regard from the sales perspective is the project commenced in 2016 to migrate the core banking system from bank21 to agree21 supplied by Fiducia & GAD IT AG, Karlsruhe and Münster, (Fiducia & GAD). This project forms part of the comprehensive integration of IT relating to the retail banking business.

WL BANK also continued to push ahead with its digitalization projects in the year under review. For example, in the first half of 2016, a separate loan application system was successful integrated into the IT system used throughout the cooperative financial network. The digitalization of WL BANK's internal processes also continues to form part of these projects.

3. Management of the DZ BANK Group

3.1. Management units

The DZ BANK Group comprises DZ BANK as the parent company, the DZ BANK Group's fully consolidated subsidiaries in which DZ BANK directly or indirectly exercises control, and other long-term equity investments that are not fully consolidated.

All entities in the DZ BANK Group are integrated into groupwide management. In the case of subgroups, the disclosures in the group management report on management units relate to the entire subgroup comprising the parent company of the subgroup plus its subsidiaries and second-tier subsidiaries. The management units are managed by the parent company in the subgroup, which is responsible for compliance with management directions in the subsidiaries and second-tier subsidiaries. The following management units are each managed as a separate operating segment:

– DZ BANK
– BSH
– DG HYP
– DVB
– DZ PRIVATBANK
– R+V
– TeamBank
– UMH
– VR LEASING
– WL BANK.

These fully consolidated entities are management units and form the core of the financial services group. DZ BANK forms a separate management unit from a higher-level perspective.

The terms DZ BANK Group and DZ BANK financial conglomerate are synonymous and refer to all the management units together. The context dictates the choice of term. For example, in the case of disclosures relating to economic management, the focus is on the DZ BANK Group, whereas in the case of regulatory issues relating to all the management units in the DZ BANK Group, the term DZ BANK financial conglomerate is used.

The DZ BANK financial conglomerate primarily comprises the DZ BANK banking group and R+V. DZ BANK acts as the financial conglomerate's parent company.

3.2. Governance

Governance in the DZ BANK Group is characterized by the general management approach of the DZ BANK Group, appointments to key posts in the subsidiaries, and the committee structure.

3.2.1. General management approach

The general management approach consists of a combination of centralized and decentralized management tools. It is aligned with the business model and risks of the DZ BANK Group as a diversified financial services group that is integrated into the Volksbanken Raiffeisenbanken cooperative financial network and that provides this network with a comprehensive range of financial products.

The DZ BANK Group is a financial services group comprising entities whose task as product specialists is to supply the Volksbanken Raiffeisenbanken cooperative financial network with an entire range of financial services. Given the particular nature of the group, the Board of Managing Directors of DZ BANK consciously manages the group with a balanced centralized and decentralized approach with clearly defined interfaces and taking into account business policy requirements.

3.2.2. Appointments to key posts in the subsidiaries

For the purposes of managing the subsidiaries through appointments to key posts, a representative of DZ BANK is appointed in each case as the chairman of the supervisory body and generally also as the chairman of any associated committees (risk and investment committee, audit committee, human resources committee).

3.2.3. Corporate management committees

Figure 1 provides an overview of the committees of particular importance in the management of the DZ BANK Group.

The **Group Coordination Committee** ensures coordination between the key entities in the DZ BANK Group to achieve consistent management of opportunities and risks, capital allocation, strategic issues, and leveraging synergies. In addition to the Board of Managing Directors of DZ BANK, the members of this committee comprise the chief executive officers of BSH, DG HYP, DZ PRIVATBANK, R+V, TeamBank, UMH, VR LEASING, and WL BANK.

Special working groups whose members comprise representatives from all business lines and group functions are responsible for the following areas of activity and report to the Group Coordination Committee:

– product and sales/marketing coordination for retail customers, corporate customers, and institutional clients;
– IT, operations, and resources strategies;
– human resources management;
– finance and liquidity management/ risk management.

The **Group Risk and Finance Committee** is the central committee in the DZ BANK Group responsible for proper operational organization and, in particular, risk management in accordance with section 25 (1) of the German Supervision of Financial Conglomerates Act (FKAG) and section 25a (1) in conjunction with section 25a (3) of the German Banking Act (KWG). It assists DZ BANK with groupwide financial and liquidity management and provides support for risk capital management throughout the group. The Group Risk and Finance Committee also assists the Group Coordination Committee in matters of principle. The members of this committee include the relevant executives at DZ BANK responsible for Group Finance, Group Strategy and Controlling, Group Risk Controlling, Credit, Credit Special, and Group Treasury. The committee members also include representatives of the executives of various group companies. The Group Risk and Finance Committee has set up the following working groups to prepare proposals for decision-making and to implement management action plans.

– The **Group Risk Management working group** supports the Group Risk and Finance Committee in all matters concerning risk and the management of risk capital and market risk in the DZ BANK Group, and in matters relating to external risk reporting. At DZ BANK level, the monitoring and control of the aggregate risks to the bank is coordinated by the Risk Committee. The Risk Committee

FIG. 1 – MANAGEMENT COMMITTEES IN THE DZ BANK GROUP

makes recommendations to the entire Board of Managing Directors in matters relating to risk management, risk methodology, risk policies, risk processes, and the management of operational risk.

- The **Architecture and Processes Finance/Risk working group** assists the Group Risk and Finance Committee with the further development of the integrated finance and risk architecture in the DZ BANK Group. In terms of the corporate management of the DZ BANK Group, this committee works on refining the blueprint for the business, process, and data architecture, ensuring a coordinated roadmap and a transparent project portfolio, and establishing overarching data governance.

- The management of credit risk throughout the group is the responsibility of the **Group Credit Management working group** of the Group Risk and Finance Committee. The limitation and monitoring of credit risk is based on agreed and binding group standards and procedures, taking into account the business policy concerns of the entities involved. The Group Credit Management working group is responsible for the further development of the group credit risk strategy and the group credit manual and assists the Group Risk and Finance Committee with the groupwide harmonization of credit-related processes with due regard to their economic necessity. The monitoring and control of DZ BANK's overall credit portfolio is coordinated by the Credit Committee. This committee normally meets every two weeks and makes decisions on material lending exposures at DZ BANK, taking into account the credit risk strategy of both the bank and the group. The Credit Committee is also responsible for managing credit risk at DZ BANK and country risk throughout the DZ BANK Group.

- The Group Risk and Finance Committee's **Market working group** is responsible for providing implementation support throughout the group in the following areas: liquidity management, funding activities, balance sheet structure management, and capital management. This body also focuses on coordinating and dovetailing funding strategies and liquidity reserve policies, as well as on planning the funding within the DZ BANK Group. At DZ BANK level, the Asset Liability Committee/Treasury and Capital Committee is the central body responsible for the operational implementation of the strategic requirements in the following areas to ensure integrated resource management: capital management, balance sheet and balance sheet structure management, liquidity and liquidity risk management, and income statement and profitability management. This committee also discusses overarching issues and current regulatory matters with the aim of identifying those requiring management action.

- The **Finance working group** advises the Group Risk and Finance Committee on matters concerning the consolidated financial statements, tax law, and regulatory law. It discusses new statutory requirements and works out possible implementation options.

The **Group IT Committee**, comprising the members of the boards of managing directors of the main group entities with responsibility for IT, supports the Group Coordination Committee in matters relating to IT strategy. This committee manages all overarching IT activities in the DZ BANK Group. In particular, the Group IT Committee makes decisions on collaboration issues, identifies and realizes synergies, and initiates joint projects.

The members of the **Group HR Committee** comprise the members of the boards of managing directors with responsibility for HR and the HR directors from the main entities in the DZ BANK Group. This committee helps the Group Coordination Committee address HR issues of strategic relevance. The Group HR Committee initiates and coordinates activities relating to overarching HR issues while at the same time exploiting potential synergies. It also coordinates the groupwide implementation of regulatory requirements concerning HR systems and facilitates the sharing of HR policy information within the DZ BANK Group.

The **product and sales committees** act as centers responsible for coordination and pooling functions relating to the range of products and services provided by the DZ BANK Group.

The **retail customers** product and sales committee coordinates products and services, and the marketing activities of its members where there are overarching interests affecting the whole of the group. The common

objective is to generate profitable growth in market share for the cooperative banks and the entities in the DZ BANK Group with a focus on customer retention and attracting new customers by providing needs-based solutions (products and processes) as part of a holistic advisory approach across all sales channels (omni-channel approach).

The **institutional clients** product and sales committee helps to strengthen the position of the DZ BANK Group in the institutional clients market.

The **corporate customers** product and sales committee is responsible for coordinating the strategies, planning, projects, and sales activities in the DZ BANK Group's corporate banking business if overarching interests are involved. The objective is closer integration in both the joint lending business with the cooperative banks and the direct corporate customer business of the entities in the DZ BANK Group.

The DZ BANK Group **Heads of Internal Audit working group**, which is led by DZ BANK, coordinates group-relevant audit issues and the planning of cross-company audits and activities based on a framework jointly developed and approved by the relevant members of the Board of Managing Directors. This working group also serves as a platform for sharing specialist information across the group – especially information on current trends in internal audits – and for developing best practice in internal audit activities. The working group reports to the Chief Executive Officer of DZ BANK and, where appropriate, to the Group Coordination Committee.

The **Heads of Compliance working group**, whose members comprise the heads of compliance in the management units and at ReiseBank and GENO Broker GmbH, assists DZ BANK with compliance management across the group if this is legally required. It also advises the DZ BANK Group's Group Coordination Committee on fundamental compliance-related issues. The Heads of Compliance working group is also responsible, in particular, for drawing up compliance standards in the DZ BANK Group that are discretionary under a comply-or-explain approach; in addition, it serves as a platform enabling specialists to share information across the group. When fulfilling its responsibilities, the Heads of Compliance working group must respect the individual responsibility of the heads of compliance in the group entities and specific regulatory requirements are observed. The working group reports to the member of the DZ BANK Board of Managing Directors responsible for compliance and, where appropriate, to the Group Coordination Committee.

The **Economic Roundtable**, the members of which comprise the economists from the main group companies, helps the Group Coordination Committee to assess economic and capital market trends, providing a uniform basis for consistent planning scenarios throughout the group, and to prepare risk scenarios required by regulators.

The members of the **Innovation Roundtable** comprise specialists, executive managers, and innovation managers from the various divisions of DZ BANK and the group companies. The Innovation Roundtable is therefore the Group Coordination Committee's key point of contact for information on innovations and trends relevant to the group. The objectives of the Innovation Roundtable are to systematically examine innovative topics with group relevance on an ongoing basis, to bring together the divisions involved in innovation projects and to ensure that innovation activities in the DZ BANK Group are transparent. Innovation topics are broadly based throughout the DZ BANK Group and are developed in the relevant DZ BANK departments and subsidiaries by the product and sales committees.

3.3. Key performance indicators

The DZ BANK Group's KPIs for profitability, volume, productivity, and liquidity and capital adequacy, as well as the regulatory return on risk-adjusted capital (RORAC), are presented below.

- **Profitability figures in accordance with International Financial Reporting Standards (IFRS):**
  The profitability figures (primarily allowances for losses on loans and advances, profit/loss before taxes, net profit/loss) are presented in chapter II., sections 3.1. and 3.2. of this group management report as well as in note 33 of the notes to the consolidated financial statements.

- **IFRS volume figures:**
  The main volume-related KPIs include equity and total assets. These are described in chapter II., sections 3.2. and 4. of this group management

report and in note 33 of the notes to the consolidated financial statements.

- **Productivity:**
  One of the most significant productivity KPIs is the cost/income ratio. This KPI is described in chapter II., sections 3.1. and 3.2. of this group management report and in note 33 of the notes to the consolidated financial statements.

- **Liquidity adequacy:**
  Appropriate levels of liquidity reserves are demonstrated using the ratios for economic and regulatory liquidity adequacy presented in chapter VI., section 6. of this group management report. The minimum liquidity surplus reflects economic liquidity adequacy. Regulatory liquidity adequacy is expressed in terms of the liquidity coverage ratio (LCR).

- **Capital adequacy:**
  The KPIs and the calculation method for economic capital adequacy are described in chapter VI., section 7.2. of this group management report. The KPIs for regulatory capital adequacy (coverage ratio for the financial conglomerate, total capital ratio, Tier 1 capital ratio, common equity Tier 1 capital ratio, and leverage ratio) are included in chapter VI., section 7.3.

- **Regulatory RORAC:**
  Regulatory RORAC is a risk-adjusted performance measure. In the year under review, it reflected the relationship between adjusted profit (profit before taxes largely taking into account performance-related income and capital structure effects) and the average own funds/solvency requirement requirement for the year (determined quarterly). Regulatory RORAC therefore shows the return on the regulatory risk capital employed. This is described in chapter II., section 3.2. of this group management report and in note 33 of the notes to the consolidated financial statements.

3.4. Management process

In the annual strategic planning process, the entities in the DZ BANK Group produce a business strategy (objectives, strategic direction, and initiatives), a finance and capital requirements plan, and risk strategies derived from the business strategy.

The planning by the management units is then validated and the plans are also discussed in strategy meetings. When the individual entity planning has been completed, the process then moves on to consolidated group planning, allowing active management of the DZ BANK Group's economic and regulatory capital adequacy.

The action plans to attain the targets are discussed in a number of ways, notably in quarterly meetings with the subsidiaries and in review meetings with DZ BANK's divisions.

Groupwide initiatives are implemented in order to unlock identified marketing potential. These include the development of new, innovative products and sales methods for the business lines – Corporate Banking, Retail Banking, Transaction Banking, and Capital Markets – in order to further strengthen sales by the DZ BANK Group and the local cooperative banks. Regular reports on the individual initiatives are submitted to the relevant product and sales committee. If appropriate, certain aspects of the initiatives may be handled by the Group Coordination Committee. This results in more efficient cooperation in the cooperative financial network.

At DZ BANK level, the main divisions involved in the strategic planning process are Group Strategy and Controlling, Group Risk Controlling, Group Finance, and Research and Economics. The planning coordinators in the front-office divisions of DZ BANK and the subsidiaries are also incorporated into the process. The Group Strategy and Controlling division is responsible for overall coordination, including strategic financial planning as part of the strategic planning process.

II. Business report

1. Economic conditions

Over the reporting year, average inflation-adjusted gross domestic product (GDP) in Germany rose by 1.9 percent year on year. The uptrend in economic growth of the previous two years was sustained in 2016, with the recovery making steady progress over the course of the year.

Economic output in the first quarter of 2016 was up by 0.7 percent compared with the preceding quarter. This was followed by a GDP gain of 0.5 percent in the second quarter. After muted growth of 0.1 percent in the third quarter, the German economy ended the fourth quarter of 2016 with expansion of 0.4 percent.

In the year under review, the eurozone economy grew by 1.7 percent year on year, although the pace of growth slackened following a first-quarter growth rate of 0.5 percent (compared with the previous quarter), the rates achieved in the second and third quarters of 2016 being 0.3 percent and 0.4 percent respectively. Growth in the fourth quarter remained at the same rate of 0.4 percent.

Consumer spending once again proved to be the main driver behind the economic recovery in the eurozone in 2016. So far, the geopolitical crises, various conflicts, and the uncertainty arising from the Brexit vote in the United Kingdom and from the outcome of the US presidential elections have failed to dent consumer confidence. As in 2015, lower energy prices also continued to boost household consumption in the reporting year. In view of the weaker levels of foreign trade with emerging markets, it is unlikely that eurozone exports will have made any contribution to the growth because export growth in the eurozone will probably not have matched the rise in imports.

In the United States, economic growth in the reporting year was just 1.6 percent. Growth in the US economy was uneven over the course of the year. Following a weak start to the year, growth picked up again in the two subsequent quarters before losing momentum again in the fourth quarter. Overall, the principal economic driver in the US remained the recovery in consumer spending, which was also bolstered by further improvements in the labor market, notably a further fall in the unemployment rate and a sharp rise in recruitment. The recovery in housebuilding slowed again during the year. Businesses did not invest as much in plant and machinery in 2016 as they had in the previous year.

Some of the emerging economies continued to experience economic difficulties in the year under review. Weaknesses in commodities markets continued to have a detrimental impact, primarily in Brazil and Russia, even though the economic crisis in both countries was gradually abating. China continued to feel the effects of the slowdown in its economic growth. By and large, demand from emerging markets once again provided relatively low growth stimulus for German exports in 2016.

An increase in consumer and government spending provided a major boost to the German economy in the reporting year. Government spending was also influenced by additional expenditure incurred in connection with the greater influx of refugees. Consumer demand rose by 2.0 percent year on year, aided by robust trends in the labor market and the extremely low returns available on consumer investments. At the same time, however, businesses remained unenthusiastic about spending on capital equipment in 2016 in view of the geopolitical uncertainties and crises.

The increase in tax receipts generated by the steady economic growth meant that public finances in Germany ended 2016 with a budget surplus of 0.8 percent of GDP.

2. The banking industry amid continued efforts to stabilize the economy of the eurozone

In the reporting year, the focus in the EU continued to be on efforts to stabilize economic conditions in the eurozone.

The euro area maintained its restrained rate of economic growth during the year under review, while growth in the global economy remained steady at a modest level overall.

In the eurozone as a whole, however, once again only limited progress was made in reducing new and total borrowing. At the end of the third quarter of 2016, the total borrowing of the 19 eurozone countries equated to 90.1 percent of their GDP, a year-on-year decrease of just 1.4 percentage points compared with the figure of 91.5 percent as at September 30, 2015.

Eurozone countries Portugal and Spain, which had been reliant on EU aid during the sovereign debt crisis, notched up further gains in economic efficiency in the third quarter of 2016 compared with the third quarter of 2015 on their path of economic renewal and fiscal recovery.

Even though France and Italy, countries that are important in generating overall economic growth in Europe, also increased their GDP over the same period, they continued to suffer from a high level of indebtedness in the same way as some other eurozone countries, notably Greece, Portugal, and Spain.

At the beginning of 2012, these EU member states had agreed the Fiscal Compact, which tightened the rules on indebtedness originally agreed in the Stability and Growth Pact of 1997. Under the Fiscal Compact, the countries committed to reducing their debt-to-GDP ratio each year by one twentieth of the difference between their actual debt-to-GDP ratio and the Maastricht threshold of 60 percent.

However, between the end of 2011 and the end of 2016 (preliminary figures), debt ratios actually increased in Greece from 172 to 180 percent, in Italy from 117 to 133 percent, and in Portugal from 111 to 130 percent. Similarly, the debt ratio in Spain rose from 70 percent to just under 100 percent, while France's debt ratio went up from 85 to 96 percent.

The only eurozone countries able to report a fall in debt ratios between the end of 2011 and the end of 2015 were Germany, Malta, Ireland, and Latvia.

After Greece implemented a range of reforms to satisfy certain preconditions, European lenders provided the country with loans of €7.5 billion and €2.8 billion in June and October 2016 respectively. In December 2016, the Eurogroup agreed short-term debt relief without being able to clarify whether there would be any further involvement of the International Monetary Fund (IMF) in the arrangements for Greece. The German Bundestag had only approved the package of measures subject to the proviso that the IMF would continue to be one of the creditors in the future. Regardless of the debt relief provided for Greece, the country's debt-to-GDP ratio was expected to rise from 177 percent at the end of 2015 to 180 percent at the end of the year under review.

Italy is suffering not only because it has severe problems in its banking system caused by impaired loans of around €360 billion but also because it has the highest level of government debt in the eurozone after Greece. The failure of constitutional reform at the beginning of December 2016 and the associated resignation of former Prime Minister Matteo Renzi have once again made Italy's political instability all too apparent. In these circumstances, it is a tough challenge for the country to implement austerity measures and strengthen its competitiveness.

Following parliamentary elections in Portugal at the beginning of October 2015, the new minority government had initially reversed some of the structural reforms introduced by the previous government, but was nevertheless able to make some progress in achieving stable economic growth over the course of the year. However, only DBRS, the Canadian rating agency, is issuing an investment-grade rating for Portugal's bonds. It is therefore solely on the strength of this rating from one rating agency that Portugal is able to access the bond-buying program for government bonds pursued by the European Central Bank (ECB) and that Portuguese banks are able to participate in the ECB's refinancing operations.

In Spain, no parties had been able to form a fully functioning government following parliamentary elections toward the end of 2015. A second round of elections was held on June 26, 2016, as a result of

which the previous Prime Minister, Mariano Rajoy, was finally able to form a minority government at the end of October 2016. Despite economic growth achieved in Spain in the year under review, Mariano Rajoy faces the challenge of introducing considerable austerity measures, without which it will not be possible to meet the deficit target for 2017 of 3.1 percent of GDP specified by the European Commission and the Council of the European Union.

Economic growth in France is also hampered by structural deficiencies similar to the problems in Italy. Key factors behind unsatisfactory levels of business profitability are bureaucracy and a tax system that inhibits growth. Labor market reforms agreed by the French government in the summer were preceded by massive strikes and protests, leading to a substantial loss of production. This highlights the difficulties faced by politicians implementing structural reforms.

The persistently high debt levels in the eurozone are matched by the European Commission's unwillingness to ensure that individual member states consistently comply with the targets specified for the whole of the EU under the Maastricht criteria. These targets reflect the fundamental economic view that sound public finances over the long term are vital for a fully functioning economy and that each individual EU member state will not be able to achieve a position of stable government finances unless its economy is internationally competitive.

A key reason for the European Commission's reluctance to implement the stability criteria is most probably the growing skepticism about the EU. This is highlighted by a large number of political movements in various EU countries that are opposing the jointly agreed stabilization efforts. In Greece and Portugal, the parties giving voice to these new political movements have already gained direct political influence as a result of parliamentary elections; in other eurozone countries, such parties are hampering the formation of a stable government majority.

Even if the low level of interest rates ushered in by the ECB has significantly reduced the interest burden for public finances, there is a risk that this trend will mean politicians in the eurozone countries concerned remain unwilling to implement structural changes to the extent that is actually necessary. However, there is also a reverse effect: the longer numerous EU countries fail to put their public finances on a sound and sustainable footing, the greater the pressure on the ECB to keep interest rates down.

An important factor to consider is that continued structural deficiencies in a number of eurozone countries raise the question of whether these countries can afford to pay higher rates of interest at all. This question may arise not only if the ECB substantially scales back its bond-buying program, but also in the event of a significant market-driven increase in the level of interest rates. A slight increase in long-term interest rates has already been apparent in the wake of Donald Trump's election on November 8, 2016 as the next US president.

At its meeting on March 10, 2016, the ECB decided to cut the key interest rate by a further 5 basis points, from 0.05 percent to 0.00 percent, and to again lower the rate on the deposit facility for banks to minus 0.40 percent from minus 0.20 percent. It also specified that, from April 2016, it intended to expand its monthly volume of bond purchases from €60 billion to €80 billion until the end of March 2017. On December 8, 2016, the ECB decided to extend its monthly bond-buying program until the end of 2017, but with a reduced monthly volume of €60 billion.

The ECB's stated aim is to guide inflation back to a level close to, but below, 2 percent. To achieve this target, the ECB aims to strengthen growth in the eurozone by encouraging greater lending by banks.

By contrast, the US Federal Reserve (Fed), having begun to reverse its interest-rate policy in mid-December 2015, held the key rate for short-term lending between banks to cover minimum reserve requirements in a range of 0.25 percent to 0.50 percent throughout almost the whole of the reporting period. It was only on December 14, 2016 that it hiked the key rate by 25 basis points to a range of 0.50 to 0.75 percent.

The serious and far-reaching intervention in economic activity represented by the ECB's policy of zero and negative interest rates is making it harder for savers to build up sufficient capital and, in particular, to ensure they have adequate provision for old age. There is also a significant impact on the earnings power not only of banks but also of building societies and life insurers.

The ECB cited the persistently low level of inflation as one of the critical reasons why its expanded monetary policy measures were required. Inflation in the eurozone stood at 1.1 percent for December 2016, whereas the rate in June 2016 had been 0.1 percent. The rise in the rate of inflation after the middle of the reporting year was largely attributable to the rise in the oil price again compared with the corresponding period in the previous year. Following the agreement by the members of the Organization of the Petroleum Exporting Countries (OPEC) on November 30, 2016 to cut production, the price of North Sea Brent Crude rose to US$ 56.8 per barrel as at December 31, 2016 (December 31, 2015: US$ 37.3). The core rate of inflation, which excludes energy and food prices, published by the EU's statistical office Eurostat for December 2016 was 0.9 percent.

The ECB is maintaining its policy of strengthening economic growth by transferring liquidity to the eurozone banks, the aim of which is to encourage the banks to commit to a greater level of lending.

However, another factor that needs to be taken into account is that the eurozone banks are themselves under an obligation to improve their capital adequacy and liquidity position as a consequence of tighter regulatory requirements following the introduction of Basel III.

Throughout the EU, lending to businesses is still showing little momentum. Particularly in Germany, the weak demand for borrowing is the result of a generally subdued level of investing activities. On top of this, good cash flows are making it easier for businesses to finance capital spending themselves. In Italy and other southern European countries, there is also a problem on the supply side. This is caused to a large degree by the crisis in the banking sector, which is suffering from a high number of non-performing loans.

Moreover, stronger demand for credit from companies in the eurozone is held back by borrowers' cautious assessment of economic conditions, which is influenced in turn by geopolitical crises, the aforementioned instability and, above all, the uncertainty about the consequences of the Brexit vote and US presidential election.

Given the limited impact on the real economy from the ECB's monetary policy measures, an improvement in structural conditions therefore remains the best possible route by which a range of eurozone countries could escape the high level of indebtedness.

Against a backdrop of challenging market conditions, nearly all the major German banks reported a fall in operating income in 2016. The allowances for losses on loans and advances recognized by the major banks were mostly higher than in 2015. Administrative expenses decreased in the majority of cases.

3. Financial performance

The details described below regarding the DZ BANK Group's financial performance in the reporting period include, in accordance with IFRS 3, the impact on earnings from the business combination of the two cooperative central institutions, which was completed in the middle of 2016. One of the effects from the business combination was the recognition of the line item 'Net income from the business combination with WGZ BANK' in an amount of €256 million. The financial performance for 2016 described below also includes the income statement items for the second half of 2016 relating to the former WGZ BANK Group. Further explanations are provided in the note on business combinations in the notes to the consolidated financial statements.

3.1. Financial performance at a glance

The DZ BANK Group successfully consolidated its position in the reporting year in challenging market conditions influenced primarily by the extremely low level of interest rates.

The year-on-year changes in the key figures that made up the net profit generated by the DZ BANK Group in 2016 were as described below.

Operating income in the DZ BANK Group amounted to €6,110 million (2015: €5,858 million). This figure comprises net interest income, net fee and commission income, gains and losses on trading activities, gains and losses on investments, other gains and losses on valuation of financial instruments, net income from insurance business, and other net operating income.

Net interest income (including income from long-term equity investments) in the DZ BANK Group decreased by 7.3 percent year on year to €2,660 million (2015: €2,870 million).

FIG. 2 – INCOME STATEMENT

€ million	2016	2015	Change (%)
Net interest income[1]	2,660	2,870	-7.3
Allowances for losses on loans and advances	-569	-153	>100.0
Net fee and commission income[1]	1,698	1,632	4.0
Gains and losses on trading activities	780	369	>100.0
Gains and losses on investments	127	59	>100.0
Other gains and losses on valuation of financial instruments	51	300	-83.0
Net income from insurance business	760	676	12.4
Administrative expenses[1]	-3,600	-3,252	10.7
Staff expenses	-1,760	-1,610	9.3
Other administrative expenses[1 2]	-1,840	-1,642	12.1
Other net operating income	34	-48	>100.0
Net income from the business combination with WGZ BANK	256	–	–
Profit before taxes	2,197	2,453	-10.4
Income taxes	-591	-657	-10.0
Net profit	1,606	1,796	-10.6

1 Prior-year figures restated.
2 General and administrative expenses plus depreciation/amortization expense on property, plant and equipment, investment property, and on other assets.

Net interest income at DZ BANK (excluding income from long-term equity investments) went up by €127 million. WL BANK also contributed an amount of €70 million to the net interest income of the DZ BANK Group. Net interest income at BSH declined by €263 million, at VR LEASING by €15 million, at DZ PRIVATBANK by €7 million, and at DG HYP by €5 million. At DVB and TeamBank, it increased by €32 million and €6 million respectively.

Income from long-term equity investments in the DZ BANK Group fell by 47.2 percent to €123 million (2015: €233 million). The year-on-year change was largely attributable to a dividend from EURO Kartensysteme GmbH, Frankfurt am Main, (EKS), which had benefited from income of €62 million generated from the disposal of MasterCard shares; in 2015, the corresponding dividend amount had been €134 million.

Allowances for losses on loans and advances in the reporting year amounted to €569 million (2015: €153 million).

The specific loan loss allowances recognized for the DZ BANK Group came to a net addition of €424 million (2015: net addition of €176 million). The portfolio loan loss allowances for the DZ BANK Group amounted to a net addition of €79 million (2015: net reversal of €18 million).

Further detailed disclosures regarding the risk situation in the DZ BANK Group can be found in this group management report in chapter VI. (Combined opportunity and risk report).

Net fee and commission income in the DZ BANK Group increased by 4.0 percent to €1,698 million (2015: €1,632 million).

Net fee and commission income at DZ BANK grew by €57 million. Net fee and commission income also improved by €26 million at BSH. In addition, there were increases in net fee and commission income for DVB and DZ PRIVATBANK of €16 million and €4 million respectively, whereas the equivalent figure at UMH declined by €20 million. WL BANK incurred a net fee and commission expense of €10 million.

The DZ BANK Group's **gains and losses on trading activities** in 2016 came to a net gain of €780 million compared with a net gain of €369 million for 2015. This was largely attributable to the gains and losses on trading activities at DZ BANK amounting to a net gain of €746 million (2015: net gain of €332 million).

Gains and losses on investments in the DZ BANK Group rose by €68 million to a net gain of €127 million (2015: net gain of €59 million).

The main reasons for the year-on-year change in gains and losses on investments were the factors described in the details for the operating segments DZ BANK, DG HYP, and DVB.

Other gains and losses on valuation of financial instruments in the DZ BANK Group amounted to a net gain of €51 million in 2016 (2015: net gain of €300 million).

Of the figure reported for the DZ BANK Group for 2016, a gain of €100 million was accounted for

by WL BANK, a loss of €73 million (2015: gain of €221 million) by DG HYP, and a loss of €25 million (2015: gain of €75 million) by DVB.

The DZ BANK Group's **net income from insurance business** comprises premiums earned, gains and losses on investments held by insurance companies and other insurance company gains and losses, insurance benefit payments, and insurance business operating expenses. In 2016, this figure increased by 12.4 percent to €760 million (2015: €676 million).

The main reason for this change was a marked improvement in gains and losses on investments held by insurance companies and other insurance company gains and losses with a slight increase in premium income, although some of the gains were offset by higher insurance benefit payments.

Administrative expenses in the DZ BANK Group rose by €348 million or 10.7 percent year on year to €3,600 million (2015: €3,252 million), including an increase in staff expenses of €150 million (9.3 percent) to €1,760 million (2015: €1,610 million) and an increase in other administrative expenses of €198 million (12.1 percent) to €1,840 million (2015: €1,642 million).

The DZ BANK Group's **other net operating income** amounted to €34 million (2015: net expense of €48 million).

The main reasons for the year-on-year change in other net operating income were the factors described in the details for the operating segments DZ BANK, DVB, R+V, and VR LEASING.

Net income from the business combination with WGZ BANK, which totaled €256 million in the reporting period, included restructuring expenses of €135 million, general and administrative expenses of €112 million for the transaction and preparation of the migration, income of €344 million from the elimination of business relationships that existed before the business combination, and income of €159 million from the recognition in profit or loss of the negative goodwill.

Profit before taxes in the reporting year amounted to €2,197 million compared with a figure of €2,453 million in 2015.

The DZ BANK Group's **cost/income ratio** (i.e. the ratio of administrative expenses to total operating income) for 2016 was 58.9 percent (2015: 55.5 percent).

The **regulatory return on risk-adjusted capital (RORAC)** was 16.5 percent (preliminary figure) compared with 23.0 percent in 2015.

The DZ BANK Group's **income taxes** amounted to €591 million in the reporting year (2015: €657 million).

This figure included a deferred tax expense of €243 million (2015: €143 million) and a current tax expense of €348 million (2015: €514 million).

The DZ BANK Group generated a **net profit** of €1,606 million in 2016 compared with a net profit of €1,796 million in 2015.

The following provides an explanation of the above information and the details below (section 3.2.) concerning the financial performance of the DZ BANK Group with reference to the corresponding presentation in the outlook for 2016 (chapter V. of the 2015 group management report).

In 2016, the DZ BANK Group generated profit before taxes that was well in excess of the budget. The main contributing factors included the gains and losses on trading activities at DZ BANK, which were significantly better than the budgeted figure. All the actual figures for the component items of net income from insurance business at R+V also exceeded the budget. Furthermore, the positive contribution to earnings in 2016 attributable to the net income from the business combination with WGZ BANK had not been included in the 2016 planning.

3.2. Financial performance in detail

Figure 3 shows the details of the financial performance of the DZ BANK Group's operating segments in 2016 compared with 2015.

3.2.1. DZ BANK

The prior-year figures for the individual items of the income statement explained below for this operating segment relate only to DZ BANK before the merger. Because of the merger of the cooperative central institutions completed in mid-2016 in accordance with IFRS 3, the figures for the individual items of

the income statement in the year under review comprise the relevant figures for DZ BANK (pre-merger) for the first half of the year and the corresponding figures for the joint central institution in the second half of the year.

Net operating interest income (excluding income from long-term equity investments) at DZ BANK increased by 29.5 percent to €558 million (2015: €431 million).

Based on systematic management of funding, which included the use of international money markets, net interest income from money market business improved despite tough market conditions dominated by the historically low interest rates. In addition, DZ BANK managed to increase the net interest margin contribution in the Corporate Banking business line in a challenging competitive environment.

In the detailed descriptions, the financial performance of the business lines is presented on the basis of the net income values used by financial planning and control for business management purposes.

At DZ BANK, the Corporate Banking business line has five regional corporate customer divisions that focus on corporate banking in Germany. Following the merger of DZ BANK and WGZ BANK, the joint central institution is now represented nationwide, based on the four existing regional corporate customer divisions (Northern and Eastern Germany, Central Germany, Baden-Württemberg, and Bavaria) and also a new fifth division (Western Germany) comprising the territory of the former WGZ BANK.

Business with German corporate customers and foreign customers with links to Germany is also supported by the Investment Promotion and Structured Finance divisions. Following the merger of the two cooperative central institutions, the development loan and agriculture business has been pooled under the Investment Promotion division at the Düsseldorf office.

Customer relationship management for corporate customers is provided locally by the cooperative bank, together with DZ BANK or directly by DZ BANK, on the basis of the principle of decentralization applied by the cooperative financial network and focusing on the needs of the business concerned.

By working closely with large and medium-sized companies, DZ BANK was able to slightly increase its lending volume in Germany and at the same time achieve further improvement in its margins in this fiercely competitive area of business.

This increase was primarily attributable to the tried-and-tested distribution of responsibilities in the cooperative financial network and the strong willingness of the companies in this sector in Germany to commit to significant capital investment.

According to the latest survey of large and medium-sized companies carried out by DZ BANK, the appetite of the surveyed businesses for capital investment is well above the average for this survey established over many years. DZ BANK has been able to support this capital investment on a sustainable basis acting as a long-term partner. The businesses are generally structured so that they can withstand various crises and have demonstrated that they are well equipped for the future based on their sound capital and liquidity position.

However, even these large and medium-sized companies cannot escape the current economic uncertainty in the eurozone, particularly in view of the UK's vote to leave the EU. There is also an adverse impact from the slowdown in economic growth in some of the major emerging markets.

In the Corporate Banking business line, the net interest margin contribution rose by a total of 29.7 percent to €349.9 million (2015: €269.9 million).

In the five regional corporate customer divisions, the net interest margin contribution went up by 41.9 percent in total to €181.9 million (2015: €128.2 million).

In the commercial real estate business, a department of the Western Germany regional division offers real estate customers the specific expertise of this department aimed at property developers, project developers, and real estate investors. These activities focus on individual properties and also on portfolios in which the properties are predominantly leased to third parties. The department develops short- and long-term financing solutions individually tailored to the property and customer objectives. The real estate customers department generated a net interest margin contribution of €17.4 million in the second half of 2016.

FIG. 3 – SEGMENT INFORMATION

2016

€ million	DZ BANK	BSH	DG HYP
Net interest income	1,199	655	303
Allowances for losses on loans and advances	-132	-8	60
Net fee and commission income	346	-85	41
Gains and losses on trading activities	746	–	–
Gains and losses on investments	104	19	18
Other gains and losses on valuation of financial instruments	23	–	-73
Premiums earned	–	–	–
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	–
Insurance benefit payments	–	–	–
Insurance business operating expenses	–	–	–
Administrative expenses	-1,346	-453	-127
Other net operating income	9	30	15
Net income from the business combination with WGZ BANK	-247	–	–
Profit/loss before taxes	**702**	**158**	**237**
Cost/income ratio (%)	55.5	73.2	41.8
Regulatory RORAC (%)	10.7	16.6	21.2
Average own funds/solvency requirement	4,490	951	1,127
Total assets/total equity and liabilities as at Dec. 31, 2016	275,054	65,852	43,629

1 Preliminary figure.

2015

€ million	DZ BANK	BSH	DG HYP
Net interest income[1]	1,192	918	308
Allowances for losses on loans and advances	44	-48	78
Net fee and commission income[1]	289	-111	30
Gains and losses on trading activities	332	–	-19
Gains and losses on investments	89	–	-60
Other gains and losses on valuation of financial instruments	31	3	221
Premiums earned	–	–	–
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	–
Insurance benefit payments	–	–	–
Insurance business operating expenses	–	–	–
Administrative expenses[1]	-1,109	-445	-122
Other net operating income	1	24	11
Profit/loss before taxes	**869**	**341**	**447**
Cost/income ratio (%)	57.3	53.4	24.8
Regulatory RORAC (%)	14.0	41.0	39.2
Average own funds/solvency requirement	4,188	833	1,150
Total assets/total equity and liabilities as at Dec. 31, 2015	216,452	61,217	46,926

1 Amount restated.

The net interest margin contribution from the development lending business in the Investment Promotion division climbed significantly year on year, by 21.0 percent, to €51.5 million (2015: €42.6 million) despite a further contraction in margins.

DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING	WL BANK	Other/ Consolidation	**Total**
220	140	–	414	12	147	70	-500	2,660
-381	–	–	-80	–	-14	-9	-5	-569
119	116	–	7	1,207	24	-10	-67	1,698
5	9	–	–	–	–	–	20	780
-12	1	–	–	-1	1	1	-4	127
-25	4	–	–	-14	–	100	36	51
–	–	14,658	–	–	–	–	–	14,658
–	–	3,885	–	–	–	–	-70	3,815
–	–	-15,400	–	–	–	–	–	-15,400
–	–	-2,454	–	–	–	–	141	-2,313
-190	-228	–	-207	-764	-157	-35	-93	-3,600
-14	-39	-8	9	28	6	1	-3	34
–	–	–	–	–	–	–	503	256
-278	**3**	**681**	**143**	**468**	**7**	**118**	**-42**	**2,197**
64.8	98.7	–	48.1	62.0	88.2	21.6	–	58.9
-46.6	0.9	15.3[1]	36.2	>100.0	2.2	75.1	–	16.5[1]
609	312	4,462[1]	405	311	320	320	–	13,307[1]
27,658	17,669	97,286	7,284	2,038	4,463	43,761	-75,247	509,447

DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING		Other/ Consolidation	**Total**
188	147	–	408	17	162		-470	2,870
-142	–	–	-81	–	2		-6	-153
103	112	–	7	1,227	26		-51	1,632
13	22	–	–	–	–		21	369
35	–	–	–	-7	12		-10	59
75	9	–	–	-15	-2		-22	300
–	–	14,418	–	–	–		–	14,418
–	–	3,132	–	–	–		-52	3,080
–	–	-14,664	–	–	–		–	-14,664
–	–	-2,287	–	–	–		129	-2,158
-189	-219	–	-203	-703	-170		-92	-3,252
-49	-33	26	1	37	-49		-17	-48
34	**38**	**625**	**132**	**556**	**-19**		**-570**	**2,453**
51.8	85.2	–	48.8	55.8	>100.0		–	55.5
14.0	11.8	23.9	34.1	>100.0	0.1		–	23.0
537	321	2,638	401	265	329		–	10,662
26,549	17,496	90,280	6,866	2,072	4,909		-64,426	408,341

Performance in the main areas of development activity within traditional investment finance, which primarily include business start-ups and financing of innovation projects, remained steady in this highly competitive area of business. However, some growth was achieved in the development lending portfolios within the

private house-building business and commercial environmental finance.

The main year-on-year changes in the net interest margin contribution from each of the product fields in the Structured Finance division are described below.

In the syndicated business/renewable energies product field, the net interest margin contribution advanced by 3.6 percent to €20.8 million in the year under review (2015: €20.1 million). Despite growing competition, there was an increase in renewable energies business during the reporting year, particularly the funding of wind turbines.

In the acquisition finance product field, debt finance is arranged and structured to support the acquisition of large and medium-sized companies, primarily in the German-speaking countries. Large numbers of customers made use of the high degree of liquidity in lending and bond markets to redeem their loans. This, in combination with a selective approach to the granting of new loans, led to a 1.7 percent year-on-year contraction in the net interest margin contribution to €23.5 million (2015: €24.0 million).

Overall, there was encouraging growth in the project finance field during the year under review, with the net interest margin contribution advancing by 3.3 percent to €25.2 million (2015: €24.4 million).

In the advice and sales (west) product field, which is responsible across all products for renewable energies, syndicated loans, acquisition finance, and international trade and export finance business, the net interest margin contribution generated in the second half of 2016 amounted to €11.6 million.

The emphasis in the international trade and export finance product field is very much on providing support for German large and medium-sized corporate customers involved in international business. The net interest margin contribution rose from €34.7 million in 2015 to €41.9 million in 2016, a year-on-year increase of 20.7 percent.

The asset securitization product field comprises structured investments and receivables financing for a defined selection of asset types. This gives unlisted companies access to the capital markets and to finance based on their portfolio of receivables. The liquidity costs in the asset securitization product field for the provision of the backup lines in connection with the financing made available by the conduit came to €6.5 million in the reporting year, €2.5 million higher than the equivalent figure in 2015 of €4.0 million.

Allowances for losses on loans and advances amounted to €132 million (2015: net reversal of €44 million), including a net addition to specific loan loss allowances of €5 million (2015: net reversal of €24 million) and a net addition to portfolio loan loss allowances of €60 million (2015: net reversal of €11 million).

Net fee and commission income rose by 19.7 percent to €346 million (2015: €289 million).

In the Corporate Banking business line, the service contribution rose slightly, by 9.6 percent, to €159.9 million (2015: €146.0 million).

In the five regional corporate customer divisions, the service contribution went up by 28.7 percent in total to €57.9 million (2015: €45.0 million).

The real estate customers department generated a service contribution of €2.6 million in the second half of 2016.

The main year-on-year changes in the service contribution from each of the product fields in the Structured Finance division are described below.

In the syndicated business/renewable energies product field, the service contribution of €4.4 million in the reporting year was up by 16.4 percent compared with the figure of €3.8 million reported for the previous year.

Much fiercer competition characterized the acquisition finance product field during the year under review. The service contribution therefore fell by 16.6 percent to €9.6 million (2015: €11.5 million).

In the project finance product field, the service contribution went up by 41.2 percent to €13.5 million (2015: €9.6 million).

The service contribution generated in the advice and sales (west) product field in the second half of 2016 amounted to €1.7 million.

In the international trade and export finance product field, the service contribution for 2016 remained unchanged year on year at €11.3 million despite increased competition.

There was strong growth in the service contribution from the international documentary business product field (letters of credit, guarantees, collections), which climbed by 10.2 percent to €14.1 million (2015: €12.8 million).

In 2016, the service contribution in the asset securitization product field came to €47.5 million, down by 9.6 percent compared with the figure of €52.5 million for 2015. The main reasons for this decrease were the expiry and contractual reduction of some portfolio transactions.

In the Capital Markets Institutional Clients and Capital Markets Retail Clients business lines, the comprehensive range of advisory, structuring, and placement services available in relation to investment, capital, and mezzanine products again proved popular with customers of the cooperative banks and direct customers of DZ BANK in 2016, and customers drew on these services frequently.

Based on various ranges of products, DZ BANK managed to prevail against German and international competitors, despite the market remaining fiercely contested. The successfully implemented transactions and the satisfaction of customers are testimony to a high level of product expertise and effectiveness in a constantly changing market environment. The cooperative banks and direct customers value the transaction security offered by DZ BANK in connection with the execution of capital and mezzanine transactions.

The service contribution generated by the Operations/Services business line in 2016 was also higher than the equivalent figure reported for 2015 as a result of a rise in the income from securities custody business.

Gains and losses on trading activities amounted to a gain of €746 million in 2016 (2015: gain of €332 million).

Trends in capital markets in the year under review were shaped by the ECB's decision in spring 2016 to increase the volume and extend the duration of its program of quantitative easing while, at the same time, lowering the benchmark rate and taking the interest rate for central bank deposits further into negative territory. At the beginning of December 2016, the ECB extended its bond-buying program until the end of 2017, although it reduced the monthly purchasing volume.

Financial markets were also affected during the reporting period by uncertainty surrounding the timing and extent of a rise in US interest rates in 2016. The wait only came to an end in mid-December 2016 when the Fed announced an interest rate hike of 25 basis points to a range of 0.50 to 0.75 percent.

Another negative influence in the first half of 2016 was the uncertainty about the outcome of the referendum on Brexit. However, as the year moved on, European stock exchanges saw no lasting impact on share prices from the Brexit vote on June 23, 2016, from the outcome of the US presidential elections on November 8, 2016, or from the referendum on constitutional reform in Italy on December 4, 2016. Overall, these equity prices proved to be significantly more volatile during the course of 2016 compared with the previous year.

The regulatory environment also impacted on the markets and market players, which again had to cope with the demanding requirements imposed by banking regulators in the year under review.

Nonetheless, DZ BANK's contribution from trading income improved considerably during the reporting period.

The products and services of DZ BANK's customer-oriented capital markets business are geared to the needs of cooperative banks, specialized service providers within the cooperative sector, and their retail and corporate customers. In addition, DZ BANK has business relationships with direct corporate customers and institutional customers in Germany and abroad. The portfolio comprises competitively priced investment and risk management products involving the asset classes of interest rates, equities, loans, and foreign exchange. These products are complemented by a broad range of advisory and research services, structuring expertise, and platforms.

Against the current backdrop of negative interest rates, German retail investors' top priorities are safety and intelligent investment solutions. Catering to this

customer need, DZ BANK works closely with the local cooperative banks and has managed to further significantly strengthen its position in the German derivatives market since the third quarter of 2015. DZ BANK's performance has been impressive, confirming its market leading position with a market share of 17.7 percent as at the end of December 2016 (joint central institution), based on the market volume invested in structured securities.

DZ BANK continued to step up its activities in relation to selling exchange-traded derivative securities products during the reporting year, enabling it to significantly increase its market share from an average for 2015 of 9.2 percent to an average for 2016 of 11.0 percent (joint central institution). Furthermore, efforts to continuously and effectively digitalize and optimize securities processes in retail banking were recognized by renowned experts when DZ BANK received the Best Process Award 2016.

In order to stabilize their financial performance over the long term, the cooperative banks acquired investments with residual maturities of more than 5 years as part of their own-account investing activities. Credit-rating-linked products such as corporate bonds and simply structured credit products saw increased demand. The cooperative banks also aimed for broad diversification in their securities portfolios, particularly with regard to investments in equities and foreign currencies. To this end, they increasingly invested in fund products from the Union Investment Group.

In addition, the cooperative banks focused on managing their liquidity coverage ratio (LCR) in accordance with their needs. By running various advisory and product initiatives, DZ BANK supported the cooperative banks' efforts to establish the level of high-quality liquid assets stipulated by the regulator while optimizing returns.

Institutional customer business proved to be structurally robust in the year under review. Investment patterns were determined by the low interest rates and regulatory requirements. Insurance companies aimed for greater use of yield curves to enable them to meet their returns requirements. Negative interest on short-term instruments led to a continuing rise in demand for long-maturity bank and corporate bonds, and for foreign Pfandbriefe. Asset managers reported inflows over the course of the year in subordinated corporate and bank bond business, and also in business involving bonds from emerging markets. This impacted the pattern of asset manager demand. Asset managers also benefited from an upturn in DZ BANK's new issues business.

In corporate customer securities business, there was less demand for commercial paper and bond issues from institutional investors in view of the negative interest-rate environment and reduced yields. In the reporting year, this was countered to some extent by greater corporate customer interest in structured investment alternatives with optional components and in receivables-based financing. As the year under review progressed, money market investment customers demonstrated a greater acceptance of the negative interest rate environment, with the result that DZ BANK was able to win back deposits from institutional investors.

In currency management, the continued weakness of the euro and a decline in market volatility in 2016 resulted in average revenues from corporate and institutional customers. Large and medium-sized companies used the opportunity presented by persistently low interest rates (including the continuation of significant negative interest rates in money markets) to enter into interest-rate hedges with long maturities of 10 to 30 years.

New bond issuance business in the year under review was shaped by the ECB's decision in March 2016 to expand its extensive bond-buying program. At the beginning of June 2016, the ECB began to buy corporate bonds under its corporate sector purchase program (CSPP). This led to a considerable increase in the volume of transactions in the corporate bond market and to an increased focus on supra/sovereign/agency (SSA) issuers for maturities of more than 10 years. DZ BANK was able to notch up initial successes in private placement business and in the desired interaction with benchmark portfolios thanks to the newly created Medium Term Note (MTN) Origination unit.

The liabilities recognized at fair value gave rise to a positive effect on earnings of €104 million in the year under review (2015: expense of €49 million).

Further factors influencing the gains and losses on trading activities included interest-rate-related changes in the fair value of cross-currency basis swaps used to

hedge currency risk amounting to a gain of €4 million (2015: gain of €26 million).

Also during the reporting period, the successful completion of the mediation proceedings in the legal dispute with Lehman Brothers International Europe resulted in income of approximately €50 million from the reversal of provisions to cover the cost of legal proceedings and attorneys.

In addition, DZ BANK's balance of unrealized and realized gains and losses relating to asset-backed securities (ABSs) amounted to a gain of €13 million (2015: loss of €11 million).

The net gains under **gains and losses on investments** rose by €15 million to €104 million (2015: €89 million).

This figure included a gain of €98 million on the disposal of the long-term equity investment held by DZ BANK (pre-merger) in VISA Europe Ltd., London. There was also an ABS-related gain of €11 million (2015: €1 million), largely from disposals of ABSs that had been impaired in previous periods.

The prior-year figure had included a gain of €65 million from the disposal of DZ BANK's long-term equity investment in VISA Inc., San Francisco, and a gain from the disposal of Italian bonds amounting to €7 million.

Administrative expenses at DZ BANK amounted to €1,346 million, an increase of €237 million or 21.4 percent on the comparable figure in 2015 (€1,109 million).

Other administrative expenses rose by €117 million to €695 million (2015: €578 million), mainly because of the addition of €35 million to a provision for fire safety measures relating to DZ BANK's Cityhaus I building (to the extent used for banking operations) and a year-on-year increase of €34 million in business consulting costs incurred as part of projects.

The rise in staff expenses of €120 million to €651 million (2015: €531 million) was mostly attributable to growth in the number of employees and salary increases.

Significant items included within **other net operating income** of €9 million (2015: €1 million) were, again, an addition of €14 million to the provision for fire safety measures relating to DZ BANK's Cityhaus I building (to the extent not used for banking operations) and DZ BANK's absorption of losses of €5 million (2015: losses of €10 million) relating to GENO Broker GmbH. In 2015, other net operating income had included an expense from the restructuring of DZ BANK's business activities in Poland amounting to €9 million.

Net income from the business combination with WGZ BANK, which amounted to a net expense of €247 million in the reporting period, included restructuring expenses of €135 million and general and administrative expenses of €112 million for the transaction and preparation of the migration.

Profit before taxes for the year under review amounted to €702 million. The decline of €167 million compared with the figure of €869 million reported for 2015 was mainly a consequence of the changes described above.

The **cost/income ratio** for DZ BANK in 2016 was 55.5 percent (2015: 57.3 percent).

Regulatory RORAC was 10.7 percent (2015: 14.0 percent).

3.2.2. BSH

In the BSH subgroup, **net interest income** declined by 28.6 percent to €655 million (2015: €918 million).

Net interest income in the year under review was once again adversely impacted by the low interest rates. The repeated fall in the investment interest rate was only partly offset by the overall increase in the volume of the portfolio resulting from the high level of new business over the past few years.

Net interest income for the reporting year included an additional expense of €175 million, recognized in profit or loss, resulting from the increase in home savings provisions. This largely reflected future obligations of Bausparkasse Schwäbisch Hall to make payments in the form of loyalty bonuses or premiums to those savings customers who decline to take up the contractually agreed loans.

Gains and losses on investments in joint ventures and associates accounted for using the equity method declined by €23 million to a net gain of €4 million

(2015: net gain of €27 million), predominantly due to an impairment loss of €23 million recognized on the carrying amount, calculated in accordance with the IFRS equity method, of Bausparkasse Schwäbisch Hall's Chinese long-term equity investment.

Despite a fall in average interest rates, a significant increase in advance and interim financing loans strengthened the interest income base in the non-collective home finance business. At the same time, the interest income generated by home savings loans business declined, mainly because of a reduction in the size of the portfolio and falling average interest rates. The persistently low level of interest rates meant the contribution to income from available funds was also lower than the corresponding prior-year figure even though a slightly greater volume was invested year on year.

Accompanied by a higher interest cost, the volume of home savings deposits grew by a further €3.2 billion year on year to reach €55.4 billion as at December 31, 2016. The increased customer demand for home savings reflects the preference for investing in tangible assets with a sound financing base.

Bausparkasse Schwäbisch Hall also built on the sustained market success of the innovative Schwäbisch Hall rates and charges by continuing to expand the online availability of its sales activities and services in line with advances in digitalization. This once again confirmed Bausparkasse Schwäbisch Hall as the market leader in building society operations.

Against the backdrop of more stable economic conditions in Germany, **allowances for losses on loans and advances** declined by €40 million to €8 million (2015: €48 million). An amount of €25 million was attributable to the fact that a one-off item reported in 2015 was no longer present.

The BSH subgroup's **net fee and commission income** improved by €26 million to a net expense of €85 million (2015: net expense of €111 million).

Bausparkasse Schwäbisch Hall pays fees and commissions to the cooperative banks and to the integrated, bank-supported field sales force on the basis of Bausparkasse Schwäbisch Hall contracts signed with customers. The reasons for the improvement in net fee and commission income in 2016 were the contraction in the volume of new business and the associated reduction in fee and commission expense. The figure also included an additional expense of €5 million, recognized in profit or loss, resulting from the increase in home savings provisions.

In the home savings business, Bausparkasse Schwäbisch Hall signed approximately 627 thousand new home savings contracts, generating an impressive level of new home savings business with a volume of €29.2 billion (down by 16.6 percent year-on-year).

Bausparkasse Schwäbisch Hall achieved a new business volume of €12.0 billion in the home finance business, which was just €0.2 billion less than the 2015 record level of €12.2 billion. This figure does not include home savings contracts and bridging loans from Bausparkasse Schwäbisch Hall or other referrals totaling €1.9 billion. If the latter is included, the total volume of new home finance business came to €13.9 billion (2015: €14.4 billion).

Home savings and home finance remained the instruments of choice for retirement pensions. Investor interest was focused primarily on Riester savings products, with Bausparkasse Schwäbisch Hall entering into around 78 thousand new Fuchs Wohn-Rente contracts with customers in the year under review. In this regard, Bausparkasse Schwäbisch Hall has been offering a groundbreaking product variant since the middle of 2016 in the form of its new FuchsChance scale of rates and charges. The product structure is based on market interest rates; the interest rate is variable and can be set between 0.25 and 1.25 percent. For the first time, the product allows the home savings customer to participate in rising interest rates.

Given the stable economic conditions, the home savings and home finance businesses are being given an additional boost by the increased demand for housing, which is likely to have led to a further increase in the number of homes constructed in the year under review. However, this new construction will still not be able to fully meet the demand for new housing, particularly in major cities, because of the evident trend in the residential real estate market toward increasing urbanization and fewer individuals in each household.

Building society operations could also benefit from significant future potential in one particular area of the industry: the need for considerable

modernization of the existing housing stock in terms of improving energy efficiency, especially as the construction of around 85 percent of all existing living space pre-dates 1999. Furthermore, investment in energy efficiency is becoming more important, particularly as a result of the latest efforts by the German government to reduce environmental damage and combat climate change.

On top of this, there is considerable potential demand in the key future area of growth represented by the conversion of homes to make them accessible to the elderly. Currently, only 5 percent or so of the approximately 11 million households made up of older people are in a property with barrier-free access.

By cross-selling supplementary pension products, Bausparkasse Schwäbisch Hall field sales staff once again sold a large volume of cooperative bank pension products, Union Investment Group investment funds, and R+V insurance policies.

The **gains and losses on investments** amounting to a net gain of €19 million (2015: €0 million) were attributable to the sale of securities.

The increase in **administrative expenses** of €8 million to €453 million (2015: €445 million) resulted from higher staff expenses, which rose by €4 million to €228 million, predominantly as a consequence of additions to personnel provisions, and from higher other administrative expenses, which went up by €4 million to €225 million, principally because of the additional expenditure required in connection with regulatory requirements and strategic projects.

Profit before taxes for the reporting year amounted to €158 million (2015: €341 million), mainly because of the changes described above.

The **cost/income ratio** in 2016 was 73.2 percent (2015: 53.4 percent).

Regulatory RORAC was 16.6 percent (2015: 41.0 percent).

3.2.3. DG HYP

The **net interest income** at DG HYP of €303 million was down slightly, by 1.6 percent, compared with the figure of €308 million for 2015.

This decrease is largely explained by the fact that the prior year had been boosted by significantly higher early redemption payments (2016: €31.2 million; 2015: €57.8 million).

Key factors currently shaping the German market for investments in commercial real estate are the stable domestic economy and the significant levels of liquidity that continue to be available as a result of the expansionary monetary policy still maintained by the ECB. Furthermore, in view of the historically low interest rates, there are only a limited number of investment alternatives offering the prospect of an adequate return.

These circumstances have led to substantial interest from German and international investors looking to invest in commercial real estate, but the competitive environment is also challenging.

This is because there is an increasingly limited supply available to meet this considerable demand. In the year under review, the transaction volume generated in the German market for commercial real estate (excluding housing) amounted to €52.9 billion and therefore remained approximately 4 percent below the corresponding figure for 2015 of €55.1 billion. The consequences of a shortage of supply were even more apparent in the investment market for residential real estate. The volume of transactions in the reporting period came to €13.7 billion, compared with €25.0 billion in the prior year, although the prior-year figure had been characterized by large-scale transactions to a significant extent. Another important factor is that the inclination to sell has remained low because of the low interest rates.

In 2016, the rise in real estate prices driven by the shortage of supply also meant that there was a further fall in initial yields on commercial real estate, particularly on office buildings and residential real estate. As a result of these circumstances, there was a further increase in the reporting year in demand for properties in categories beyond the established types of use. This investor behavior was driven primarily by efforts to counter the problem of too great a disparity between commercial property valuations and the cash flows they can generate.

DG HYP continued to address this last objective in the year under review with its conservative business

strategy, the key feature of which was a selective procedure taking account of the relevant investment risk when deciding on the granting of finance.

In this regard, the decentralized organization of the cooperative financial network is of particular importance: The existing extensive regional network of local cooperative banks and their proximity to customers offer significant added value for DG HYP. DG HYP currently works with more than 400 local cooperative banks on a regular basis. Moreover, there are advantages in terms of the allocation of risk because this structure offers the opportunity for greater differentiation between portfolios based on region, sector, and customer group. The real estate finance know-how of DG HYP is also the ideal complement to the local cooperative banks' extensive knowledge.

Continuing to pursue this market strategy in 2016, DG HYP generated a significant increase in the volume of new business, which amounted to €7,418 million (2015: €5,722 million). Of this total, €7,140 million (2015: €5,637 million) was accounted for by the German market.

DG HYP has successfully maintained and continued to step up its close collaboration with the local cooperative banks, based on joint marketing activities. The volume of jointly generated new lending business in 2016 amounted to €3,159 million, exceeding the figure of €2,825 million achieved in 2015.

DG HYP assists the local cooperative banks with public-sector funding inquiries for the benefit of the cooperative financial network. Taking account of borrowers' credit ratings, DG HYP prepares finance offers that the cooperative banks then present to local authorities. In the year under review, DG HYP generated a financing volume of €257 million (2015: €378 million).

Allowances for losses on loans and advances amounted to a net reversal of €60 million (2015: net reversal of €78 million), including a net reversal of specific loan loss allowances of €45 million (2015: net reversal of €49 million) and a net reversal of portfolio loan loss allowances of €15 million (2015: net reversal of €29 million).

The rise in **net fee and commission income** of €11 million to €41 million (2015: €30 million) was predominantly attributable to higher fee and commission income in the lending business, which depends on the relevant product mix.

Gains and losses on trading activities improved by €19 million year on year to a net gain of €0 million (2015: net loss of €19 million) as a result of market conditions. The change was mainly attributable to the change in the euro/US dollar exchange rate.

Gains and losses on investments amounting to a net gain of €18 million (2015: net loss of €60 million) included, in particular, the reversal of an impairment loss on a bond issued by HETA ASSET RESOLUTION AG, Klagenfurt, in an amount of €20 million. The prior-year figure had included an impairment loss on this bond in an amount of €25 million. Other significant factors also taken into account in the gains and losses on investments in 2015 had been a net loss of €16 million relating to mortgage-backed securities, including the provision for latent risk, and a loss effect of €21 million from the disposal of a bond classified as an available-for-sale financial asset, the sale having been made to reduce non-strategic risk exposures.

Other gains and losses on valuation of financial instruments included a net loss of €73 million arising from the widening of credit spreads in 2016, particularly in the first half of the year, on bonds issued by Portugal, Italy, Ireland, Greece, and Spain, contrasting with a net gain of €221 million in 2015 resulting from the narrowing of these credit spreads.

Administrative expenses went up by €5 million to €127 million (2015: €122 million). Staff expenses were virtually unchanged year on year at €53 million (2015: €52 million) whereas other administrative expenses increased by €4 million to €74 million (2015: €70 million), mainly as a result of the greater use of funds necessary to meet growing regulatory requirements.

Profit before taxes declined substantially in the year under review by €210 million to €237 million (2015: €447 million). The primary reason behind this decrease was the negative change in other gains and losses on valuation of financial instruments as a consequence of the factors described above.

The **cost/income ratio** in 2016 was 41.8 percent (2015: 24.8 percent).

Regulatory RORAC was 21.2 percent (2015: 39.2 percent).

3.2.4. DVB

Net interest income in the DVB subgroup increased by 17.0 percent to €220 million (2015: €188 million) on the back of new business.

Net operating interest income (excluding income from long-term equity investments) went up by €26 million to €210 million (2015: €184 million), principally because of lower special accelerated depreciation allowances on assets subject to operating leases.

In addition, net interest income continued to be adversely affected by significant pressure on interest margins as a consequence of the global increase in financing competition in the transport markets.

Income from long-term equity investments rose by €6 million year on year to €10 million.

During 2016, global freight and passenger transport in all areas of the transport sector was influenced by a muted economic improvement in the eurozone, moderate growth in the US economy, and a slowdown of economic expansion in emerging markets, particularly China. At the same time, the pace of growth in global trade remained sluggish.

Furthermore, the international transport industry continued to suffer from overcapacity, particularly within individual market segments covering international maritime shipping, resulting in a significant fall in freight rates, especially in the second half of 2016. Offshore markets were depressed by persistently low oil prices during the reporting year.

Against this background, the DVB subgroup generated new transport finance lending business of €6.5 billion in 2016 (2015: €7.2 billion) based on a total of 157 deals (2015: 190 deals). DVB Bank continues to maintain representative offices in Amsterdam, London, Oslo, and Singapore.

The increase in **allowances for losses on loans and advances** of €239 million to €381 million (2015: €142 million) was primarily attributable to a greater requirement for loss allowances on DVB's legacy exposures in ship and offshore financing given the tough market conditions referred to above. The net addition to the allowances for losses on loans and advances in the shipping finance business went up by €157 million to €245 million (2015: €88 million), and in the offshore finance business by €42 million to €64 million (2015: €22 million).

Net fee and commission income rose by 15.5 percent to €119 million (2015: €103 million).

Fee and commission income generated from new transport finance business reached €68 million, up by €9 million year on year. The equivalent income from ongoing lending declined by €2 million to €16 million. In contrast, fee and commission income from asset management and consulting increased by €4 million to €12 million and by €5 million to €23 million respectively.

Within the transport finance business in the DVB subgroup, the core areas of lending – shipping finance, aviation finance, offshore finance, and land transport finance – were influenced in the reporting year by a subdued global economy, a weak pace of growth in global trade, and the associated impact on international freight and passenger transport markets.

Gains and losses on trading activities declined by €8 million to a net gain of €5 million (2015: net gain of €13 million), largely due to the change in the US dollar/euro exchange rate.

Gains and losses on investments amounted to a net loss of €12 million (2015: net gain of €35 million). The prior-year figure had largely been accounted for by the disposal of some of the shares in Wizz Air Holdings Plc, London, generating a gain of €65 million. The figure for the year under review included impairment losses recognized in respect of 7 equity-accounted entities.

Other gains and losses on valuation of financial instruments declined by €100 million to a net loss of €25 million (2015: net gain of €75 million) as a result of market conditions.

Administrative expenses amounted to €190 million (2015: €189 million) and the amounts for both staff

expenses and other administrative expenses were virtually unchanged year on year.

Other net operating income amounted to a net expense of €14 million (2015: net expense of €49 million). Two of the main components of this figure in 2015 had been an impairment loss of €28 million recognized at group level in respect of the goodwill in the DVB operating segment and an impairment loss of €36 million on a damages claim relating to the consolidated subsidiary Dalian Deepwater Developer Ltd.

In 2016, DVB generated a **loss before taxes** of €278 million. The decline of €312 million compared with the profit before taxes of €34 million reported for 2015 was mainly a consequence of the changes described above.

The **cost/income ratio** in 2016 was 64.8 percent (2015: 51.8 percent).

Regulatory RORAC was minus 46.6 percent (2015: 14.0 percent).

3.2.5. DZ PRIVATBANK

Net interest income at DZ PRIVATBANK contracted by 4.8 percent year on year to €140 million (2015: €147 million).

The main reasons behind this decline in net interest income were the further fall in interest rates, the ongoing implementation of a risk-conscious investment strategy, and a decrease in the contribution to income from the LuxCredit foreign-currency lending business.

DZ PRIVATBANK acts as the competence center for foreign-currency lending and investing in the interest-earning business. The average volume of guaranteed LuxCredit loans was €5.0 billion during the reporting period, which was lower than in 2015 (€5.7 billion).

Net interest income in 2015 had been influenced by a favorable situation for funding denominated in Swiss francs and by a positive impact from financial instruments denominated in Swiss francs resulting from exchange rate movements.

In view of the tough market conditions and low level of interest rates, DZ PRIVATBANK implemented further measures in 2016 to enhance efficiency and productivity. Foreign operations are being rationalized, as part of which the subsidiary Europäische Genossenschaftsbank S.A. was merged into DZ PRIVATBANK S.A.; DZ PRIVATBANK Singapore Ltd. is being wound up. DZ PRIVATBANK S.A. has partnered with Bank of Singapore, Singapore, one of the most prestigious providers in South East Asia, to ensure that it continues to offer customers of the cooperative financial network access to the important financial center of Singapore.

The decentralized collaboration with the cooperative banks in Germany is coordinated through the 8 branches of DZ PRIVATBANK in Berlin, Düsseldorf, Frankfurt, Hamburg, Hannover, Munich, Nuremberg, and Stuttgart.

Net fee and commission income rose by 3.6 percent to €116 million (2015: €112 million).

The year-on-year decrease in the average volume of guaranteed LuxCredit loans led to a lower expense from sales commission in this business compared with 2015. The related improvement in net income was offset by a lower contribution to income from private banking, but the contribution to income in the fund services business increased.

As at December 31, 2016, the value of funds under management had grown by €2.1 billion to €100.0 billion (December 31, 2015: €97.9 billion). The number of fund-related mandates as at December 31, 2016 was 590 (December 31, 2015: 604). At the end of the reporting year, the funds managed on behalf of high-net-worth individuals had increased to a total of €16.9 billion (December 31, 2015: €15.6 billion).

Gains and losses on trading activities were down by €13 million to a net gain of €9 million (2015: net gain of €22 million), largely because the gains and losses on exchange differences in the prior year had been boosted by an increase in the volume of customer-initiated transactions following the Swiss National Bank's unpegging of the Swiss franc exchange rate.

Administrative expenses rose by €9 million to €228 million in the year under review (2015: €219 million). Staff expenses were up slightly but the main reason was an increase in other administrative expenses. The latter was particularly attributable

to the increase in contributions required under regulatory requirements.

Other net operating income amounted to a net expense of €39 million (2015: net expense of €33 million). The main components were further additions to provisions of €16 million (2015: €21 million) in connection with retail banking risks, an amortization expense of €16 million (2015: €16 million) in respect of acquired customer relationships, and a restructuring provision of €9 million.

With the inclusion of the effects from the factors described above, **profit before taxes** amounted to €3 million (2015: €38 million).

The **cost/income ratio** for DZ PRIVATBANK in 2016 was 98.7 percent (2015: 85.2 percent).

Regulatory RORAC was 0.9 percent (2015: 11.8 percent).

3.2.6. R+V

Premiums earned climbed by €240 million to €14,658 million (2015: €14,418 million), reflecting the tight integration of the R+V subgroup into the cooperative financial network. This exceeded the impressive level of premiums earned in 2015 by 1.7 percent. Gross premiums written increased by 1.6 percent to €14,767 million in the year under review (2015: €14,536 million), also surpassing the excellent level of premiums generated in 2015.

Premium income in the life insurance and health insurance business of R+V decreased by a total of 3.5 percent.

In the life insurance business, premium income was down by 4.2 percent. Although premium income declined in the bAV and pV Fonds businesses, premium income from pV Klassisch went up.

By contrast, premium income from health insurance rose by 8.4 percent, largely due to the encouraging uptrend in regular and one-off premiums.

Premium income from non-life insurance advanced by 5.3 percent. This growth was predominantly generated from vehicle insurance and from corporate customers.

Premium income also rose in the inward reinsurance business, in this case by 16.1 percent. The reasons for this increase were mainly the upward trends in the vehicle and fire/non-life insurance sectors.

Gains and losses on investments held by insurance companies and other insurance company gains and losses improved by 24.0 percent to a net gain of €3,885 million (2015: net gain of €3,132 million).

Long-term interest rates fell sharply from the beginning of the year under review, whereas they had risen in the prior year. Equity markets relevant to R+V did not do as well over the course of the reporting year as they had in 2015 and exchange rate movements were less favorable to R+V during 2016 than in the previous year.

Overall, these trends resulted in a year-on-year increase in net gains under gains and losses on investments held by insurance companies accompanied by an improvement in realized and unrealized gains and losses, although net foreign exchange gains were lower than in 2015.

Owing to the countervailing effects from the recognition of provisions for premium refunds (particularly in the life insurance and health insurance business) and claims by policyholders in the unit-linked life insurance business in the ‘insurance benefit payments’ line item presented below, however, the change in the level of gains on investments held by insurance companies only partially affected the level of net income from insurance business before taxes in 2016.

Insurance benefit payments went up by 5.0 percent to €15,400 million (2015: €14,664 million).

In line with the increase in premium income and higher gains on investments held by insurance companies, higher additions were made to insurance liabilities at companies offering personal insurance. Furthermore, an amount of €626 million was added to the supplementary change-in-discount-rate reserve (2015: €559 million).

Both in non-life insurance and in inward reinsurance, claims losses were within expectations for the year under review.

Insurance business operating expenses went up by a total of 7.3 percent to €2,454 million (2015: €2,287 million) in the course of ordinary business activities in all 3 divisions.

Other net operating income amounted to a net expense of €8 million (2015: net income of €26 million) and in 2015 had included a gain of €39 million on the disposal of shares in an associate held for sale.

The factors described above meant that **profit before taxes** for the reporting year increased by €56 million to €681 million (2015: €625 million).

Regulatory RORAC was 15.3 percent (preliminary figure) compared with 23.9 percent in 2015.

3.2.7. TeamBank

Net interest income at TeamBank amounted to €414 million, a rise of 1.5 percent compared with the figure of €408 million in 2015. This increase was the consequence of a higher level of new business and a greater portfolio of existing contracts in the easyCredit business, coupled with more favorable funding terms.

Payments to the partner banks for sales commissions were reported within this line item for the first time in the reporting year, whereas they had still been included in net fee and commission income in the group management report for 2015. The figure for net interest income in 2015 has been restated accordingly. The transaction cost components of loans and advances to customers, which are categorized as loans and receivables under IAS 39, were restated in accordance with IAS 8.41 et seq. as at June 30, 2016. Sales commissions were remeasured in connection with the measurement of these loans and advances using the effective interest method.

The consumer finance market was once again subject to significant predatory competition in 2016 against a backdrop of buoyant consumer demand throughout the year. At the same time, TeamBank faced particular challenges presented by the historically low interest rates. Added to this, TeamBank also had to cope with the more extensive requirements in the marketplace caused by the advances in digitalization.

Despite this challenging environment, TeamBank – the cooperative financial network's consumer finance specialist – once again succeeded in increasing loans and advances to customers, which went up by 4.4 percent to €7,284 million (December 31, 2015: €6,977 million). The number of customers also grew substantially in 2016 to 638 thousand, a further 16 thousand compared with December 31, 2015.

In the year under review, TeamBank's impressive market positioning continued to be derived from two key factors: TeamBank's firmly rooted integration within the sales network of the local cooperative banks and the consistent focus of its activities on the cooperative principles of fairness and transparency.

At the end of the reporting year, TeamBank was working with 835 out of a total of 984 cooperative banks in Germany, and with a further 99 partner banks through its branch in Austria, TeamBank Austria based in Vienna. TeamBank managed to maintain its share of the German market at a high level in 2016, the most recent figure being 4.0 percent (as at September 30, 2016). The equivalent figure for the Austrian market is 3.4 percent (as at September 30, 2016).

In the reporting period, TeamBank focused on digital transformation with the aim of creating a uniform product offering for the customer across all online and offline sales channels.

At the beginning of July 2016, the consumer finance specialist became one of the first providers in the market to offer customers a complete, seamlessly integrated process for entering into a consumer finance agreement online; this process includes video-based verification of identity, an electronic upload service, and electronic signatures. In October 2016, TeamBank also launched a pilot project using carefully selected merchants with the aim of offering an installment purchase solution at the point of sale in retail outlets from the first quarter of 2017. The design of the solution is identical to TeamBank's online installment purchase system. In addition, TeamBank has developed a forward-looking cash management finance app called 'fymio'.

TeamBank's well-established product variants continued to perform well in the market in 2016.

In 2016, a total of 485 partner banks and around 90 thousand customers used easyCredit-Finanzreserve,

which is still the only credit card on the market incorporating a consumer finance function, and which provides the customer with a fair financing option. Since October 2016, customers have also been able to benefit from easyCredit-Finanzreserve without a card. The provision of a cash reserve with simple drawdown function, free of charge, offers partner banks a customer loyalty tool that they can then use to effectively occupy the customer interface.

The popular advisory concept known as 'easyCredit-Liquiditätsberater' has been helping the cooperative idea to gain more prominence. Approximately 143 thousand members benefited from advice in the reporting period, of whom around 30 thousand were new to the cooperative financial network.

The 'Ratenkauf by easyCredit' installment purchase product, which was launched in 2015, is an easy and convenient way of paying in installments online. Customers have made 2,023 installment purchases with a total lending volume of €1,676 thousand since the product's launch in the summer of 2015.

Allowances for losses on loans and advances amounted to €80 million in 2016 (2015: €81 million), primarily because the age structure of outstanding receivables remained favorable and the volume of terminations was again low.

Net fee and commission income came to €7 million (2015: €7 million). Sales commissions, which were previously recognized in net fee and commission income, were included in net interest income for the first time in the reporting period. The figure for net fee and commission income in 2015 has been restated accordingly.

Administrative expenses went up by €4 million year on year to €207 million (2015: €203 million).

Staff expenses declined in the year under review by €5 million to €81 million (2015: €86 million) owing to vacant posts and the closure of the easyCredit shops. Other administrative expenses rose by €9 million to €126 million (2015: €117 million), primarily because of forward-looking capital investment and an increase in IT and public relations/marketing expenses (up by €8 million), although contributions and fees fell by €2 million.

Other net operating income improved by €8 million to €9 million (2015: €1 million) as a result of the reversal of provisions.

Profit before taxes went up by €11 million to €143 million in the year under review (2015: €132 million) as a consequence of the factors described above.

The **cost/income ratio** for TeamBank in 2016 was 48.1 percent (2015: 48.8 percent).

Regulatory RORAC was 36.2 percent (2015: 34.1 percent).

3.2.8. UMH

Net fee and commission income in the UMH subgroup contracted marginally, by 1.6 percent, to €1,207 million (2015: €1,227 million).

The change in net fee and commission income was predominantly due to the factors described below. Income from performance-related management fees declined markedly in the reporting year. The volume-related contribution to this net income generated with the Union Investment Group's average assets under management in the reporting year was slightly higher than the level achieved in 2015. This contribution accounted for 86.1 percent of the net fee and commission income in 2016. Income from real estate fund transaction fees saw a slight year-on-year increase.

During the reporting period, international capital markets continued to be influenced by the expansionary monetary policies of the central banks, with interest rates at historically low levels. The average level of prices in equity markets in 2016 was markedly below the equivalent level for 2015.

The considerable net fee and commission income for 2016 that was generated in this environment was the result of a successful sales partnership with the local cooperative banks that enabled the Union Investment Group to generate net inflows of €7.1 billion from its retail client business.

The tried-and-tested collaboration with partners in the cooperative financial network is becoming all the more important given the particular challenges of a sustained period of low interest rates. Union Investment has succeeded in adding well-balanced,

broadly diversified investment solutions to its existing core interest-bearing investment offerings, thereby opening up opportunities for clients to generate adequate returns over the long term.

The multi-asset solutions offered by Union Investment enjoyed a sustained high level of demand in the reporting year. These solutions have proven themselves to be an investment instrument of choice in the present period of low interest rates. The innovative PrivatFonds investment concept has 6 different product variants with graduated risk profiles to cater to customers' individual preferences. Net inflows amounted to €3.0 billion, taking the PrivatFonds portfolio volume to €16.1 billion as at December 31, 2016, an increase of 23.8 percent.

The UniAbsoluterErtrag fund, which was successfully launched on the market in 2014, also helped to bring greater diversification to personal investments and minimize investment risk. This fund aims to generate a steady stream of income in all market phases and attracted new business of €1.1 billion in the year under review.

Open-ended real estate funds, which invest in tangible assets, offer an important investment alternative in a volatile capital markets environment. These funds generated net new retail business of €2.3 billion in the reporting year.

Alongside Union Investment's solutions for one-off investments, the focus in the year under review was also on long-term processes for the accumulation of wealth. For example, the number of traditional fund-linked savings plans had risen to 1.5 million contracts by the end of 2016 with an increase in the 12-month savings volume to €2.8 billion (December 31, 2015: €1.8 billion). One of the reasons for this growth is the decision made by Union Investment to reduce the minimum savings rate for a savings plan to €25.

In addition, customers invested a total of €1.2 billion in 2016 in the fund-based Riester-Rente products (UniProfiRente and UniProfiRente Select) offered by the Union Investment Group, the market leader in this type of product. The total assets in the portfolio of Riester-Rente solutions swelled by €1.5 billion in 2016 to €15.0 billion.

In its institutional business, the Union Investment Group generated net inflows amounting to €16.1 billion. A total of 74 new institutional clients were gained in the reporting year.

In an entrenched environment of low returns, institutional business in 2016 was focused on risk-controlled and broadly diversified investment solutions. Demand was mainly concentrated on high-yield bonds, money market-linked products, structured credits, equity strategies, and real estate investments.

Union Investment expertise in risk management and opportunity-focused solutions continued to be in demand from institutional investors in the reporting year. As was the case in 2015, other highly popular products included the Union Investment Group's capital preservation products, which had attracted total investment of €23.4 billion by the end of the year under review.

Sustainable investments, in particular, also enjoyed strong growth. Sustainable investment strategies have now become firmly established in the market as part of institutional investing. This is reflected in the Union Investment Group's portfolio of sustainable funds, the total volume of which amounted to €25.3 billion at the end of 2016.

Administrative expenses rose by €61 million to €764 million (2015: €703 million). This included an increase in staff expenses of €15 million to €354 million, which mainly resulted from average salary increases and appointments to new and vacant posts. The rise in other administrative expenses of €46 million to €410 million was mostly accounted for by higher costs for public relations/marketing, IT, and consulting.

Other net operating income fell by €9 million to €28 million in the reporting period (2015: €37 million), primarily due to the figure for 2015 including income stemming from the reversal of a provision that had been recognized for claims by the Entschädigungseinrichtung der Wertpapierhandelsunternehmen (EdW) [Compensatory Fund of Securities Trading Companies].

Profit before taxes went down by €88 million to €468 million overall (2015: €556 million), primarily because of the changes described above.

The **cost/income ratio** in 2016 was 62.0 percent (2015: 55.8 percent).

Regulatory RORAC was greater than 100.0 percent (2015: greater than 100.0 percent).

3.2.9. VR LEASING

Net interest income in the VR LEASING subgroup amounted to €147 million, which was a decrease of €9.3 million on the equivalent figure in 2015 of €162 million.

Net operating interest income (excluding income from long-term equity investments) fell by €16 million to €140 million (2015: €156 million). The main reason, other than a decrease of €4 million in the core German business, was the contraction in the real estate leasing, automotive trade, and vehicle fleet businesses, which, together with international business at VR LEASING, have been defined as non-core business and are being scaled back. A major milestone was achieved in this regard when the Hungarian subsidiary Lombard Lízing was sold at the end of April 2016.

The decrease in interest income was also attributable to the continuing low level of interest rates and a further small reduction in the volume of finance leases. In this context, existing leases with higher rates of interest are being progressively replaced by new leases with lower rates of interest.

At €7 million, income from long-term equity investments was virtually unchanged on the amount for 2015 of €6 million.

The net interest income trend reflected the entity's ongoing strategic positioning in the period under review.

VR LEASING's business activities within the cooperative banking sector are geared to providing simple solutions based on an innovative range of products for Germany's small and medium-sized enterprises, which have strong regional ties. These products include leasing, factoring, rental, hire purchase, loans, and centralized settlement. On this basis, VR LEASING once again demonstrated itself to be a successful decentralized service provider for the cooperative banks in the year under review.

VR Leasy-Online, a digital application providing advisory support, incorporates integrated, automated decision-making so that local cooperative banks can make decisions on financing up to an amount of €200,000 within minutes, particularly for small business customers and the self-employed. The strong growth in online business of 9.9 percent in 2016 has vindicated this strategy. The VR Leasing express financing solution, which has been available since 2013 and enables customers to enter into hire-purchase agreements via VR-LeasyOnline, has been a contributing factor in this growth.

A further notable boost to growth has also been provided by the VR Leasing flexibel business lending product, which was launched during the year under review. As well as a credit line of up to €50,000, this innovative product includes six additional options for credit facilities that customers can use depending on their needs; it is also available to the cooperative banks through VR-LeasyOnline.

Against an economic backdrop of persistently low interest rates, growing competition, and greater pressure on margins, VR LEASING succeeded in increasing bank commission in 2016 by 18.6 percent compared with 2015. Following the switch from initial commission to trailer commission, the prior-year figures have been restated to correspond to the recognition of figures in the year under review under trailer commission.

The year-on-year change of €16 million in **allowances for losses on loans and advances** to €14 million (2015: net reversal of €2 million) resulted from an increase of €4 million in allowances for losses on loans and advances in Germany to €19 million (2015: €15 million) and from a reduction of €12 million in net reversals of allowances for losses on loans and advances outside Germany to a net reversal of €5 million (2015: net reversal of €17 million).

Gains and losses on investments amounted to a net gain of €1 million (2015: net gain of €12 million). As in the prior year, this figure included the reversal of an impairment loss on VR-LEASING AG's 50 percent long-term equity investment in VB-Leasing International Holding GmbH, Vienna, (VBLI), which is accounted for using the equity method.

Administrative expenses fell by €13 million to €157 million (2015: €170 million), which included a decline in staff expenses of €7 million to €94 million caused by the disposal of Lombard Lízing at the end of April 2016 and by a reduction in the headcount in Germany. Other administrative expenses went down by €6 million to €63 million, largely as a consequence of cost-cutting measures.

The **other net operating income** of €6 million (2015: net expense of €49 million) was attributable for the most part to effects totaling €31 million arising from Lombard Lízing, which was sold at the end of April 2016. These effects comprised other operating income of €27 million and income of €4 million arising from the deconsolidation of the Hungarian company Lombard Lízing. VR LEASING has taken steps to increase efficiency in order to safeguard its future viability and is focusing both on sustainable growth and a further reduction in costs. With this in mind, 120 full-time posts will be cut at VR LEASING in 2017. This accounts for most of the restructuring expenses of €39 million.

The prior-year figure had included an impairment loss of €19 million recognized at group level in respect of the goodwill in the VR LEASING operating segment and a provision for expected charges arising in connection with the disposal of the subsidiary Lombard Lízing amounting to €81 million. These expenses had been partially offset in the prior year by income from the reversal of provisions amounting to €60 million, which in turn had been largely attributable to the reversal of the provision recognized in 2014 to cover the risks arising from changes to banking legislation in Hungary.

Profit before taxes at VR LEASING amounted to €7 million in the year under review (2015: loss before taxes of €19 million) and was largely a consequence of the factors described above.

The **cost/income ratio** in 2016 was 88.2 percent (2015: greater than 100.0 percent).

Regulatory RORAC was 2.2 percent (2015: 0.1 percent).

3.2.10. WL BANK

WL BANK was included for the first time in the interim consolidated financial statements of DZ BANK for the period ended June 30, 2016, the consolidation being applied in accordance with IFRS 3 on the basis of a remeasurement of all WL BANK's assets and liabilities as part of the purchase price allocation (PPA). It has been reported in the income statement of the DZ BANK Group for 2016 as a separate operating segment entity with its earnings for the period July 1 to December 31, 2016 (see figure 3 of this group management report).

Net interest income in the second half of 2016 amounted to €70 million. This figure reflected the positive operating performance in real estate lending and the local authority loans business.

Within the DZ BANK Group, WL BANK operates as the center of excellence for business involving public-sector customers. This area of business primarily consists of customer relationships with federal, regional, and local authorities in Germany, and with their legally dependent municipal enterprises. These relationships are managed nationwide with the close involvement of the local cooperative banks.

WL BANK conducts its business from its headquarters in Münster, through its representative offices in Berlin, Düsseldorf, Hamburg, and Munich, and through its sales offices in Frankfurt am Main, Heidelberg, and Schwäbisch Gmünd.

The **allowances for losses on loans and advances** amounting to €9 million in the second half of 2016 were mainly attributable to a net addition of €7 million to the portfolio loan loss allowance.

Other gains and losses on valuation of financial instruments came to a net gain of €100 million in the last 6 months of the reporting year. This figure largely comprised gains or losses arising from the fair value measurement of securities, local authority loans, and own issues.

Administrative expenses for the second half of 2016 amounted to €35 million. The main cost components of other administrative expenses were expenses for the further development of the bank21 and agreeBAP IT platforms that are jointly used with partner banks, expenses for the prospective migration to agree21, consulting expenses attributable to the increasing regulatory requirements, and consulting and project expenses in connection with the integration of WL BANK into the DZ BANK Group. The expenses for the European bank levy were posted in the first half of the year, with the result that these expenses did

not have any adverse impact on the IFRS profit for the second half of 2016.

Profit before taxes at WL BANK amounted to €118 million for the second half of 2016, largely as a result of the factors described above.

The **cost/income ratio** for the second half of 2016 was 21.6 percent.

Regulatory RORAC for the second half of 2016 was 75.1 percent.

3.2.11. Other/Consolidation

Other/Consolidation comprises the other group companies plus adjustments to reconcile operating segment profit/loss before taxes to consolidated profit/loss before taxes. These adjustments are attributable to the elimination of intragroup and merger-related transactions and to the fact that investments in joint ventures and investments in associates were accounted for using the equity method.

The adjustments to net interest income were primarily the result of the elimination of intragroup dividend payments and profit distributions in connection with intragroup liabilities to dormant partners and were also attributable to the early redemption of issued bonds and commercial paper that had been acquired by entities in the DZ BANK Group other than the issuer.

The figure under Other/Consolidation for net fee and commission income largely relates to the fee and commission business of TeamBank and BSH with R+V.

The remaining adjustments are mostly also attributable to the consolidation of income and expenses.

Also included are the income of €159 million from the recognition in profit or loss of the negative goodwill arising on the business combination with WGZ BANK and income of €344 million from the elimination of business relationships that existed before the business combination.

4. Net assets

The following information on net assets as at the reporting date relates to DZ BANK including WGZ BANK ('DZ BANK') and the DZ BANK Group including the WGZ BANK Group ('DZ BANK Group').

As at December 31, 2016, the DZ BANK Group's **total assets** had increased by €101.1 billion, or 24.8 percent, to €509.4 billion (December 31, 2015: €408.3 billion). This rise was largely attributable to the changes resulting from the merger of the two cooperative central institutions. In particular, the merger caused DZ BANK's net assets to go up by €58.6 billion. The total assets of the newly included subsidiary WL BANK provided €43.8 billion of the growth in the DZ BANK Group's total assets as at December 31, 2016.

The **return on assets**, which was calculated by dividing the net profit by the total assets at December 31, 2016, was 0.3 percent.

The **volume of business** amounted to €843,130 million (December 31, 2015: €701,591 million). This figure comprised the total assets, the assets under management at UMH as at December 31, 2016 amounting to €292,272 million (December 31, 2015: €260,802 million), the financial guarantee contracts and loan commitments amounting to €40,287 million (December 31, 2015: €31,293 million), and the volume of trust activities amounting to €1,124 million (December 31, 2015: €1,155 million).

The DZ BANK Group's **loans and advances to banks** rose to €107.3 billion, an increase of €26.5 billion or 32.8 percent. Loans and advances to banks in Germany went up by €27.3 billion to €98.5 billion, but loans and advances to foreign banks decreased by €0.8 billion to €8.8 billion.

The DZ BANK Group's **loans and advances to customers** rose to €176.5 billion, an increase of €49.7 billion or 39.2 percent. Besides the additional loans and advances to customers from WL BANK of €33.3 billion, such loans and advances went up by €12.0 billion at DZ BANK, €3.6 billion at BSH, €0.7 billion at DVB Bank, €0.4 billion at DG HYP, and €0.3 billion at TeamBank. By contrast, there was a fall in loans and advances to customers at DZ PRIVATBANK (down by €0.3 billion) and at VR LEASING (down by €0.2 billion).

As at December 31, 2016, **financial assets held for trading** amounted to €49.3 billion, a decline of €0.2 billion or 0.5 percent on the figure as at December 31, 2015. Whereas the amount of derivatives (positive fair values) went up by €1.9 billion,

the holdings of bonds fell by €1.6 billion and money market placements went down by €0.5 billion.

Investments were up by €15.9 billion or 29.2 percent to €70.2 billion. This was primarily attributable to rises of €15.5 billion in bonds, €0.3 billion in money market instruments, and €0.1 billion in shares and other variable-yield securities.

Investments held by insurance companies rose by €5.6 billion (6.6 percent) to €90.4 billion (December 31, 2015: €84.8 billion), above all due to a €4.2 billion increase in fixed-income securities to €40.9 billion and a €1.1 billion increase in variable-yield securities to €8.4 billion.

The DZ BANK Group's **deposits from banks** as at December 31, 2016 amounted to €129.3 billion, which was €32.1 billion (33.0 percent) higher than the figure reported as at December 31, 2015. Deposits from domestic banks rose by €29.7 billion to €118.0 billion, and deposits from foreign banks increased by €2.4 billion to €11.3 billion.

Deposits from customers grew by €28.2 billion, or 29.4 percent, to €124.4 billion. WL BANK's customer deposits contributed €17.4 billion to the figure for the DZ BANK Group as at December 31, 2016. At DZ BANK and BSH, deposits from customers were up by €10.1 billion and €3.0 billion respectively, whereas they contracted by €1.8 billion at DG HYP.

At the end of the reporting period, the carrying amount of **debt certificates issued including bonds** in the DZ BANK Group had reached €78.2 billion (December 31, 2015: €55.0 billion). The increase of €23.2 billion was the result of the additional amount included for WL BANK of €15.1 billion and, in particular, growth in debt certificates issued including bonds in amounts of €9.5 billion at DZ BANK and €0.8 billion at DZ PRIVATBANK S.A. These total increases of €25.4 billion more than offset the contraction in debt certificates issued including bonds at DG HYP (down by €2.2 billion) and at DVB BANK (down by €0.4 billion).

Financial liabilities held for trading increased by €4.8 billion, or 10.6 percent, to €50.2 billion. Derivatives (negative fair values) rose by €1.4 billion, bonds issued by €2.9 billion, and money market deposits by €0.9 billion during the reporting year.

Insurance liabilities increased by €5.2 billion, or 6.6 percent, to €84.1 billion (December 31, 2015: €78.9 billion). This increase was largely attributable to rises of €2.6 billion in the benefit reserve, €1.0 billion in the provision for premium refunds, and €0.8 billion in the provision for claims outstanding.

As at December 31, 2016, the **equity** reported by the DZ BANK Group was €22.9 billion (December 31, 2015: €19.7 billion). The €1.0 billion increase in subscribed capital and €2.8 billion increase in the capital reserve reflect the capital increase that was implemented in the first half of 2016. The capital increase was carried out by issuing DZ BANK shares as consideration for the transfer of the net assets of WGZ BANK to DZ BANK.

The group's equity as at December 31, 2016 was also boosted by the net profit of €1,606 million generated in the year under review. In addition to reported unappropriated earnings of €326 million and an allocation to non-controlling interests of €138 million as at December 31, 2016, this led to an appropriation €1,142 million to retained earnings. The simultaneous €0.3 billion decrease in retained earnings was largely attributable to the acquisition of further long-term equity investments in specialized service providers within the cooperative sector in connection with the merger of the two cooperative central institutions and to the remeasurement of defined benefit plans due to the reduction in the discount rate for such plans as at the reporting date. The amount of €2.8 billion reported under the item 'Non-controlling interests' as at December 31, 2016 was down by €1.9 billion compared with December 31, 2015 (€4.7 billion) primarily because of the aforementioned

FIG. 4 – TOTAL ASSETS

acquisition of further long-term equity investments in specialized service providers within the cooperative sector.

The **DZ BANK Group's capital and solvency situation** is described in this group management report in chapter VI. (Combined opportunity and risk report), section 7. (Capital adequacy).

5. Financial position

The following details on **liquidity management** during the year under review relate to DZ BANK and the DZ BANK Group. Up to the legal implementation of the merger on July 29, 2016, most of the liquidity management in the two banks, WGZ BANK and DZ BANK (pre-merger), was a central responsibility in each of the two banks. Following completion of the merger, two entities in the WGZ BANK Group, WL BANK and DZ BANK IRELAND plc, Dublin, (DZ BANK IRELAND), were integrated into the liquidity management carried out by Group Treasury at DZ BANK.

Liquidity management for the entities in the DZ BANK Group is carried out by Group Treasury at DZ BANK and by the individual subsidiaries. The individual entities are provided with funding by DZ BANK (group funding) or the entities exchange cash among themselves via DZ BANK (group clearing). Liquidity is managed within DZ BANK by head office treasury in Frankfurt and by treasuries in its international branches, although Frankfurt has primary responsibility.

In the context of liquidity management, the DZ BANK Group distinguishes between operational liquidity (liquidity in the maturity band of up to one year) and structural liquidity (liquidity in the maturity band of more than one year). Dedicated steering committees have been established for both types of liquidity.

The DZ BANK Group has a highly diversified funding base for **operational liquidity**. A considerable portion is accounted for by money market activities resulting from the cash-pooling function with the local cooperative banks. This enables local cooperative banks with available liquidity to invest it with DZ BANK, while local cooperative banks requiring liquidity can obtain it from DZ BANK. Traditionally, this results in a liquidity surplus, which provides the main basis for short-term funding in the unsecured money markets. Corporate customers and institutional clients are another important source of funding for operational liquidity requirements. The DZ BANK Group therefore has a comfortable level of liquidity at its disposal. Funding on the interbank market is not strategically important to the DZ BANK Group.

The DZ BANK Group issues money market products based on debt certificates through its main branches in Frankfurt, New York, Hong Kong, London, and Luxembourg. DZ BANK has initiated a standardized groupwide multi-issuer euro commercial paper program, which DZ BANK and DZ PRIVATBANK S.A. can draw on.

Money market funding also includes collateralized money market activities, which DZ BANK has centralized in Group Treasury and which form the basis for broadly diversified funding on money markets. To this end, key repo and securities lending activities, together with the collateral management process, are managed centrally in Group Treasury. Group Treasury also has at its disposal a portfolio of investment-grade liquid securities (liquidity pool). These securities can be used through repos in connection with market funding activities and are also eligible for central bank borrowing.

Structural liquidity activities are used to manage and satisfy the long-term funding requirements (more than 1 year) of DZ BANK and, in coordination with the group entities, those of the DZ BANK Group.

Both for the DZ BANK Group and each individual group entity, structural liquidity is measured daily on the basis of total cash flows. In addition, the long-term ratio is used at DZ BANK to support the management of structural liquidity. This key figure is also determined on a daily basis. It quantifies the ratio of sources of funds to application of funds with a residual maturity of more than one year on a cash flow basis.

DZ BANK's **long-term ratio** as at December 31, 2016 was 94 percent (December 31, 2015: 89 percent). This means that the items tying up liquidity with residual maturities of over one year were largely funded by

liabilities that also had residual maturities of more than one year.

DZ BANK secures its long-term funding for structural liquidity by using structured and non-structured capital market products that are mainly marketed through the local cooperative banks' own-account and customer-account securities business and to institutional clients. Long-term funding that is not covered is secured through systematic integration between the entities in the DZ BANK Group. Options for obtaining covered liquidity through Pfandbriefe or DZ BANK BRIEFE are used on a decentralized basis, in other words based on the different cover assets at DZ BANK, DG HYP, WL BANK and DVB.

Long-term funding requirements in foreign currencies are covered through the basis swap market, ensuring matching maturities.

Group Treasury at DZ BANK carries out groupwide **liquidity planning** annually. This involves determining the funding requirements of the DZ BANK Group for the next financial year on the basis of the coordinated business plans of the individual companies. Liquidity planning is updated throughout the year.

Monthly **structural analyses** of the various resources available on the liabilities side of DZ BANK's balance sheet are also conducted. The purpose of these analyses is to provide senior management with information that can then be used as the basis for actively managing the liability profile.

To complement the description of the funding structure, further information on the DZ BANK Group's **liquidity risk** can be found in this group management report in chapter VI. (Combined opportunity and risk report), section 6. (Liquidity adequacy). The year-on-year changes in cash flows from operating activities, investing activities, and financing activities are shown in the **statement of cash flows** in the consolidated financial statements. Contractual cash inflows and cash outflows are set out in the **maturity analysis** in note 84 of the notes to the consolidated financial statements.

III. Events after the balance sheet date

There were no events of particular importance after the end of the financial year.

IV. Human resources report and sustainability

1. Human resources report

The merger between DZ BANK and WGZ BANK was the focus of HR activities in the two central institutions during the year under review. The key milestones for the HR teams in both banks were the agreement in principle with employee representatives, the reconciliation of interests required by German law, and the social compensation plan. However, the HR planning to merge the employees from both banks into 29 departments was also significant. Efforts to address these issues at an early stage were a major contributing factor in ensuring that the merger process could be carried out amicably without disharmony in the workplace. Otherwise, joint HR activities in the entities of the group generally focused on existing core issues, such as the new version of the German Regulation Governing Remuneration at Institutions (InstitutsVergV), innovation, and digitalization.

1.1. HR activities across the group

During the reporting year, a total of 45 meetings were held by the existing HR committees or their members, with the aim of progressing joint HR activities. The Group HR Committee, GHRC, (for information on its function see section 3.2.3. in chapter I. DZ BANK Group fundamentals) met twice, HR managers five times. Within the six working groups, members held discussions on 38 occasions ranging from working group meetings to conference calls.

The Remuneration working group regularly updated the remuneration strategy and supported the consultation procedure for the InstitutsVergV in collaboration with the Arbeitgeberverband der Deutschen Volksbanken und Raiffeisenbanken (AVR) [German Cooperative Banks' Employers Association], the Bundesverband Investment und Asset Management (BVI) [Federal Association of German Fund Management Companies], and the Deutsche Kreditwirtschaft (DK) [German Banking Industry Committee]. The new regulation is expected to come into force on March 1, 2017.

The HR Planning and Control working group has made a major contribution to measuring and managing HR activities within the DZ BANK Group by jointly developing the HR Key Performance Indicator Cockpit (HR KPI Cockpit). The empirical values provided by the tool enhance transparency and comparability within the individual entities. The greater level of dovetailing between entities has also fostered information-sharing and mutual knowledge of best practice. Other activities focused on the topics of digitalization and innovation. The working group engaged with third-party specialists on current market trends (big data, etc.). In 2016, a review of the current HR IT landscapes in the individual HR divisions was carried out to facilitate further work on the future structure of HR planning and control in the entities and to drive forward the process of digitalization.

The advancement of women and the management of young talent were the key issues covered by the Professional Development working group. The target ratios specified in the statutory requirements were implemented in the individual entities. In 2016, the professional development program for women at DZ BANK for the first time began with a seminar that was open to female employees from all entities in the group. The training session 'Success strategies for women in business' was offered on two dates, in each case with capacity for ten participants, and was fully subscribed. The sessions offered genuine added value for the participants, together with the opportunity to exchange information and extend personal networks. The feedback was universally positive, with the result that the series will be continued in 2017. A separate activity, the cross-mentoring program for heads of department started again in the second quarter of 2016 with 18 mentor/mentee pairings from eight entities in the DZ BANK Group. Two of the mentors had already experienced the program as mentees. The program is due to run again for the fourth time during 2018.

In addition to groupwide HR development activities, such as training for managers, a pilot project was successfully run by the Careers working group, entitled 'Information week: Experiencing the sense of belonging in the DZ BANK Group'. The introduction of information events actively helps to nurture group identity. Such events offer new perspectives, promote an understanding of particular requirements in other entities, encourage a greater depth of professional dialog, and thereby produce employees capable of spreading the message among others. The events also present new vocational areas, support overarching succession and career planning, and help the

DZ BANK Group to position itself as an employer of choice. Participation was open to any employee who had registered beforehand. Two such information weeks were held: one at TeamBank in Nuremberg and the second at Union Investment in Frankfurt. The events were attended by a total of 52 employees, who came from different entities in the DZ BANK Group, and the feedback was positive. Everyone agreed that the events were successful in providing practically relevant content and conveying the inspiring working environment in each entity. Three further information weeks are planned for 2017, to be held at DZ BANK, DZ PRIVATBANK, and R+V Versicherung.

1.2. DZ BANK Group's employer branding campaign

The objective of the campaign is to establish the DZ BANK Group as an employer in the marketplace, thereby attract suitable candidates and retain existing employees over the long term, and thus safeguard the future viability of the DZ BANK Group.

A joint external careers website featuring vacancies across the group was launched in the year under review. The website is based on the internal communications and information-sharing platform set up in 2014. Various public relations activities supported the launch of the employer brand in the external job market.

1.3. Trainees

As at December 31, 2016, 1,083 trainees were employed within the DZ BANK Group in Germany and abroad. The ratio of trainees to total employees was 3.5 percent. Each year, a workshop is held for all the trainees in the group companies to encourage networking within the DZ BANK Group. In addition, a job shadowing assignment in another entity within the DZ BANK Group has been included as a standard component of the trainee program since 2015.

1.3.1. TeamUp trainee program

This trainee program for the local cooperative banks has now become well established, celebrating its fifth anniversary in 2016. Since the launch of the program in October 2011, 47 young people have signed up to start their careers via TeamUp.

Participants can choose from three key areas: retail customers and private banking, corporate customers, and banking management. A fourth key area covering innovation and digitalization was designed in the year under review and will be included as part of the program from 2017. This new area of the program is a response by DZ BANK to the needs of the local cooperative banks.

The quality of the TeamUp trainee program is derived from the variety of opportunities presented by the different entities in the cooperative financial network. The program delivers key benefits for successful personal career development, including familiarity with multiple levels of the cooperative financial network, a combination of practical training and qualifications, broadly based professional expertise, and the associated opportunity to build up a personal network of professional contacts from an early stage.

1.3.2. DZ BANK Group Career Prize

In 2016, the DZ BANK Group Career Prize was awarded jointly by the entities in the DZ BANK Group for the eighth time, although it was the fifteenth time that the prize had been awarded overall. The Career Prize, which is worth €24,000, is awarded in recognition of outstanding academic dissertations in the area of banking and finance. In the reporting year, 248 dissertations were submitted, comprising 116 in the category of university master's degree dissertations and 132 in the category of bachelor's degree dissertations. The dissertations addressed both traditional financial issues and also current topics affecting banks in the age of digitalization.

1.3.3. Absolventenkongress

For a number of years now, the DZ BANK Group has had a joint stand at the Absolventenkongress in Cologne, showcasing the group's huge variety of opportunities at one of Germany's biggest job fairs for graduates just starting their careers and young professionals. The event in 2016 was the sixth time that the DZ BANK Group had shared its stand with the BVR, presenting themselves together as the cooperative financial network.

1.4. Advancement of women

In 2011, the entities in the DZ BANK Group had issued a letter of intent declaring their intention to provide active support for the advancement of women in their careers, a measure necessary to safeguard the competitiveness of the group over the long term. The initiative is supported by joint events such as the 'Success strategies for women in business' training. The potential offered by women is also one of the specific factors the group aims to take into account in its recruitment and development of

management trainees. The proportion of women participating in the latest cross-mentoring program was 42 percent. To complement activities aimed at executive management development and the nurturing of employee potential, the entities in the group have established a cross-mentoring program, which ran for the third time in year under review. In 2016, the proportion of managerial positions held by women was 20 percent. Other measures taken in support of this objective include, for example, action to ensure all entities in the DZ BANK Group regularly obtain auditberufundfamilie® certification or sign the diversity charter.

1.5. Corporate Campus for Management & Strategy

The Corporate Campus for Management & Strategy was set up in 2010 as a think tank and as an information-sharing and strategy platform for senior managers in the DZ BANK Group. It has become successfully established and is now in its seventh year. More than 160 participants attended a total of 12 different events in 2016. All the feedback from the participants was very positive without exception. Participants included members of boards of managing directors, heads of divisions, and, in some cases if relevant to the topic under discussion, employees below head-of-division level. The Corporate Campus Creative Lab was added to the established range of activities, offering new, creative events ing on digitalization with the aim of further bolstering the innovative capabilities of the DZ BANK Group. One example was the introduction of the 'Digital driver's license – my role as digital leader' sessions, the implementation of which is to continue in 2017.

Further information can be found at www.corporatecampus.dzbankgruppe.de

FIG. 5 – EMPLOYEE DATA

Employees (average for the year, excluding trainees)	2016	2015
Total	**29,341**	**30,029**
Employees (as at December 31, including trainees)		
Total	**31,225**	**31,130**
Employees	30,142	30,031
Trainees	1,083	1,099
Proportion of trainees (%)	3.5	3.5
Germany	28,097	27,800
ROW	3,128	3,330
Male	17,089	16,752
Female	14,136	14,378
Total proportion of women (%)	45.3	46.2
Total number of managers	3,178	2,568
Proportion of female managers (%)	20.0	23.7
Full-time	25,302	25,296
Part-time	5,923	5,834
Proportion of part-time (%)	19.0	18.7
Period of service (years)	12.7	12.9
Staff turnover (%)	5.5	6.2
Resignations (%)	2.7	2.9
Professional development days per employee	3.3	3.6

1.6. Taking responsibility for employees

The individual DZ BANK Group entities continued to provide services aimed at promoting the health of employees, such as attractive sporting opportunities within the company and special courses on preventing illness. Flexible working hours and part-time working models, together with other services aimed at improving work-life balance, are also included in the range of options and form a permanent part of HR policy in each entity.

2. Sustainability

2.1. Cooperatives: responsibility as a corporate objective

The philosophy of meeting commercial and social challenges together is the foundation on which the cooperatives are based and is also a fundamental principle of sustainability.

One of UNESCO's recent decisions is testimony to the effectiveness of the cooperative principle around the globe: At the end of 2016, the idea and practice of organizing shared interests in cooperatives was listed as part of the Intangible Cultural Heritage of Humanity.

Around 150 years after the first cooperatives were established, they are now more relevant than ever before. In the period of the financial crisis, cooperatives clearly demonstrated the extent of their stability and enjoyed huge popularity. In Germany alone, 22.4 million people are currently organized into

cooperatives. The cooperative financial network has 18.3 million members.

Cooperatives are guided by fundamental values such as mutuality, fairness, partnership, and trust. The strong regional ties of the entities and their businesses, particularly in the cooperative banking sector, are hallmarks of the shared cooperative guiding principle and represent one of our defining strengths.

For some years, the DZ BANK Group has been one of the leading financial institutions in terms of sustainability. This is regularly confirmed by the sustainability rating received from the sustainability ratings agency oekom research AG, which has awarded its prime status for particularly sustainable companies to the DZ BANK Group since 2011.

Following the merger of DZ BANK and WGZ BANK and the consolidation of the two banks' prime ratings by oekom research, the DZ BANK Group continues to hold prime status (i.e. a rating of C+).

2.2. Embedding sustainability in the organization: examples in the DZ BANK Group

As one of the country's leading financial services providers, the DZ BANK Group is playing a key role in funding the switch to renewable energy sources in Germany. The DZ BANK Group's range of products covering renewable energies extends from finance for energy-saving solutions in construction and renovation projects to support for small and medium-sized enterprises using wind power, biomass, or solar energy and finance for large-scale projects such as solar farms, as well as suitable insurance solutions.

The renewable energies sector has been a strategic area of activity for DZ BANK since 2009. DZ BANK's lending in this area stood at around €4.8 billion as at December 31, 2016. It is used to fund the expansion of infrastructure and the development of new, more efficient technologies. As well as traditional bank loans funded from the bank's own liquidity and the arrangement of development loans, the provision of project finance is a major focus of activity in the renewable energies business.

In January 2013, DZ BANK signed up to the Equator Principles, which provide a global standard for project finance. Since then, all project finance involving a total investment of more than US$ 10 million has been subject to an additional review in compliance with the requirements of the Equator Principles. DZ BANK's lending guidelines also include carrying out its own sustainability check, which is based on the principles of the UN Global Compact. Sectoral guidelines and the lending risk strategy also stipulate which activities cannot be funded due to their environmental or social risks. Since 2014, DZ BANK has also published its fundamental rejection criteria used in lending decisions.

Climate protection and adaptation to climate change have become a pressing concern for developers and homeowners. A healthy and comfortable living environment, renewable energies, and the avoidance of harmful emissions are becoming increasingly important in Germany, both for those building the homes and those living in them. Home savings and financing products offered by Bausparkasse Schwäbisch Hall that help people to make eco-friendly improvements to their homes or incorporate green technologies when building new homes are more in demand than ever. Bausparkasse Schwäbisch Hall, which has 3,000 employees focusing on customer relationship management, administration, and facilities, also seeks to lead by example. It has developed a sustainable facilities management system and put an environmental management system in place. Working closely with the municipal utility companies, it has been carbon-neutral for six years.

Union Investment is one of Germany's largest providers of socially responsible investments with some €25.3 billion of assets under management in this category. It offers a broad spectrum of fund and client account solutions that are managed in compliance with sustainability requirements. Using a strategy referred to as UnionEngagement, it takes a proactive approach to its shareholdings on behalf of its clients. Union Investment specifically brings up social, environmental, and corporate governance issues at annual general meetings and in presentations to investors, and in many cases is thereby able to exercise some influence over corporate decision-making processes. The rating agency Feri has also recognized Union Investment's expertise in this area of investment, yet again declaring Union Investment to be the best asset manager in the socially responsible investing category in its 2016 EuroRating Awards.

Both DG HYP and DZ PRIVATBANK have set up a fixed framework of responsibility for sustainability issues in their respective organizations and, since 2012, have been represented on the Group Corporate Responsibility Committee.

R+V has published its third sustainability report, providing a complete overview of all its sustainability activities. The core topics in the report are the ethical guidelines for R+V investments, corporate social responsibility, and the numerous activities undertaken in connection with environmental and climate protection.

2.3. Group Corporate Responsibility Committee

Since 2010, the entities in the DZ BANK Group have been pooling their activities to a much greater extent, focused on the common objectives of exploiting market opportunities, avoiding risk, and at the same time enhancing corporate citizenship.

In 2014, the entities set up a standing committee, the Group Corporate Responsibility Committee. The committee is made up of the sustainability coordinators and communications managers from the various entities and meets regularly. The Group Corporate Responsibility Committee reports to the Group Coordination Committee. WL BANK, formerly a subsidiary of WGZ BANK, has also been a member of the Group Corporate Responsibility Committee since the autumn of 2016.

Outcomes from these activities have included, for example, the introduction of groupwide supplier standards, a common database structure, and the joint signing of the UN Global Compact. The group entities have also worked together for a number of years now on matters surrounding environmental protection and prevention of climate change.

At the end of 2016, the Group Corporate Responsibility Committee began the development of a groupwide climate strategy based on the German government's national Climate Action Plan and the principles set out in the Sustainable Development Goals adopted by the United Nations (UN).

2.4. Transparency in sustainability activities

The DZ BANK Group regularly reports on its sustainability activities in its annual Communication on Progress under the UN Global Compact. Many of the group entities prepare their own sustainability reports or include their reporting on sustainability issues in their annual report. The reporting year saw the publication of DZ BANK's eighth sustainability report prepared in accordance with the Global Reporting Initiative (GRI) standards.

Important information gleaned from stakeholder survey

To manage sustainability in the DZ BANK Group effectively, we need the deepest possible understanding of our stakeholders' social, environmental, and economic interests, experiences, and expectations. In 2015, we conducted a groupwide online survey of our external and internal stakeholders for the first time, providing us with important information about our sustainability efforts.

In choosing which interest groups to survey, we took account of their diversity and their relevance to the entities in the DZ BANK Group. We were guided by the following key points: Among our most important stakeholders are the cooperative banks (because they are both our customers and our owners) along with the corporate customers, retail customers, and employees of the entities in the DZ BANK Group. Suppliers and service providers as well as trade associations and investors are highly relevant to the group entities from a commercial perspective. We also listened to critical opinions from non-governmental organizations (NGOs), rating agencies, academics, and politicians.

The survey covered five areas of action, each broken down into various topics, and was based on analyses of the prevailing social sustainability trends. With a response rate of 46 percent, it provided valuable input for core areas of the work and reporting systems in group entities.

Our stakeholders' opinions again underlined the importance of strategically integrating sustainability into the core business of the entities in the DZ BANK Group in all areas of operations. The respondents assigned the greatest relevance to sustainable corporate management and to sustainable products and services. Within these areas, 'cooperative principles and values' and 'corporate strategy and success' attracted very high scores.

This means that the DZ BANK Group needs to continue to integrate the principle of sustainability that lies at the core of the cooperative model into its systems and to place it at the forefront of its business activities. It must also ensure that this ties in with the cooperative values so that it can live up to stakeholders' expectations regarding the sustainability performance of the group entities. In addition, the DZ BANK Group will use the results of the survey as guidance when selecting the topics for future sustainability reporting.

Sustainability reporting by the DZ BANK Group:

DZ BANK:
www.sustainability.dzbank.com

BSH:
www.schwaebisch-hall.de/unternehmen/nachhaltigkeit/nachhaltigkeit-bei-schwaebisch-hall.html

DG HYP:
www.dghyp.de/en/sustainability

DVB:
www.dvbbank.com/about-us/sustainability

DZ PRIVATBANK:
www.dz-privatbank.com/dzpb/en/sustainability.html

R+V:
www.ruv.de/ueber-uns/nachhaltigkeit-bei-ruv

TeamBank:
www.easycredit.de/Verantwortung.htm

UMH:
unternehmen.union-investment.de/startseite-unternehmen/nachhaltigkeit/nachhaltige-unternehmensfuehrung.html

VR LEASING:
www.vr-leasing-gruppe.de/unternehmen/geschaeftsbericht/2015/verantwortung-und-engagement/index.html

WL BANK:
www.wlbank.de/Ueber-uns/Wir-ueber-uns/Nachhaltigkeit/

V. Outlook

1. Economic conditions

1.1. Global economic trends

Sentiment in the industrial sector around the globe has improved since the beginning of 2016, despite the weakness in international trade. In the world's two largest economies – the United States and China – the survey readings in the purchasing managers' indices are above the growth threshold. A positive sentiment is also prevalent in the eurozone and in Germany.

This growth in confidence is not entirely reflected in production figures however. Nevertheless, economic growth in the industrialized countries remained steady over the course of 2016, despite geopolitical crises. By contrast, structural problems as well as macroeconomic and financial imbalances continued to weaken economic growth in some of the emerging markets, a trend exacerbated in many of these countries by the relatively low price of oil. The next twelve months may provide commodity-exporting countries with the opportunity to get out of the economic doldrums.

Against this backdrop, there is only likely to be a slight rise in global economic growth in 2017 to approximately 3.2 percent compared with the rate of around 2.9 percent seen in 2016.

Driven by expectations of rising commodity prices, the rate of inflation will probably rise significantly from approximately 3.3 percent to 3.7 percent.

1.2. Trends in the USA

In a move that had been long anticipated by the markets, the US Federal Reserve (Fed) raised its federal funds rate in December 2016 by 0.25 percentage points to a range of 0.5 percent to 0.75 percent and hinted at further rate hikes to follow.

It was the Fed's view that the US economy was sufficiently resilient to bear the higher interest rate. Economic uptrend indicators included the generally prevailing optimism, the robust level of consumer spending and, not least, the improvement in industry's order books.

This universally positive trend in sentiment indicators may be fueled by a sense of anticipation following the recent US presidential election. It is difficult to assess the economic impact of a potential shift in US policy that could involve a more protectionist approach in some circumstances.

In 2017, the rise in employment is likely to be sustained, with the rate of unemployment falling to 4.7 percent. Forecasts estimate that economic growth will come in at around 2.2 percent in 2017, driven above all by rising capital spending. US inflation is projected to rise sharply to around 2.3 percent in 2017, the main factors being increases in energy prices and housing costs.

1.3. Trends in the eurozone

As expected, the ECB decided to leave its key interest rates unchanged when it met for its last meeting of 2016. It also decided to extend its bond-buying program, which had initially been scheduled to come to an end in March 2017, until the end of the year, although the monthly purchasing volume would be reduced. The aim of this action is to give banks an incentive to lend and thereby inject some stimulus into the economy.

The slow economic recovery within the European Monetary Union is currently being maintained. Household consumption has been identified as the main driver in this recovery. The gradual improvement in European labor markets is giving consumers greater income security and encouraging spending. Positive sentiment in the economy and rising capital investment are helping to generate a sound economic outlook at present.

Unemployment is predicted to fall slightly to around 9.9 percent in 2017. The economic recovery is likely to be sustained, but with a slightly weaker pace of growth. GDP is projected to grow at a rate of 1.5 percent. Expansion is subdued primarily because of the growth rates in two of Europe's major economies, France and Italy, where significant political influences are being brought to bear. Furthermore, it remains to be seen what effect certain developments will have on the eurozone economy, notably the UK's exit negotiations with the EU, the continued high levels of indebtedness in some European countries, and a potential shift in the direction of US economic policy. The inflation rate is likely to rise to 1.6 percent in 2017 in view of rising energy prices.

1.4. Trends in Germany

For some years, the German economy has remained impressively stable despite tough international conditions. However, the robust German economy could face significant challenges in 2017 caused by a range of risks primarily resulting from political trends, both in Europe and around the world.

The risks in the international environment, such as the weakness in global trade and the slowdown in the pace of growth in China, have not – or at least, have not yet – dented companies' significant confidence about future growth.

Consumer spending continues to be the key driver in the German economy. It is being bolstered by growth in nominally disposable incomes, in turn reflecting the high level of employment. In 2017, personal consumption is projected to rise by 1.3 percent.

Alongside consumer spending, the ECB's expansionary monetary policy is providing further stimulus, and is boosting house-building in particular. Some of the momentum could be lost during the course of 2017, however, as the accumulated orders on hand are gradually processed.

As in 2016, the hesitant global recovery means that foreign trade is unlikely to provide anything more than a mild tonic for the overall economy in the coming year.

The rise in employment is expected to continue in 2017, but at a lower rate. The downtrend in unemployment will probably come to an end during the year as accepted asylum applicants are integrated into the job market; the rate of unemployment could rise slightly from 6.1 to 6.2 percent.

The outlook for 2017 points to a marginally weaker year-on-year gain in economic output of around 1.2 percent. It should be noted in this regard, however, that some of the year-on-year decline in growth will be attributable to a lower number of working days in 2017.

The forecast average inflation rate in Germany for 2017 is 1.6 percent. However, this uptrend is less to do with current pricing pressures (even though there were some upward movements in oil prices in the last few weeks of 2016) and more the result of the low baseline, because the price of oil fell below the US$ 30 mark for a while in January 2016 and the inflation rate therefore temporarily slipped below zero. Once this low base effect has been factored out of the equation, there is unlikely to be any further rise in the inflation rate.

1.5. Trends in the financial sector

Since the financial crisis, the financial sector has faced considerable pressure in terms of both adjustment and costs caused by the need to comply with regulatory reforms, involving greater capital requirements and changes to regulatory systems.

In 2016, the capital conservation buffer and the countercyclical capital buffer specified by CRD IV came into force, increasing the mandatory minimum ratio for common equity Tier 1 capital. From 2017, other systemically important institutions (O-SIIs) – which could have a negative systemic impact because of their economic importance and cross-border activities – must maintain an additional capital buffer.

European banking supervisors also reserve the right to impose requirements for capital add-ons as part of the supervisory review and evaluation process (SREP).

As a result of these regulatory requirements, banks have reduced their leverage over the last few years and substantially bolstered their risk-bearing capacity by improving capital and liquidity adequacy.

Revised versions of the Capital Requirements Directive and Capital Requirements Regulation (CRD V and CRR II) are expected to be issued in 2017 as part of the timetable for regulatory improvements. This legislation includes the final implementation of the requirements decided by the Basel Committee on Banking Supervision (BCBS) relating to the leverage ratio, net stable funding ratio, and total loss absorbing capacity.

Many business models within the financial industry are increasingly being put to the test because of the need to enhance efficiency, for example by the digitalization of business and IT processes. The corresponding capital investment is initially likely to push up costs in the industry.

Another particular challenge faced by the financial sector in 2017 will probably continue to be the persistently low interest rates, which will be accompanied by a relatively flat yield curve. Anticipated consequences

are an adverse impact on the financial performance of banks and insurance companies, impairing their ability to accumulate capital.

Regardless of these expected developments, the German banking supervisor believes that the greatest risk to financial stability in 2017 could arise if market players are tempted to take on too great a risk in pursuit of higher returns because they judge the low interest rates and high asset prices to be a long-term phenomenon. In view of these dangers, the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) [Federal Financial Supervisory Authority] introduced a new measure in December 2016 requiring those German banks that are not subject to supervision by the European banking regulator to maintain a capital buffer for interest-rate risk in the banking book.

From today's perspective, it is not possible to assess the potential implications of uncertain political developments for capital markets and ultimately for the financial performance and financial position of entities in the financial sector. Risk factors in this regard include, for example, the aforementioned negotiations for the UK's exit from the EU, the financial performance of some Italian banks, and further political developments in countries such as France, the Netherlands, and Greece.

2. Financial performance

The outlook for the business performance of the DZ BANK Group for 2017 must be viewed against the background of the extremely good earnings performance in the previous years, which in some cases was boosted by positive non-recurring items.

Non-recurring items such as the IFRS-related fair value measurements in connection with the merger of DZ BANK and WGZ BANK are not included in the forecasts for 2017.

Bearing these factors in mind, **profit before taxes** will decline in 2017 and is likely to be at the lower end of the long-term earnings range of €1.5 billion to €2.0 billion.

The merger of DZ BANK and WGZ BANK, which was carried out in 2016, is expected to create not only extensive cost synergies but also potential in terms of growth and earnings – especially in the DZ BANK and WL BANK operating segments – that the joint central institution plans to leverage from 2017 onward. On the other side of the equation, merger-related restructuring expenses will materialize in the coming year, although corresponding provisions were recognized for these expenses in 2016.

Financial performance will be impacted by the low level of interest rates, which continue to be maintained as a result of the ECB's expansionary monetary policy, and by the expenses resulting from regulatory requirements.

The future financial performance of the DZ BANK Group could be subject to risks arising from the political and general economic environment described above, particularly in the US, the eurozone, and Germany. The management of the potential implications for financial position and financial performance arising from these risks forms part of the DZ BANK Group's strategic and operational management of its business and resources.

In 2017, it is anticipated that **net interest income** including **income from long-term equity investments** will go up in most segments, although there could be some income volatility, especially in the interest-rate-sensitive business models within the DZ BANK Group.

The subdued rate of growth in the eurozone coupled with the low level of interest rates still prevailing could adversely impact net interest income in 2017.

Following the charges in 2016, mainly in the DVB segment, expenses for **allowances for losses on loans and advances** are likely to return to normal levels overall in 2017 and change in line with the lending portfolio, the targeted volume of new business, and the long-term standard risk costs.

The potential effects from uncertain political developments on capital markets could have a detrimental impact on allowances for losses on loans and advances.

Once again, **net fee and commission income** is projected to make a hefty contribution to the earnings of the DZ BANK Group.

Based on the steady uptrend in the volume of assets under management and the associated volume-related income, UMH will be responsible for a substantial portion of the net fee and commission income.

Any lasting uncertainty in capital and financial markets could have a negative impact on confidence and sentiment among private and institutional investors, thereby depressing net fee and commission income.

In all probability, net gains under **gains and losses on trading activities** will decline in 2017 because the net gains in 2016, particularly in the DZ BANK operating segment, benefited from positive non-recurring items, for example, arising from the remeasurement of financial instruments.

Customer-driven capital markets business may well provide some impetus in 2017. The continued systematic implementation of strategic measures, particularly in connection with institutional customers (but with private customers too), is reflected in the positive income forecast.

The primary prerequisite for a steady level of net gains under gains and losses on trading activities is considered to be a stable capital markets environment.

Net gains under **gains and losses on investments** are predicted to remain at a level similar to that in 2016 in view of plans to sell some long-term equity investments in 2017.

It is anticipated that **other gains and losses on valuation of financial instruments** will improve in 2017. The background to this is that the portfolios of instruments from government issuers in the DG HYP and WL BANK operating segments offer potential for reversal of impairment losses.

Volatility in capital markets and especially the widening of credit spreads on securities from government issuers could have a negative impact on the forecast gains and losses.

Net income from insurance business is expected to contract in 2017. Assuming growth in the net premiums from the different divisions, the decline in net income is expected to be caused by a deterioration in gains and losses on investments held by insurance companies, reflecting the current environment of low interest rates.

Exceptional events in financial and capital markets, changes in underwriting practices, or potential changes in the regulatory requirements faced by insurers (Solvency II) may adversely affect the level of net income expected to be earned from insurance business.

Administrative expenses are predicted to rise substantially in 2017, the main reasons being the inclusion of the former WGZ BANK and WL BANK in the expenses for the first time, added to which there will be the recognition of merger-related expenses.

As a result of the higher expenses coupled with lower income forecasts, the **cost/income ratio** for the DZ BANK Group is likely to rise in 2017. Against this backdrop, the DZ BANK Group will be focusing energies on leveraging merger synergies and generating growth in the operating business.

Regulatory RORAC, the risk-adjusted performance measure based on regulatory risk capital, is expected to decrease significantly in 2017 because of the forecast of lower earnings. Nevertheless, this KPI will be at a very respectable level that compares well with the rest of the sector.

3. Liquidity and capital adequacy

Based on 2016, the DZ BANK Group is assuming that it can continue to maintain a sufficient level of liquidity in 2017 in terms of both economic and regulatory liquidity adequacy requirements.

The operational management of liquidity is based on ensuring the availability of both a sufficient level of liquid securities and stable local cooperative bank deposits. In addition, money market business with institutional investors, central banks, other banks, and corporate customers also continues to make a

long-term contribution to the broadly diversified funding of the DZ BANK Group.

As regards management of the DZ BANK Group's structural liquidity, it is assumed the group will continue to enjoy steady sales of its various capital market products to its broad, well-established customer base, consisting in particular of local cooperative banks and institutional customers.

As matters currently stand, the DZ BANK Group's capital adequacy will continue to be assured for 2017 from both economic and regulatory perspectives; that is to say, it will continue to have at its disposal the available internal capital necessary to cover the risks associated with the finance business and other risks arising from the group's business operations.

Over the last few years, the DZ BANK Group has strengthened its capital base from its own resources – by retaining profits and reducing risk – and by implementing a capital increase. In 2017, a high priority will once again be given to capital management activities.

4. Segment trends

4.1. DZ BANK

Despite the prospect of growth in its operating business, DZ BANK's earnings are under pressure, primarily because of the persistently low interest rates, less potential for the reversal of impairment losses, and the capital investment required for migration activities and innovation; at the same time, it is difficult to predict how regulatory requirements are going to develop.

In this environment, **profit before taxes** is likely to fall significantly in 2017. Other key reasons for this prediction include positive non-recurring items that will no longer be present henceforward and merger-related effects in 2016.

Net interest income (excluding income from long-term equity investments) in 2017 is predicted to be substantially higher than the 2016 level. This is expected to vindicate the growth strategy in corporate banking despite the challenging market and competitive environment currently prevailing. A contraction in interest income from money market business could have a negative impact.

Income from long-term equity investments will probably go down significantly in 2017 because the 2016 figure included the special EKS dividend.

Expenses for **allowances for losses on loans and advances** will probably rise in 2017. This forecast is in line with the change in the expected loss from the lending business.

Net gains under **gains and losses on investments** are predicted to remain at a level similar to that in 2016 in view of plans to sell some long-term equity investments in 2017.

A sharp deterioration in **gains and losses on trading activities** is forecast for 2017 as a result of the non-recurring items in 2016 and lower reversals of impairment losses in 2017. However, the consolidation of marketing activities should lead to additional operating income in the capital markets business.

Indicators point to a slight rise in **administrative expenses** in 2017, the main reasons being merger-related effects. On the other hand, initial benefits from the merger in the form of cost savings are expected to materialize in 2017.

From the current perspective, it is anticipated that the **cost/income ratio** will be up significantly in 2017 owing to the absence of the non-recurring income items described above and to the merger-related effects.

Regulatory RORAC is likely to fall sharply in 2017 because of increasing capital requirements and, in particular, because of the absence in the 2017 figures of the positive non-recurring items that boosted profit before taxes in 2016.

4.2. BSH

Residential construction in Germany has picked up a good deal of momentum. Germany's KfW development bank is forecasting that well over 300,000 homes will be completed in 2017. Capital spending on property modernization is also generally expected to be at a high level in 2017. The Climate Action Plan 2050 approved by the German government in November 2016 will provide a further boost.

Despite skeptical reporting in the press about the termination of home savings contracts, the population at large remains enthusiastic about home savings. People want to own their own homes, financing interest rates are low, and a home savings contract is the ideal way of achieving this over the long term.

Following the return of new home savings business to normal levels in 2016 as expected, BSH predicts that this new business will stabilize in 2017 at a level of around €30 billion. One of the contributing factors is also likely to be the partially variable scale of rates and charges introduced in August 2016. In the home finance business, the aim is to reach the record figure from 2015.

However, the persistently low interest rates and the significant regulatory requirements remain a challenge for BSH. In view of the requirements arising in connection with digitalization, considerable funds will again need to be invested in IT in 2017.

A sharp increase in **profit before taxes** is projected for 2017 as a result of the significant rise in **net interest income**.

One of the defining features of 2016 was the drop in market interest rates to a record low. As a consequence, BSH had to recognize higher additions to the home savings provisions with a detrimental impact on interest expenses. BSH anticipates that interest rates will stabilize in 2017 and therefore that the recognition of home savings provisions will return to a normal level. Based on these assumptions, **net interest income** is projected to rise sharply in 2017.

With regard to **allowances for losses on loans and advances**, BSH will continue to benefit from Germany's good economic performance and low unemployment rate. As a consequence, allowances for losses on loans and advances in 2017 will remain at the relatively low level of 2016 despite the marked expansion in non-collective lending business in previous years.

In line with the expected stabilization of new home savings business, **net fee and commission income** in 2017 is likely to improve on the 2016 figure.

Administrative expenses will be substantially higher in 2017, the main reason being the IT project that is already under way to upgrade the corporate platform. Strict cost discipline and savings will help to limit the increase.

From the current perspective, the **cost/income ratio** is likely to see a significant improvement as a result of the higher net interest income, despite the substantial rise in administrative expenses.

Regulatory RORAC will probably also rise considerably based on slightly higher capital requirements and the considerable leap in profit before taxes.

4.3. DG HYP

For around 3 years now, the German economy has remained impressively stable despite tough international conditions. According to forecasts prepared by DG HYP, the German commercial real estate market is likely to remain resilient and stable in 2017. The high volume of capital chasing real estate investment opportunities coupled with Germany's economic strength and the ECB's expansionary monetary policy will once again result in high turnover in the commercial real estate market. The robust labor market will ensure that demand for office space is maintained at a good level. Rising wages will give a boost to retailers and help consumers pay housing rents, which continue to increase.

Net interest income is forecast to rise slightly in 2017 on the back of the encouraging volume of new business achieved in 2016. The non-strategic real-estate lending business for retail customers will continue to be gradually replaced by higher-margin commercial real-estate lending business.

Allowances for losses on loans and advances are predicted to return to normal levels. Net reversals of loan loss allowances are not expected to be required at the level of 2016.

Taking into account a lower volume of new business, **net fee and commission income** is projected to be well below the encouraging figure in 2016, but will remain a long-term component of income, depending on the product mix.

The spreads in government financing are not expected to change much in 2017. The net loss under **other gains and losses on valuation of financial instruments** in 2016 is therefore likely to improve on the basis of maturities with the result that **profit before taxes** will probably go up sharply.

Administrative expenses will see a marginal increase caused by higher staff and IT expenses in response to the pressure of regulatory requirements.

From the current perspective, the **cost/income ratio** will improve significantly, caused by the year-on-year increase in net gains under gains and losses on valuation of financial instruments.

Regulatory RORAC is likely to see a hefty rise in 2017 as a result of the substantial improvement in profit before taxes.

4.4. DVB

The year under review was challenging for DVB. The bank had to cope with the effects from the prolonged downturn in the shipping industry as well as the continuation of the difficult conditions in offshore markets caused by the oil price. On a positive note, DVB managed to acquire a stable level of valuable new business in all transport finance divisions and thereby lay the foundations for sound operational performance in its core business in the future.

DVB plans to exploit the current macroeconomic position to continue to offer its financing products, consulting, and other services in 2017. DVB will therefore remain available to its transport customers in 2017 for new business on a selective basis.

Nevertheless, particularly in the shipping finance portfolio, 2017 may once again see an adverse impact in legacy portions of the portfolio caused by the continuing dislocation in many shipping markets. As the shipping crisis moves into its ninth year, DVB believes that many segments of the international shipping industry are still subject to the risk of significant overcapacity in terms of tonnage. This structural oversupply would step up the pressure on charter rates and ship asset values.

The offshore segment continues to be adversely affected by the low oil price. DVB is assuming that these negative influences will persist in 2017 and could be reflected in a further detrimental impact on earnings.

In these circumstances, DVB will make best efforts to avoid reporting a **loss before taxes** in 2017. The bank intends to reduce the higher risk costs in shipping finance and offshore finance over 2017 and 2018. However, this presupposes that there is no further increase in the excess tonnage in some shipping segments and no further drop in charter rates and/or ship asset values.

DVB plans to maintain its sound performance and further bolster profitability in the aviation finance and land transport finance businesses.

DVB is aiming to sustain its good level of operating income before allowances for losses on loans and advances and before gains and losses on valuation of financial instruments. In addition to providing lending in the transport finance business, DVB will focus particularly on offering value-creating services for its customers, such as capital market and advisory services.

It is anticipated that the **cost/income ratio** will remain steady.

4.5. DZ PRIVATBANK

For around 3 years now, the German economy has remained stable despite tough international conditions. Overall, the upturn in the German economy is likely to continue in 2017, but with a weaker gain in economic output. A number of factors, notably modest export growth and political risks, suggest that stronger growth in 2017 is unlikely. Moreover, the persistently low interest rates and the rise in costs caused by regulatory requirements will have an adverse impact on the operating segment.

Rising income is anticipated for 2017. **Administrative expenses** will probably remain at a stable level following the closure of DZ PRIVATBANK Singapore Ltd., the rationalization measures introduced for DZ PRIVATBANK (Schweiz) AG, Zurich, and the imposition of strict cost management.

Net interest income is forecast to contract in 2017 because of the persistently low interest rates and the inadequate options available for replacing maturing interest-bearing assets.

A sustained rise in **net fee and commission income** is expected in 2017. The main value driver is fund volume, which is likely to continue to grow in the case of both third-party funds and Union Investment funds. The funds under management in private banking will also rise because of falling outflow rates and increases, driven in particular by the independent sales activities of partner banks. At the same time, a fiercely competitive market continues to prevail, reflected in persistent downward pressure on margins.

Gains and losses on trading activities are determined by the customer-driven foreign exchange business. An improvement in this figure is anticipated in 2017.

Overall financial performance in 2017 will depend on the conditions in money and capital markets. The ECB's policy of low interest rates combined with higher costs caused by regulatory requirements will have a negative impact.

Taking into account the absence of non-recurring items that were recognized in 2016, **profit before taxes** will show a corresponding improvement in 2017.

As things stand at the moment, the **cost/income ratio** and **regulatory RORAC** will improve, among other things because of the absence of the aforementioned non-recurring items.

4.6. R+V

In the opinion of R+V, the 2017 financial year will continue to be shaped by the challenging conditions. The market environment will remain very tough from any number of perspectives, including political issues, regulation, volatile capital markets, low interest rates, economic conditions, and consumer behavior.

Customers hold DZ BANK, the Volksbanken Raiffeisenbanken cooperative financial network, and the latter's insurance specialist, R+V, in very high standing due to their financial strength, resilience, fair advice, good service, and tailored solutions.

On this basis, R+V is planning to sustain its income-oriented growth once again in 2017. R+V, the composite insurer in the Volksbanken Raiffeisenbanken cooperative financial network, is aiming to use its highly effective product portfolio to steadily increase its market penetration. It intends to achieve a lasting increase in market share by focusing on organic growth, leveraging the potential available in the cooperative financial network, increasing cross-selling activity, offering innovative products, and expanding online and multichannel activities.

Slight growth is expected in **gross premiums written**. It is anticipated this will be generated from both non-life insurance and inward reinsurance.

In non-life insurance, gross premiums written are forecast to grow substantially in 2017. R+V plans to reduce the claims rate by continuing to pursue its policy of prudent underwriting and the review and restructuring of specific customer policies. Based on a steady expense ratio, it expects to achieve an overall improvement in the **combined ratio** (total of insurance business operating expenses and claims expenses divided by premiums earned).

In the life insurance and health insurance business, R+V aims to back up the successes achieved in previous years with a long-term diversification strategy. The gross premiums written anticipated in this business in 2017 will be at a similar level to 2016.

The long-term investment strategy based on asset protection combined with a state-of-the-art approach to risk management will also be decisive factors in 2017. **Gains and losses on investments held by insurance companies** are forecast to deteriorate in 2017 because of the persistently low interest rates. However, this item will continue to make a significant contribution to overall profit before taxes in the future.

Overall, these developments are projected to cause a significant decline in **profit before taxes**, but the figure will remain at a satisfactory level.

In the occupational pensions business, R+V is a full-service provider and is expecting to see a very positive impact over the medium term from the reform of occupational pension provision in Germany. Within this timescale, there are excellent prospects for R+V in connection with the further expansion of industry-specific pension schemes.

R+V expects the fierce competition in the reinsurance sector to continue. The reasonable level of claims in 2016 and capacity available in the market will keep

prices low. However, the significance of this soft market is assessed differently, depending on sector and region. The inward reinsurance division of R+V will continue pursuing its strategy of profitable growth, in particular by targeted risk underwriting in regions and sectors that are less affected by the soft market.

On the costs side, R+V anticipates a stable **administrative expenses ratio** (net insurance business operating expenses divided by net premiums earned) and an improvement in the **combined ratio** in 2017.

Regulatory RORAC is expected to fall in 2017 in line with the forecast decline in earnings on an IFRS basis combined with a slight rise in capital requirements.

4.7. TeamBank

The favorable labor market situation and low interest rates at present are boosting both consumer spending and the willingness of consumers to borrow. The 2017 financial year therefore continues to offer a climate conducive to further growth in the consumer finance market. However, the stream of regulatory requirements is relentless; at the same time providers continue to face fierce competition, all of which results in massive pressure on costs and margins. The process of digitalization will pick up speed, with technology-based market players (fintechs) placing the established providers under more pressure.

In collaboration with the local cooperative banks, TeamBank is aiming to significantly outperform the market growth rate in 2017. It is continuing to pay special attention to the networking of customer channels with the aim of attracting and retaining customers for the cooperative financial network.

TeamBank is forecasting a significant gain in **net interest income** for 2017 based on strong portfolio growth.

The conservative policy regarding allowances for losses on loans and advances will be continued in 2017. However, a rise in **allowances for losses on loans and advances** is predicted in line with portfolio growth and as a result of a slight rise in dunning ratios.

Rigorous management of costs by focusing on the core business and targeted capital investment to ensure TeamBank's future competitiveness will help ensure that **administrative expenses** in 2017 are only slightly higher than the 2016 level.

The substantial rise in **net interest income**, the small increase in administrative expenses, and the higher **allowances for losses on loans and advances** are once again expected to lead to a high level of **profit before taxes**, although this will represent a significant year-on-year decline in earnings.

As a consequence, the **cost/income ratio** will remain at the encouraging level achieved in 2016 and is also expected to be below the industry average, as before.

The rise in minimum capital requirements will lead to a decline in **regulatory RORAC** in 2017.

4.8. UMH

UMH has again set itself ambitious targets for 2017, even though it has just completed a financial year in which it generated a high level of net profit and net inflows, and achieved a record level of assets under management.

In view of conditions remaining challenging – heightened uncertainty in capital markets (caused by the UK's Brexit vote, the outcome of the US presidential election, and the forthcoming elections in France and Germany), persistently low interest rates, the prolonged European sovereign debt crisis, and geopolitical conflicts – the Union Investment Group aims to rigorously exploit opportunities presented by the national and international environment to deliver excellent performance.

In 2017, UMH is also aiming to maintain new business at a very high level and forecasts that the positive trend in assets under management will continue with the volume reaching a new all-time high, despite modest expectations regarding overall performance.

A small contraction in **net fee and commission income** is predicted for 2017. Volume-related income is likely to increase as a consequence of the higher average level of assets under management. However, this increase will probably be entirely offset by a greater decrease resulting from a sharp fall in the expected returns from performance-related

management fees and a significant drop in real estate transaction fees.

Administrative expenses are projected to rise significantly in 2017. This increase will be caused by capital investment in infrastructure and subsequent operating costs. Action to strengthen the Union Investment brand is also planned for 2017. Staff expenses will rise in 2017 for a number of reasons, notably the expected rise in the number of employees. On the other hand, the reduction in variable remuneration components will also have an impact.

Based on the factors described above, UMH is again forecasting a significant **profit before taxes** for 2017, even though the projected figure represents a considerable decline compared with 2016.

In line with this forecast, there is also likely to be an increase in the **cost/income ratio** and a fall in **regulatory RORAC**.

4.9. VR LEASING

VR LEASING is expecting challenging conditions in 2017. The prolonged period of low interest rates and its consequences, notably the fierce competition for customers, together with the comprehensive regulatory requirements will remain the key challenges.

In 2017, VR LEASING aims to achieve growth in line with its planning. The digitalization and automation of processes and products accompanied by an increase in online business represent key strategic objectives. The online availability of financing solutions will be subject to systematic further development.

From mid-2017, it is planned to offer VR LEASING's online ordering channel to corporate customers of the Volksbanken Raiffeisenbanken cooperative financial network, for the first time enabling them to process financing projects up to a value of €50,000 entirely online and therefore at any time of day or night. Customers will be able to access this facility via the websites of the Volksbanken Raiffeisenbanken cooperative financial network. With this enhancement providing full capability to enter into agreements, the online ordering channel also aims to complement the online inquiry tool VR BusinessOnline jointly developed with DZ BANK.

A further digital value-added service that aims to help small business and self-employed customers of the local cooperative banks manage their liquidity simply, clearly, and intuitively is currently being prepared for market launch.

Finally, dedicated activities focusing on business worth €200,000 or more aim to help the Volksbanken Raiffeisenbanken cooperative financial network develop further sales potential. In addition to being offered competitive terms and conditions, the banks will be given more latitude in meetings with customers, and will receive a simple, fast decision on lending with a value between €200,000 and €750,000.

Another area of focus in 2017 will be the implementation of upcoming milestones in relation to regulatory requirements, taking into account sustainability and proportionality as regards VR LEASING's business operations.

The permanent changes in the market environment are also increasing the pressure on VR LEASING not only to continue developing innovative, standardized, digital products, but also to significantly cut costs by increasing efficiency. The action to increase efficiency initiated in 2016 aims to substantially improve the profitability of VR LEASING in the next few years.

The stimulus generated from initiatives introduced as part of the sales and product strategy and production processes is expected to result in rising income from the core business in 2017. In 2017, **net interest income** is forecast to fall sharply year on year as the non-core business is phased out.

For structural reasons, **allowances for losses on loans and advances** are likely to rise considerably from the low level in 2016 as a result of the increasing market penetration achieved by the VR Leasing flexibel business lending product.

However, the introduction of the efficiency increases and the significant associated reduction in **administrative expenses** will more than offset the fall in income and are likely to lead to a much improved **cost/income ratio**. The group plans to offset the additional expenses resulting from regulatory requirements by introducing cost saving measures and rigorously managing its costs.

Profit before taxes is projected to improve considerably in 2017 in spite of regulatory requirements.

Taking into account the predicted improvement in earnings and the stability in risk-weighted assets compared with 2016, an increase in **regulatory RORAC** is forecast for 2017.

4.10. WL BANK

The strategic shift in focus at WL BANK, which dates back to 2010, toward a commercial bank servicing the real estate and local authority loans business will be systematically maintained in 2017. The requirements that need to be satisfied to successfully achieve the target structure continue be as follows: nationwide customer access, a high degree of business referrals by the cooperative banks, and consistently favorable funding opportunities, especially using Pfandbriefe.

Direct access to capital market partners and significant investor confidence are also indispensable for obtaining advantageous funding arrangements. Following the successful merger of DZ BANK and WGZ BANK, WL BANK has been gradually integrating itself since the middle of 2016 into the organizational structures and committee activities of the DZ BANK Group. These activities will continue in 2017 as WL BANK is integrated into functional, methodological, and technical processes, for example those in connection with regulatory reporting and risk management systems. The control and profit transfer agreement with the former WGZ BANK and then with DZ BANK, which expired at the end of 2016, has been renewed.

In view of the separate analysis of the two halves of 2016 as a result of the merger, it is not feasible or meaningful to compare the income and earnings components for 2016 with those for 2017. WL BANK has therefore carried out a qualitative multi-year comparison of the expense, earnings and results components.

Sustained positive economic trends with a favorable job market and rising collective pay deals combined with historically low interest rates will continue to create good conditions in real estate markets in 2017. The German building industry expects the current construction boom to be sustained.

WL BANK anticipates that new business in 2017 will be maintained at the high level achieved in 2016, in both the real estate and the public sector financing. Some of the resulting portfolio expansion will be offset by further contraction of the portfolio of securities and promissory notes, as a result of which total assets will only increase slightly.

As in previous years, **net interest income** is projected to see a hefty increase as a consequence of the shift in the business model since 2010.

Allowances for losses on loans and advances are budgeted at conservative levels as in previous years and are expected to be relatively low.

Following the initial measurement of financial instruments in connection with the merger of the central institutions, earnings in 2017 will reflect a marked net positive impact from subsequent measurement, especially in **net interest income** and in **other gains and losses on valuation of financial instruments**.

Net fee and commission income is forecast to grow in line with the acquired new business.

Administrative expenses are expected to rise slightly and will once again be affected by regulatory requirements, which remain significant, and by the consequences of the merger of the central institutions and their computing centers.

Profit before taxes is expected to rise in 2017 as a result of the factors described above.

The **cost/income ratio** is projected to improve significantly.

A considerable increase in **regulatory RORAC** is also anticipated.

VI. Combined opportunity and risk report

1. Disclosure principles

In its capacity as the parent company in the DZ BANK Group, DZ BANK is publishing this opportunity and risk report in order to meet the transparency requirements for opportunities and risks applicable to the DZ BANK Group as specified in sections 37v and 37y of the German Securities Trading Act (WpHG) and section 315 of the German Commercial Code (HGB) in conjunction with German accounting standard GAS 20. Furthermore, the opportunity and risk report meets the transparency requirements regarding opportunities and risks applicable to DZ BANK as a separate entity that are specified in section 289 HGB in accordance with GAS 20.

This report also implements the applicable international risk reporting requirements, specifically those set out in IAS 1.134–136 (capital), IFRS 7.31–42 (nature and extent of risks arising from financial instruments), and IFRS 4.38–39A (nature and extent of risks arising from insurance contracts). The maturity analysis in respect of financial assets and financial liabilities under IFRS 7.39(a) and (b) is disclosed in the notes to the consolidated financial statements (note 84).

The requirements set out in IFRS 7 are generally limited to financial instruments, shifting the focus of reporting to credit risk, equity investment risk, market risk, and liquidity risk. In contrast, the DZ BANK Group takes a holistic view of all these risks when using risk management tools and when assessing the risk position. As a consequence, the groupwide risk management system not only covers risks that arise specifically in connection with financial instruments, but also all other relevant types of risk. This integrated approach is reflected in this opportunity and risk report.

This opportunity and risk report also includes information in compliance with those recommended risk-related disclosures that have been issued by the Financial Stability Board (FSB), the European Banking Authority (EBA), and the European Securities and Markets Authority (ESMA) that extend beyond the statutory requirements and that are intended to improve the usefulness of the disclosures in the decision-making process.

In accordance with the statutory requirements, the quantitative disclosures in this opportunity and risk report are based on information that is presented to the Board of Managing Directors and used for internal management purposes (known as the management approach). This is designed to ensure the usefulness of disclosures in the decision-making process, as required by law.

Because of the integration of the former WGZ BANK Group into the DZ BANK Group, many of the quantitative disclosures in this opportunity and risk report as at December 31, 2016 are not directly comparable with the prior-year figures as at December 31, 2015, which are based on the corresponding disclosures in the 2015 opportunity and risk report. Verbal information on material discrepancies is provided in the explanations of the figures.

The opportunity and risk report of the DZ BANK Group includes disclosures relating to DZ BANK. A separate opportunity and risk report is not prepared for DZ BANK. Unless presented elsewhere, the disclosures relating to the DZ BANK Group and the Bank sector also apply to DZ BANK.

DZ BANK Group

2. Summary

2.1. Statements from the Board of Managing Directors

This section forms the **risk statement** by the Board of Managing Directors specified in article 435 (1f) CRR.

In accordance with article 435 (1e) CRR, the Board of Managing Directors of DZ BANK considers that the **risk management system** in place is adequate with regard to the risk profile and risk strategy of the

DZ BANK Group. The ECB has identified some elements of the risk management system that require further development. DZ BANK has introduced the necessary measures for the further development of the risk management system and has put mechanisms in place to ensure that these measures are implemented systematically and without delay.

2.2. Impact of the merger

As part of the merger between DZ BANK (pre-merger) and the former WGZ BANK, many activities were initiated in order to harmonize and standardize the processes, methods, IT systems, and other aspects of risk management. This included amending many of the existing **risk strategies** of the two former central institution groups, the **risk strategy framework document**, and the **risk appetite statement** and **risk manual** of the DZ BANK Group (pre-merger) to meet the requirements of the joint central institution. The amended versions were approved by the Board of Managing Directors with effect from August 2016.

Building on these, **other documents and rules relating to risk management** were revised during a transition phase up to the end of 2016. In addition, the **strategic and operational planning** for 2017 was carried out taking account of the merger. These measures enabled the standardization of key elements of the two former central institution groups' risk management systems to be completed by December 31, 2016. A **report** on the economic liquidity and capital adequacy of the DZ BANK Group (post-merger) was submitted to the Board of Managing Directors for the first time in the third quarter of 2016.

Begun in 2016, the **incremental migration of the business data** from the IT systems of the former WGZ BANK to the IT systems of DZ BANK will continue in 2017. Some of the key IT systems will be operated in parallel until the migration has been completed. The aggregation of the risk exposures in connection with the merger will take place in 2017 as scheduled.

2.3. Opportunity and risk management system

DZ BANK and the DZ BANK Group define **opportunities** as unexpected positive variances from the forecast financial performance.

Risks result from adverse developments affecting financial position or financial performance, and essentially comprise the risk of future losses or a future liquidity shortfall. A distinction is made between liquidity and capital. Risks that materialize can affect both of these resources.

The **management of opportunities** at DZ BANK and in the DZ BANK Group is integrated into the annual strategic planning process. Strategic planning enables the group to identify and analyze market discontinuities based on different macroeconomic scenarios, trends, and changes in the markets, and forms the basis for evaluating opportunities. Attractive opportunities are taken into account in the business strategies.

Reports on future business development opportunities are based on the outcome of the business strategies. As part of the general communication of the business strategies, employees are kept up to date about potential opportunities that have been identified.

DZ BANK and the DZ BANK Group have a comprehensive **risk management system** that meets their own business management needs and the statutory requirements. Furthermore, the management of opportunities and risks forms an integral part of the groupwide strategic planning process. The risk management system is based on risk strategies that are derived from the business strategies and approved by the Board of Managing Directors.

The risk management system is more detailed than the system for the management of opportunities because risk management is subject to comprehensive statutory requirements and is also of critical importance to the continued existence of DZ BANK and the DZ BANK Group as going concerns. The management of opportunities is based on a qualitative approach and is tightly integrated into the strategic planning process.

Liquidity and capital resources are managed on the basis of groupwide liquidity risk management and groupwide risk capital management. The purpose of **liquidity risk management** is to ensure adequate levels of liquidity reserves are in place in respect of risks arising from future payment obligations (liquidity adequacy). **Risk capital management** is designed

to ensure the availability of capital resources that are commensurate with the risks assumed (capital adequacy).

Efficient management and control tools are used in all areas of risk. These tools are subject to continual further development and refinement. The development of these tools is derived from business management requirements and, in terms of risk management, is based on regulatory requirements. The methods used for the measurement of risk are integrated into the risk management system. Risk model calculations are used for the management of the DZ BANK Group and the entities included within the group.

Given the methods implemented and the organizational arrangements and IT systems put in place, DZ BANK and its subsidiaries are, to the greatest possible extent, in a position to identify material opportunities and risks at an early stage and to initiate appropriate control measures, both at the group level and at the level of the individual management units. This applies in particular to the early detection of risks that could affect the group's survival as a going concern.

The tools used for the purposes of risk management also enable the DZ BANK Group to respond appropriately to significant market movements. Possible changes in risk factors, such as a deterioration in credit ratings or the widening of credit spreads on securities, are reflected in adjusted risk parameters in the mark-to-model measurement of credit risk and market risk. Conservative crisis scenarios for short-term and medium-term liquidity are intended to ensure that liquidity risk management also takes adequate account of market crises. A risk limit system based on risk-bearing capacity, stress testing encompassing all material risk types, and a flexible internal reporting system generally ensure that the management is in a position to initiate targeted corrective action if required.

All DZ BANK Group entities are integrated into the groupwide opportunity and risk management system. DZ BANK and its main subsidiaries – also referred to as **management units** – form the core of the financial services group. As a result of the merger, WL BANK has been added to the group entities that are material to risk management in the DZ BANK Group. Each entity described as a management unit forms a separate operating segment, and they are assigned to the sectors as follows:

Bank sector:
- DZ BANK
- BSH
- DG HYP
- DVB
- DZ PRIVATBANK
- TeamBank
- UMH
- VR LEASING
- WL BANK

Insurance sector:
- R+V

DG HYP and **WL BANK** apply the **waiver pursuant** regulation pursuant to section 2a (1), (2), and (5) KWG in conjunction with article 6 (1) and (5) and article 7 CRR. This means that DG HYP and WL BANK as individual institutions are no longer required to apply the provisions of Parts 2–5 and Parts 7 and 8 CRR and are instead covered at DZ BANK Group level.

The management units represent the operating segments of the DZ BANK Group. They are deemed to be material in terms of their contribution to the DZ BANK Group's aggregate risk and are therefore directly incorporated into the group's risk management system.

The other subsidiaries and investee entities are included in the system indirectly as part of equity investment risk.

The management units ensure that their respective subsidiaries and investees are also included in the DZ BANK Group's risk management system – indirectly via the majority-owned entities – and meet the minimum standards applicable throughout the group.

2.4. Risk factors, risks, and opportunities

2.4.1. Risk factors

The DZ BANK Group and DZ BANK are exposed to **risk factors related to both the market and sector.** These risk factors may be reflected in liquidity adequacy and capital adequacy.

The **regulatory framework** for the banking industry is characterized by a steady progression of ever tighter regulatory capital and liquidity standards and increasingly stringent process and reporting requirements. These developments particularly have an impact on business risk.

The **macroeconomic risk factors** that are significant to the DZ BANK Group are the performance of the economy, the European sovereign debt crisis, and the difficult market environment for the shipping finance business.

Potentially, the macroeconomic risk factors could particularly have a negative impact on credit risk, equity investment risk, market risk, business risk, and reputational risk in the Bank sector and on market risk and counterparty default risk in the Insurance sector. The protracted period of low interest rates will reduce profits.

Moreover, the DZ BANK Group is exposed to **business-specific risk factors** that affect a number of risk types. These factors may include potential shortcomings in the risk management system, the possible downgrading of the credit rating for DZ BANK or its subsidiaries, or ineffective hedges. These risks are generally taken into account as part of overall risk management.

2.4.2. Risks and opportunities

The main **features of the directly managed risks** and their significance for the operating segments in the Bank and Insurance sectors are shown in figures 6 and 7.

To ensure that the presentation of the disclosures remains clear, the risk management system disclosures included in the opportunity and risk report are limited to the more material entities in the group (indicated in figure 6 by a dot on a dark gray background). This selection is based on a materiality assessment, which takes into account the contribution of each management unit to the DZ BANK Group's overall risk for each type of risk. However, the figures presented in the opportunity and risk report cover all the management units included in the internal reporting system (indicated additionally in figure 6 by a dot on a light gray background).

The subcategories shown under credit risk and market risk in figure 6 are those with material significance for the Bank sector. The risk management system also includes other subcategories of credit risk and market risk but these additional subcategories are not described in this opportunity and risk report because they are of minor significance in the overall risk management picture, although they are included in the figures disclosed in the report.

The **solvency** of the DZ BANK Group was never in jeopardy at any point during the reporting period. By holding ample liquidity reserves, the group ensures that it is able to protect its liquidity against any potential crisis-related threats. It also complied with regulatory requirements for liquidity adequacy at all times. The DZ BANK Group remained within its economic **risk-bearing capacity** in 2016 and also complied with regulatory requirements for capital adequacy at all times. There are no indications that the **continued existence** of the DZ BANK Group or individual management units, including DZ BANK, as going concerns might be at risk.

The **opportunities** presented by the forecast developments are reasonable in relation to the risks that will be incurred.

3. Fundamental principles of managing opportunities and risks

3.1. Regulatory framework for risk management

The **conglomerate-wide risk management system** complies with the statutory requirements specified in section 25 (1) FKAG in conjunction with section 25a KWG and the German Minimum Requirements for Risk Management for Banks and Financial Services Institutions (MaRisk BA). In respect of risk management for the relevant management units, it also observes the requirements specified in sections 26 and 27 of the German Act on the Supervision of Insurance Undertakings (VAG) and section 28 of the German Capital Investment Code (KAGB) in conjunction with the German Minimum Requirements for Risk Management for Investment Companies (InvMaRisk).

When DZ BANK designed the risk management system of the DZ BANK Group and DZ BANK, it followed the guidance provided by the EBA and the European Insurance and Occupational Pensions Authority (EIOPA) and the pronouncements of the Basel Committee on Banking Supervision (BCBS) and the FSB on risk management issues.

In accordance with the requirements of the banking regulator, DZ BANK prepared a recovery plan for the first time in 2013 and has to update it annually. The **recovery plan** is based on the Minimum Requirements for the Design of Recovery Plans (MaSan) of April 2014. Since 2015, the plan has also taken into account further regulations and, in particular, the new requirements imposed by the EBA and the German Act on the Recovery and Resolution of Credit Institutions and Financial Groups (SAG). By arrangement with the ECB, DZ BANK drew up a transition document in 2016 in light of the merger, which it then submitted to the ECB. A fully updated recovery plan must be prepared in 2017.

In accordance with article 7 (2) of Regulation (EU) No. 806/2014, the Single Resolution Board (SRB) is the European authority responsible for the preparation of resolution plans and for all decisions in connection with the resolution of all institutions under the direct supervision of the ECB. A group resolution plan is drawn up for institutions that are subject to supervision at consolidated level. The SRB works closely with the national resolution agencies (in Germany, this is the Bundesanstalt für Finanzmarktstabilisierung (FMSA) [Federal Agency for Financial Market Stabilization]). The **resolution plan** is aimed at ensuring the resolvability of the banking group. In accordance with section 42 (1) SAG, the resolution agency can demand that the institution provide comprehensive assistance on drawing up and updating the resolution plan. For this reason, DZ BANK again contributed to the ongoing preparation of the resolution plan for the DZ BANK Group in 2016 by supplying the FMSA with written materials and analyses.

3.2. Risk strategies

The exploitation of business opportunities and the systematic, controlled assumption of risk in relation to target returns form an integral part of corporate control in the DZ BANK Group and at DZ BANK. The activities resulting from the business model require the ability to identify, measure, assess, manage, monitor, and communicate opportunities and risks. The need to hold appropriate reserves of cash and to cover risks with adequate capital is also recognized as an essential prerequisite for the operation of the business and is of fundamental importance.

In all their activities, the DZ BANK Group and DZ BANK therefore observe a risk culture in which they only take on risk to the extent necessary to achieve their business objectives – taking account of the guiding principle of a 'network-oriented central institution and financial services group' – and to the extent that the management units have an adequate understanding of, and expertise in, measuring and managing the risk. At the same time, the entities in the DZ BANK Group consider all material risks from the perspectives of capital/income and liquidity and avoid assuming risk in an aggressive manner.

In order to implement this principle, the Board of Managing Directors of DZ BANK has drawn up risk strategies for each of the material risks using the business strategies as a basis. The previous risk strategies of DZ BANK (pre-merger) have been adapted to the requirements of the merger. The risk strategies each encompass the main risk-bearing business activities, the objectives of risk management (including the requirements for accepting or preventing risk), and the action to be taken to attain the objectives. The planning horizon is one year.

The annual updating of the risk strategies is tightly integrated with the strategic planning process and is carried out by the Group Risk Controlling, Credit, Credit Special, and Group Strategy and Controlling divisions in close consultation with other relevant divisions at DZ BANK and the subsidiaries.

The risk strategies are described in the following sections covering the individual risk types.

3.3. Risk appetite

The **risk appetite statement** formulates **principles** on risk tolerance in the DZ BANK Group. The principles are overarching pronouncements that are in line with the business model and are incorporated consistently into the business and risk strategies and in other, more detailed documentation. These qualitative principles are supplemented by quantitative **key figures**, for which minimum targets are set. These key figures constitute the DZ BANK Group's risk-oriented key performance indicators.

Disclosures on the business model and the business strategies can be found in the (group) management report in section I.1. (Business model) and section I.2. (Strategic focus of the DZ BANK Group as a network-oriented central institution and financial services group).

FIG. 6 – RISKS AND OPERATING SEGMENTS IN THE BANK SECTOR[1]

Risks

	Risk type	Definition	Risk factors
	RISK NOT COVERED BY CAPITAL		
	Liquidity risk	Risk that cash and cash equivalents will not be available in sufficient amounts to ensure that payment obligations can be met (insolvency risk)	– Funding structure for lending business – Uncertainty surrounding tied-up liquidity – Changes in the volume of deposits and loans – Funding potential in money markets and capital markets – Fluctuations in fair value, marketability of securities, and the eligibility of such securities for use in collateralized funding arrangements – Exercise of liquidity options – An obligation on the DZ BANK Group to pledge its own collateral
	RISK COVERED BY CAPITAL		
Financial-sector risks	**Credit risk** – Traditional credit risk – Issuer risk – Replacement risk	Risk of losses arising from the default of counterparties (borrowers, issuers, other counterparties)	– Concentration of loans with a longer term to maturity and a non-investment-grade credit rating – Deterioration in the credit quality of public-sector bonds – Increased requirement for allowances for loans on losses and advances
Financial-sector risks	**Equity investment risk**	Risk of losses arising from negative changes in the fair value of that portion of the long-term equity investments portfolio for which the risks are not included in other types of risk	Increased requirement for the recognition of impairment losses on the carrying amounts of investments
Financial-sector risks	**Market risk** – Interest-rate risk – Spread risk – Equity risk – Fund price risk – Currency risk – Commodity risk – Asset management risk – Market liquidity risk	– Risk of losses on financial instruments or other assets arising from changes in market prices or in the parameters that influence prices (market risk in the narrow sense of the term) – Risk of losses arising from adverse changes in market liquidity (market liquidity risk)	– Widening of credit spreads on European government bonds – Shortages of market liquidity
Business-performance risk	**Technical risk of a home savings and loan company**[2] – New business risk – Collective risk	– Risk of a negative impact from possible variances compared with the planned new business volume (new business risk) – Risk of a negative impact that could arise from variances between the actual and forecast performance of the collective building society operations caused by significant long-term changes in customer behavior unrelated to changes in interest rates (collective risk)	– Decline in new business – Changed customer behavior (unrelated to changes in interest rates)
Business-performance risk	**Business risk**	Risk of losses arising from earnings volatility which, for a given business strategy, is caused by changes in external conditions or parameters	– Costs of regulation – Merger of DZ BANK and WGZ BANK – Fiercer competition based on pricing and terms – Insufficiently competitive electronic trading platforms – Digitalization and demographic change
Business-performance risk	**Reputational risk**[3]	Risk of losses from events that damage confidence, mainly among customers (including the local cooperative banks), shareholders, potential employees in the labor market, the general public, and the supervisory authority, in the entities in the Bank sector or in the products and services that they offer	– Decrease in new and existing business – Funding difficulties
Business-performance risk	**Operational risk**	Risk of losses from human behavior, technological failure, weaknesses in process or project management, or external events	– Business interruptions – Insufficient availability of employees – Malfunctions or breakdowns in data processing systems – Disruptions to outsourced processes and services – Inaccurate external financial reporting – Impact of market manipulation and accounting or tax fraud – Failure to recognize violations of legal provisions

1 Apart from migration risk on traditional loans, which are covered by the capital buffer.
2 Including business risk and reputational risk of BSH.
3 The Bank sector's reputational risk is contained in the risk capital requirement for business risk. BSH's reputational risk, which is covered by the technical risk of a home savings and loan company, is not included here.

Risk management KPIs disclosed		DZ BANK	BSH	DG HYP	DVB	DZ PRIVATBANK	TeamBank	Union Asset Management Holding	VR LEASING	WL BANK
		Operating segments								
– Liquid securities – Additional contractual obligations – Unsecured short-term and medium-term funding – Minimum liquidity surplus – LCR	Section 6.2.6. Section 6.2.6. Section 6.2.6. Section 6.2.7. Section 6.3.3.	●	●	●	●	●	●		●	●
– Lending volume – Allowances for losses on loans and advances – Risk capital requirement	Sections 8.5., 8.6., and 8.7. Section 8.8. Section 8.9.	●	●	●	●	●	●		●	●
– Investment volume – Risk capital requirement	Section 9.4.	●	●	●	●	●	●	●	●	●
– Risk capital requirement – Value-at-risk	Section 10.6.1. Section 10.6.2.	●	●	●	●	●	●	●	●	●
Risk capital requirement	Section 11.5.		●							
Risk capital requirement	Section 12.4.	●		●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●
– Loss events and losses – Risk capital requirement	Section 14.6. Section 14.7.	●	●	●	●	●	●	●	●	●

Disclosures about the management units in the opportunity and risk report:

● Quantitative and qualitative disclosures ● Quantitative disclosures Not relevant Not relevant

FIG. 7 – RISKS IN THE INSURANCE OPERATING SEGMENT AND SECTOR

	Risk type	Definition	Risk factors	Risk management KPIs disclosed	
	RISK COVERED BY CAPITAL PURSUANT TO SOLVENCY II				
Core financial sector risks	**Actuarial risk** – Life actuarial risk – Health actuarial risk – Non-life actuarial risk	– Life actuarial risk: Risk arising from the assumption of life insurance obligations, in relation to the risks covered and the processes used in the conduct of this business – Health actuarial risk: Risk arising from the assumption of health and casualty insurance obligations, in relation to the risks covered and the processes used in the conduct of this business – Non-life actuarial risk: Risk arising from the assumption of non-life insurance obligations, in relation to the risks covered and the processes used in the conduct of this business	– In the case of products with long-term guarantees, the long duration of the contracts means that what happens over the term of the contracts may vary from the calculation assumptions made at the time the contracts were signed – The level of claims resulting from policyholders' and service providers' behavior causes a larger rise in claims expenses than the one in the calculation assumptions – The actual impact of losses, particularly from catastrophe risk, exceeds the forecast impact	– Claims rate trend in non-life insurance – Overall solvency requirement	Section 16.6. Section 16.7.
	Market risk – Interest-rate risk – Spread risk – Equity risk – Currency risk – Real-estate risk	Risk arising from fluctuation in the level or volatility of market prices of financial instruments that have an impact on the value of the assets and liabilities of the entity	– The guaranteed minimum interest rates agreed for certain products when the contract is signed cannot be obtained on capital markets over the long term – Widening of credit spreads on government bonds or other bonds leads to a fall in fair values, resulting in a temporary or permanent adverse impact on operating profit – A possible worsening of the financial circumstances of issuers and/or debtors results in partial or complete default on receivables or write-downs as a result of rating downgrades	– Lending volume – Overall solvency requirement	Sections 17.4. and 17.5. Section 17.6.
	Counterparty default risk	Risk of possible losses due to unexpected default or deterioration in the credit standing of counterparties and debtors of insurance and reinsurance companies over the following 12 months	Unexpected default or deterioration in the credit standing of counterparties of derivatives, reinsurance counterparties, and receivables from policyholders and insurance brokers	– Lending volume – Overall solvency requirement	Sections 17.4. and 17.5. Section 18.3.
Business-performance risk	**Operational risk**	Risk of loss arising from inadequate or failed internal processes, personnel, or systems, or from external events (including legal risk)	– Business interruptions – Insufficient availability of employees – Malfunctions or breakdowns in data processing systems	Overall solvency requirement	Section 19.4.
	RISK COVERED BY CAPITAL PURSUANT TO SOLVENCY I				
	Entities in other financial sectors	The entities in other financial sectors mainly consist of pension funds and occupational pension schemes.	Generally corresponding to the risk factors for risks backed by capital pursuant to Solvency II	Overall solvency requirement	Section 20.

3.4. Opportunity and risk-oriented corporate governance

3.4.1. Governance structure

The DZ BANK Group's **risk management system** builds on the risk strategies adopted by the Board of Managing Directors of DZ BANK. It is based on three pillars that are interlinked and well established in the monitoring and control environment. The DZ BANK Group and DZ BANK thereby have a governance structure complying with MaRisk requirements that sets out the operational framework for risk management. Figure 8 shows the governance structure for risk management.

The **three pillars model** clarifies the understanding of risk management within the DZ BANK Group and defines clearly formulated and distinct roles and responsibilities. The interaction between the three functional areas, or 'pillars', provides the basis for effective groupwide risk management. The tasks of the individual pillars are as follows:

- **Pillar 1:** Day-to-day assumption and management of risk

- **Pillar 2:** Establishment and enhancement of a framework for risk management; monitoring of compliance with the framework by pillar 1 and reporting on this to the Supervisory Board and Board of Managing Directors

- **Pillar 3:** Process-independent examination and assessment of risk management and control processes in pillars 1 and 2; reporting to the Board of Managing Directors, Supervisory Board, and Audit Committee; communication with external control functions.

The Supervisory Board monitors corporate management and evaluates the adequacy of the risk management system and internal control system on an ongoing basis.

Independent auditors and the banking and insurance supervisory authorities form the **external control environment**, whereby the supervisory authorities may specify the focus of the audit to the auditors and the auditors report to the supervisory authorities on the findings of their audits of financial statements and special audits.

The role of the opportunity and risk management **committees** in the corporate governance structure is explained in section I.3.1.3. (Corporate management committees), which can be found in the 'DZ BANK Group fundamentals' chapter of the (group) management report.

The **business opportunities** are discussed during the course of the strategic planning process at the level of the individual management units and within special closed sessions held by the Board of Managing Directors.

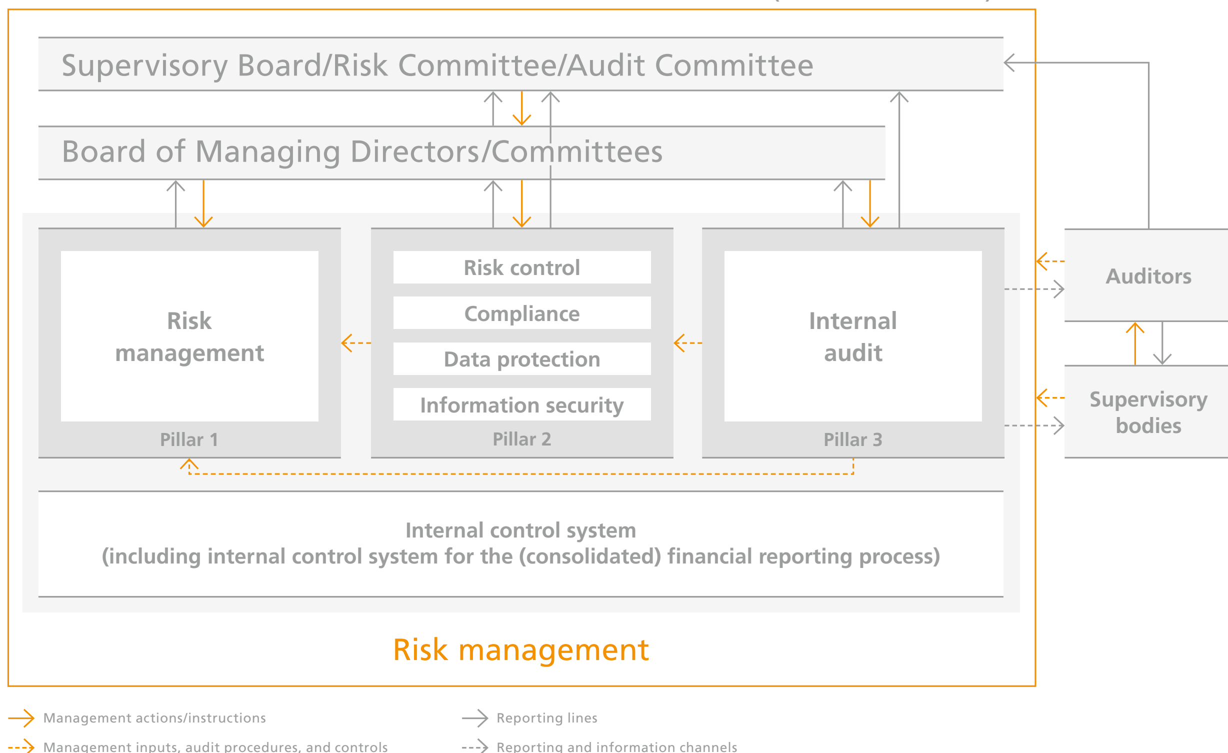
3.4.2. Risk management

Risk management refers to the operational implementation of the risk strategies in the risk-bearing business units based on standards applicable throughout the group.

The management units make conscious decisions on whether to assume or avoid risks. They must observe guidelines and risk limits specified by the head office.

The divisions responsible for risk management are separated both in terms of organization and function from downstream divisions.

FIG. 8 – GOVERNANCE STRUCTURE OF RISK MANAGEMENT IN THE DZ BANK GROUP (SCHEMATIC DIAGRAM)



3.4.3. Risk control

Central Risk Controlling at DZ BANK is responsible for identifying, measuring, and assessing risk in the DZ BANK Group. This is accompanied by the planning of upper loss limits. It includes early detection, full recording of data (to the extent that this is possible) and internal monitoring for all material risks. Risk Controlling also reports risks to the Supervisory Board, the Board of Managing Directors, and the management units.

Risk Controlling at DZ BANK lays down the fundamental requirements for the risk measurement methods to be used throughout the group and coordinates implementation with the risk control units in the other management units. The aim of this structure is to ensure that the management of risk capital is consistent throughout the group.

In cooperation with the other management units, Risk Controlling at DZ BANK establishes a groupwide risk reporting system covering all material types of risk based on specified minimum standards using methods agreed between the management units.

Both at DZ BANK and in the other management units, Risk Controlling is responsible for the transparency of risks assumed and aims to ensure that all risk measurement methods used are up to date. The risk control units in the management units also monitor compliance with the entity-related limits that have been set based on the risk capital allocated by DZ BANK. Risk Controlling at DZ BANK is also responsible for risk reporting at group level. In addition to this, the management units are responsible for their own risk reporting.

3.4.4. Compliance, data protection, and information security

Compliance

The Board of Managing Directors of DZ BANK and the Boards of Managing Directors of the other management units are responsible for compliance with legal provisions and requirements and for the principles and measures implemented for this purpose. To fulfill these duties, the Boards of Managing Directors generally appoint an independent compliance function.

The main tasks of the compliance function are to identify, manage, and mitigate compliance risk in order to protect customers, DZ BANK, the entities in the DZ BANK Group, and their employees against breaches of legal provisions and requirements. The compliance function is also responsible for monitoring compliance with the legal provisions and requirements. Another task of the compliance function is to keep senior management and the departments informed of changes to the legal situation and to advise them on implementing new provisions and requirements.

In accordance with the requirements of the Supervisory Review and Evaluation Process for Basel Pillar 2 (SREP), it is necessary to create a single compliance framework for the main entities in the DZ BANK Group that lays down rules on cooperation between the individual compliance functions and sets out their authority and responsibilities.

In consultation with the other management units, DZ BANK has drawn up such a framework for the DZ BANK Group with the aim of creating a groupwide compliance management system. The DZ BANK Group's compliance framework comprises the compliance policy, which defines the requirements regarding the establishment and organization of the compliance functions and their duties. It is supplemented by compliance standards, which specify how to implement these requirements on an operational level.

If individual requirements in the compliance standards cannot be fulfilled by a management unit, e.g. because they conflict with local rules or special legal requirements, the affected management unit must provide an explanation.

The compliance policy was approved by the Board of Managing Directors of DZ BANK and came into effect in the first quarter of 2016.

Data protection

The entities in the DZ BANK Group have introduced suitable precautions to ensure that they comply with data protection provisions relating to customers, business partners, and employees. This has involved, in particular, creating the function of data protection officer and issuing standard data protection principles. In addition, employees regularly receive updates on the currently applicable data protection provisions. The data protection officer reports to the Board of Managing Directors on matters concerning the data protection organization.

Information security

The DZ BANK Group understands information security to be the operational security of processes, IT applications, and IT infrastructures.

DZ BANK has implemented an information security management system (ISMS). The rules that it contains, along with the methodological framework that it provides, are based on the ISO/IEC 27001:2013 standard. The ISMS is designed to ensure the confidentiality, integrity, availability, and authenticity of data and the media on which data is stored (IT applications, IT systems, and infrastructure components). The governance model implemented defines the methods, processes, roles, responsibilities, authority, and reporting channels that are necessary to achieve the strategic objectives and carry out the tasks of information security at operational level. It also provides an operational framework for the consistent quantitative and qualitative evaluation and management of information security risk, which forms part of operational risk.

3.4.5. Control functions

Internal audit

The **internal audit** departments of DZ BANK and all the main subsidiaries are responsible for non-process-specific control and monitoring tasks. They carry out systematic, regular risk-based audits focusing on compliance with statutory and regulatory requirements. The internal audit departments also review and assess risk management and the internal control system to ensure that they are fully operational and effective, and that processing is properly carried out. In addition, they monitor the action taken in response to audit findings to ensure that identified problems have been rectified.

The internal audit departments at DZ BANK and the other management units report to the chief executive officer or other senior managers of the unit concerned. DZ BANK and all subsidiaries involved follow the special requirements for the structure of the internal audit function specified in MaRisk.

DZ BANK's internal audit department is responsible for internal audit tasks at group level. These tasks include, in particular, the coordination of audits involving multiple entities, the implementation of which lies within the remit of the individual internal audit departments in the management units concerned, and the evaluation of individual management unit audit reports of relevance to the group as a whole. Cooperation between internal audit departments in the DZ BANK Group is governed by a separate set of rules and arrangements.

Supervisory Board

The following information meets the disclosure requirements specified in article 435 (2d) and (2e) CRR (Risk Committee and the flow of risk-related information to the Supervisory Board).

The Board of Managing Directors provides the Supervisory Board of DZ BANK with regular and timely reports about the risk situation, the risk strategies, and the status and further development of the risk management system of the DZ BANK Group and DZ BANK. Furthermore, the Board of Managing Directors provides the Supervisory Board with regular reports about significant loan and investment exposures and the associated risks. The Supervisory Board discusses these issues with the Board of Managing Directors, advises it, and monitors its management activities. The Supervisory Board is always involved in decisions of fundamental importance.

The Supervisory Board has set up a Risk Committee that pays close attention to risk-related corporate management. The chairman of the Risk Committee provides the full Supervisory Board with regular and timely reports on the material findings of the committee's work. The Risk Committee held 5 meetings in the year under review.

As part of the quarterly written information about the risk situation in the DZ BANK Group, the Board of Managing Directors provides the members of the Risk Committee and the other members of the Supervisory Board with a quarterly overall risk report. The Risk Committee also receives the credit risk report, the report on the economic stress tests, and the report on current indicator levels in accordance with MaSan on a quarterly basis. The chairman of the Risk Committee informs the full Supervisory Board about these matters no later than at its next meeting. The minutes of Risk Committee meetings are sent to all members of the Supervisory Board on a regular basis.

External control functions

During the audit of the annual financial statements, independent **auditors** carry out an assessment pursuant

to section 29 (1) sentence 2 no. 2a KWG in conjunction with section 25a (1) sentence 3 KWG to establish whether the Company's risk management processes for the Bank sector, including its internal control functions, are fit for purpose. For the Insurance sector, verification of the Solvency II balance sheet is carried out pursuant to section 35 (2) VAG and an assessment of the suitability of the early-warning system for risk, including the internal monitoring system of R+V, is carried out during the audit of the annual financial statements pursuant to section 35 (3) VAG in conjunction with section 317 (4) HGB and section 91 (2) of the German Stock Corporation Act (AktG).

The **banking and insurance supervisory authorities** also conduct audits focusing on risk.

3.4.6. General internal control system

DZ BANK uses the groupwide internal control system to implement the relevant regulatory requirements specified in MaRisk. The internal control systems of the DZ BANK Group and DZ BANK also take into account the framework for internal controls produced by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), which can be applied to any industry.

The objective of the internal control systems is to ensure the effectiveness and efficiency of the risk management activities within the DZ BANK Group and at DZ BANK by means of suitable basic principles, action plans, and procedures.

Organizational structures and controls built into work processes serve to ensure that the monitoring of risk management activity is integrated into processes.

IT systems are systematically protected by authority-dependent management of authorizations and by technical security measures, the aim of which is to prevent unauthorized access both within and outside management units.

3.4.7. Internal control system for the (consolidated) financial reporting process

Objective and responsibilities

DZ BANK is subject to a requirement to prepare consolidated financial statements and a group management report as well as separate financial statements and a management report. The primary objective of external (consolidated) financial reporting in the DZ BANK Group and at DZ BANK is to provide decision-useful information for the users of the reports. This includes all activities to ensure that (consolidated) financial reporting is properly prepared and that violations of accounting standards – which could result in the provision of inaccurate information to users or in mismanagement of the group – are avoided with a sufficient degree of certainty.

In order to limit operational risk in this area of activity, DZ BANK and its subsidiaries have set up an internal control system for the (consolidated) financial reporting process as an integral component of the control system put in place for the general risk management process. In this context, the activities of employees, the implemented controls, the technologies used, and the design of work processes are structured to ensure that the objectives associated with (consolidated) financial reporting are achieved.

Overall responsibility for (consolidated) financial reporting lies in the first instance with Group Finance and Group Risk Controlling at DZ BANK, with all the consolidated entities in the DZ BANK Group responsible for preparing and monitoring the quantitative and qualitative information required for the consolidated financial statements.

Instructions and rules

The methods to be applied within the DZ BANK Group in the preparation of the consolidated financial statements are set out in writing in a group manual. The methods to be applied within DZ BANK in the preparation of the separate financial statements are documented in a written set of procedural rules. Both of these internal documents are updated on an ongoing basis. The basis for external risk reporting is the disclosure policy approved by the Board of Managing Directors. This policy sets out the principles and fundamental decisions for the methods, organizational structure, and IT systems to be used in risk disclosure in the DZ BANK Group and at DZ BANK. The disclosure policy also governs the integration of risk disclosure into general financial disclosure and provides the link to internal risk reporting. By adopting this policy, the Board of Managing Directors also established the key elements of the risk-related disclosure procedures and communicated them throughout the DZ BANK Group. The instructions and rules are audited regularly to assess whether they remain appropriate and are amended in line with internal and external requirements.

Resources and methods

The processes set up at DZ BANK and its subsidiaries (using suitable IT systems) permit efficient risk management in respect of financial reporting, based on the guidelines set by the Finance working group and taking into account the rules in the risk manual and the policy on risk disclosure.

The group's financial reporting process is decentralized, with the organizational units of the DZ BANK Group taking responsibility for preparing and checking the quantitative and qualitative information required for the consolidated financial statements. The Group Finance and Group Risk Controlling divisions at DZ BANK implement the relevant controls and checks in respect of data quality and compliance with the DZ BANK Group rules. Guidelines for the management units' risk control departments on data quality management and the internal control system set out the standards for ensuring the quality of data in the process for managing economic capital adequacy.

The organizational units post the accounting entries for individual transactions. The consolidation processes are carried out by DZ BANK's Group Finance division and by the accounting departments of each subgroup in the DZ BANK Group. The purpose of this structure is to ensure that all accounting entries and consolidation processes are properly documented and checked.

Financial reporting, including consolidated financial reporting, is chiefly the responsibility of employees of DZ BANK and the other organizational units in the DZ BANK Group. If required, external experts are brought in for certain accounting-related calculations as part of the financial reporting process, such as determining the defined benefit obligation and valuing collateral.

Consolidated financial reporting is based on mandatory workflow plans agreed between DZ BANK's Group Finance division and the individual accounting departments of the organizational units within the DZ BANK Group. These plans set out the procedures for collating and generating the quantitative and qualitative information required for the preparation of statutory company reports and which are necessary for the internal management of the operating units within the DZ BANK Group.

Generally accepted valuation methods are used in the preparation of the consolidated financial statements and group management report, and the separate financial statements and the management report. These methods are regularly reviewed to ensure they remain appropriate.

In order to ensure the efficiency of the (consolidated) accounting, the processing of the underlying data is extensively automated using suitable IT systems. Comprehensive control mechanisms are in place with the aim of ensuring the quality of processing and are one of the elements used to limit operational risk. (Consolidated) accounting input and output data undergoes a number of automated and manual checks.

Suitable business continuity plans have also been put in place. These plans are intended to ensure the availability of HR and technical resources required for the (consolidated) accounting and financial reporting processes. The business continuity plans are continuously checked using appropriate tests and fine tuned.

Information technology

The IT systems used for (consolidated) financial reporting have to satisfy the applicable security requirements in terms of confidentiality, integrity, availability, and authenticity. IT-supported controls are used, the purpose of which is to ensure that the processed (consolidated) accounting data is handled properly and securely in accordance with the relevant requirements. The controls in IT-supported (consolidated) accounting processes include, in particular, validation procedures to ensure consistent issue of authorizations, verification of master data modifications, logical access controls, and change management validation procedures in connection with developing, implementing, or modifying IT applications.

The IT infrastructure required for the use of IT-supported (consolidated) accounting systems is subject to the security controls implemented as part of the general IT security principles at DZ BANK and the other entities in the DZ BANK Group.

The information technology used for consolidated accounting purposes is equipped with the functionality to enable it to handle the journal entries in individual organizational units as well as the consolidation transactions carried out by DZ BANK's group accounting department and by the accounting departments in the subgroups.

IT-supported (consolidated) accounting processes are audited as an integral part of the internal audit work carried out at DZ BANK and the other entities in the DZ BANK Group.

Improving and ensuring effectiveness

The processes used are regularly reviewed to ensure they remain appropriate and fit for purpose; they are adapted in line with new products, situations, or changes in statutory requirements. To guarantee and increase the quality of (consolidated) accounting at DZ BANK and the other entities in the DZ BANK Group, the employees charged with responsibility for financial reporting receive needs-based training in the legal requirements and the IT systems used. When statutory changes are implemented, external advisors and auditors are brought in at an early stage to provide quality assurance for financial reporting. At regular intervals, the internal audit department audits the internal control system related to the process for (consolidated) financial reporting.

3.5. Risk management tools

3.5.1. Accounting basis

Accounting basis for risk measurement

The transaction data that is used to prepare the DZ BANK consolidated financial statements forms the basis for the measurement of risk throughout the group. The same applies to the separate financial statements of DZ BANK. A wide range of other factors are also taken into account in the calculation of risk. These factors are explained in more detail during the course of this opportunity and risk report.

The line items in the consolidated financial statements relevant to risk measurement are shown in figure 9. The information presented is also applicable to the measurement of risk for the separate financial statements of DZ BANK and the measurement of its risk, which does not include the technical risk of a home savings and loan company or the risks incurred by the Insurance sector.

The sections below provide a further explanation of the link between individual types of risk and the consolidated financial statements.

A further breakdown of the line items in the consolidated financial statements used to determine **credit risk** is given in section 8.5.2.

The investments used for the purposes of measuring **equity investment risk** are the following items reported in note 55 of the notes to the consolidated financial statements: shares and other shareholdings, investments in subsidiaries, investments in associates, and investments in joint ventures.

In the **Bank sector**, the measurement of financial instruments both for the purposes of determining market risk and for financial reporting purposes is based on financial market data provided centrally. Minor discrepancies arise from the recognition of different impairment amounts in the market risk calculation and in the accounting treatment. With the exception of these differences, the disclosures relating to **market risk** reflect the fair values of the assets and liabilities concerned.

The measurement for the **technical risk of a home savings and loan company** is based on the loans and advances to banks and customers (home savings loans) and also the home savings deposits (deposits from banks and customers) described in note 63 of the notes to the consolidated financial statements.

Technical provisions, as reported in the financial statements, are a key value for determining all types of **actuarial risk**. The line item Investments held by insurance companies is also used to determine all types of **market risk** and **counterparty default risk**. The line item Other assets is included in the computation of actuarial risk and counterparty default risk.

Operational risk, **business risk**, and **reputational risk** are measured independently of the balance sheet items reported in the consolidated financial statements.

The calculation of **liquidity risk** is derived from future cash flows, which in general terms are determined from all of the balance sheet items in the consolidated financial statements.

Accounting basis for risk coverage

An explanation of the calculation of the counterbalancing capacity, which is used to determine economic liquidity adequacy, can be found in section 6.2.6.

The link between available internal capital, which is used to determine economic capital adequacy, and the consolidated balance sheet is described in section 7.2.2.

FIG. 9 – RISK-BEARING EXPOSURES IN THE CONSOLIDATED FINANCIAL STATEMENTS[1]

		BANK SECTOR												INSURANCE SECTOR								
		Credit risk				Market risk								Actuarial risk			Market risk					
											Portfolio assignment[2]											
	Consolidated financial statements	Traditional credit risk	Issuer risk	Replacement risk	**Equity investment risk**	Interest-rate risk	Spread risk	Equity risk	Currency risk	Commodity risk	Trading portfolios	Non-trading portfolios	**Technical risk of a home savings and loan company**	Life	Health	Non-life	Interest-rate risk	Spread risk	Equity risk	Currency risk	Real-estate risk	**Counterparty default risk**
Risk-bearing assets	Loans and advances to banks	●		●		●	●		●		●	●	●									
	Loans and advances to customers	●				●	●		●		●	●	●									
	Derivatives used for hedging (positive fair values)			●		●	●	●	●	●	●	●										
	Financial assets held for trading		●	●		●	●	●	●	●	●											
	Investments		●	●	●	●	●	●	●			●										
	Investments held by insurance companies																●	●	●	●	●	●
	Other assets													●	●	●						●
	Financial guarantee contracts and loan commitments	●				●			●			●										
Risk-bearing liabilities	Deposits from banks					●	●		●		●	●	●									
	Deposits from customers					●	●		●		●	●	●									
	Debt certificates issued including bonds					●	●	●	●	●	●	●										
	Derivatives used for hedging (negative fair values)			●		●	●	●	●	●	●	●										
	Financial liabilities held for trading			●		●	●	●	●	●	●											
	Insurance liabilities													●	●	●	●					

1 As liquidity risk is determined on the basis of all exposures in the consolidated financial statements, the details for liquidity risk are not provided here for reasons of clarity.
2 Disclosures for the banking business.

3.5.2. Measurement of risk and risk concentrations

Framework

Risk management in the DZ BANK Group is based on a **resource-oriented perspective of liquidity and capital**. It thus reflects the regulatory requirements defined by the SREP regarding the Internal Liquidity Adequacy Assessment Process (ILAAP) and the Internal Capital Adequacy Assessment Process (ICAAP). A distinction is also made between **economic and regulatory liquidity adequacy and between economic and regulatory capital adequacy**. The impact of each risk type on both economic capital and economic liquidity is taken into consideration. The effect and materiality of the various types of risk may vary, depending on the resource in question.

Economic liquidity adequacy

To ascertain the DZ BANK Group's economic liquidity adequacy, the minimum surplus cash that would be available if various scenarios were to materialize within the following year is determined as part of the **measurement of liquidity risk**.

Concentrations of liquidity risk can occur primarily due to the accumulation of outgoing payments at particular times of the day or on particular days (concentrations of maturities), the distribution of funding across particular currencies, markets, products, and liquidity providers (concentrations of funding sources), and the distribution of liquidity reserves across particular currencies, ratings, and issuers (concentrations of reserves). There is no capital requirement in connection with liquidity risk.

Liquidity risk in the **Insurance sector** is not material at DZ BANK Group level. Firstly, this is because long-term liquidity is typically tied up in liabilities and assets in insurance business. Secondly, R+V is only exposed to a low level of liquidity risk because of its wide range of products and customers and the high quality and liquidity of its investments. Consequently, R+V is not taken into account in the liquidity risk management of the DZ BANK Group.

Economic capital adequacy

In the **Bank sector**, **economic capital** (risk capital requirement) is calculated for credit risk, equity investment risk, market risk, the technical risk of a home savings and loan company, operational risk, and business risk in order to ascertain economic capital adequacy. This risk capital requirement is generally calculated as value-at-risk with a holding period of one year and a unilateral confidence level of 99.90 percent.

The capital requirement for the individual risk types is aggregated into the total risk capital requirement for the Bank sector taking into account various diversification effects. The diversified risk capital requirement reflects the interdependency of individual types of risk. The risks relating to the Bank and Insurance sectors are aggregated, disregarding diversification effects between the sectors.

In the **Insurance sector**, risk measurement is based on the method specified in Solvency II with the aim of determining value-at-risk, which is the measure of **economic capital**. The value-at-risk for the change in economic own funds is determined with a confidence level of 99.50 percent over a period of one year.

The reason for managing **risk concentrations** by analyzing portfolios is to identify potential downside risks that may arise from the accumulation of individual risks and, if necessary, to take corrective action. A distinction is made between risk concentrations that occur within a risk type (intra-risk concentrations) and concentrations that arise as a result of the interaction between different types of risk (inter-risk concentrations). Inter-risk concentrations are implicitly taken into account when determining correlation matrices for the purposes of inter-risk aggregation. They are mainly managed by using quantitative stress test approaches and qualitative analyses to provide a holistic view across all types of risk. The analysis of intra-risk concentrations is described for each type of risk in the sections below.

Risk covered by capital in the Bank sector

Expected and unexpected losses are calculated during credit-portfolio analysis for transactions containing credit risk that are conducted by entities in the Bank sector. The capital requirement for **credit risk** is determined as the unexpected loss equivalent to the difference between the value-at-risk and the expected loss. This calculation is based on one-year default

probabilities derived from historical loss data, taking into account additional transaction-specific features and reflecting the current rating of the borrower. The rating reflects an assessment of the borrower's future economic strength. Other factors taken into account in the calculation of exposures subject to credit risk include measurable collateral, netting agreements, and expected recovery rates based on past experience.

In order to highlight concentrations of credit risk, the exposure at portfolio level is categorized by, among other things, industry sector, country group, term to maturity, size category, and rating. In addition, risks resulting from large exposures to individual single borrower units are closely monitored and managed. The key factor to be considered when determining concentrations of credit risk is the possibility of a simultaneous default by a number of borrowers who share one or more characteristics. This is why determining the correlated exposure to loss as a part of the calculation of the risk capital required for credit risk is essential for managing risk concentrations.

Since the first quarter of 2016, **equity investment risk** has been determined using Monte Carlo simulation, in which portfolio concentrations in industries and individual exposures are examined by simulating industry-wide and investment-specific risk factors.

The capital requirement for **market risk** is calculated as the value-at-risk over a one-year time horizon based on simulations. The results of stress tests are included in this calculation. In addition to calculating economic capital, and for purposes of operational management, a value-at-risk for a holding period of one trading day and a unilateral confidence level of 99.00 percent is calculated for market risk within the internal model.

Concentrations in the portfolio affected by market risk are identified by classifying the exposure in accordance with the risk factors associated with interest rates, spreads, migration, equities, currencies, and commodities. This incorporates the effects of correlation between these different risk factors, particularly in stress phases. Stress tests are carried out for market liquidity risk.

A special collective simulation, which includes the effects of a (negative) change in customer behavior and a drop in new business, is used to measure the **technical risk of a home savings and loan company**. Concentrations of this risk are most likely to arise from new business risks.

Business risk is determined using a risk model based on an earnings-at-risk approach. Risk concentrations may arise if business activities are focused on a small number of areas. Concentrations of business risk are limited by using qualitative criteria as part of strategic management. For the Bank sector, **strategic risk** is classified as non-material and examined in the context of business risk.

Reputational risk in the Bank sector is taken into account within business risk and is therefore implicitly included in the measurement of risk and assessment of capital adequacy.

The economic capital requirement for **operational risk** is determined using a portfolio model. Analyses of internal losses, risk indicators, or risk self-assessments facilitate identification of risk concentrations. Such concentrations can occur, for example, if IT systems are supplied by just a few companies or if business processes are outsourced to a limited number of service providers. From the perspective of economic capital adequacy, **funding risk** is not material.

Risks in the Insurance sector

To determine **actuarial risk**, negative scenarios are examined that have been taken from Solvency II and, in some cases, supplemented by the group's own parameterization or internal risk assessment.

Modeling and risk quantification, including on the basis of historical claims data, is carried out for parts of the premium and reserve risk and non-life catastrophe risk. These are based on the group's own portfolio and, in the case of natural catastrophes, on data from third-party providers. Possible risk concentrations are also analyzed, monitored, and managed as part of the risk management system.

The analysis, monitoring, and management of concentrations of actuarial risk are carried out as part of the risk management process. Potential risk concentrations arise when different types of risk are combined with

the concentration dimension (e.g. individual exposure, sector, country group). The same risk concentrations are analyzed at DZ BANK level.

When measuring **market risk**, shock scenarios are examined that have been taken from Solvency II and, in some cases, supplemented by the group's own parameterization.

The capital requirements for **counterparty default risk** are determined on the basis of the relevant exposure and the expected losses per counterparty.

The risk capital requirement for **operational risk** in the Insurance sector is calculated as a factor of the volume measures of premiums and provisions and, in the case of unit-linked business, as a factor of costs. In addition, operational risk is identified and quantified using a scenario-based risk self-assessment. R+V uses suitable quality standards and communications strategies to limit its reputational risk.

The risk capital requirement for **non-controlling interests in insurance companies** is included on a pro-rata basis in accordance with Solvency II. Risk for **entities in other financial sectors** is quantified in accordance with the requirements currently specified by the insurance regulator. This means applying the capital requirements in Solvency I, which are essentially calculated as a factor of the volume measures of benefit reserves and capital at risk.

Strategic risk is classified as non-material for the Insurance sector. R+V analyzes and forecasts national and global developments with an influence on business-related parameters on an ongoing basis. The findings are evaluated, for example in terms of customer needs, and are incorporated into the development of new insurance products.

3.5.3. Stress tests

In addition to the risk measurements, the effects of extreme but plausible events are also analyzed. Stress tests of this kind are used to establish whether the DZ BANK Group can retain its risk-bearing capacity, even under extreme economic conditions. Stress tests are carried out in respect of economic risk-bearing capacity, regulatory capital ratios, and liquidity.

3.5.4. Limitation principles

The DZ BANK Group has implemented a system of limits to ensure that risk-bearing capacity is maintained. The limits used may be risk limits or volume limits, depending on the type of transaction and type of risk. Whereas risk limits in all types of risk restrict exposure measured with an economic model, volume limits are applied additionally in transactions involving counterparties. Risk management is also supported by limits for relevant key performance indicators.

Specific amendments to risk positions based on an adjustment of the volume and risk structure in the underlying transactions are intended to ensure that the measured exposure does not exceed the approved volume and risk limits.

Risks that are incurred are compared with the limits allocated to them (upper loss limits) and monitored using a traffic-light system. In the context of liquidity adequacy, the limit system is used to monitor whether economic liquidity adequacy is assured both at DZ BANK Group level and at the level of the management units.

3.5.5. Hedging objectives and hedging transactions

Hedging activities are undertaken where appropriate in order to transfer liquidity risk, credit risk, market risk (bank sector), market risk (insurance sector), actuarial risk, and operational risk to the greatest possible extent to third parties outside the DZ BANK Group. All hedging activities are conducted within the strategic rules specified in writing and applicable throughout the group. Derivatives and other instruments are used to hedge credit risk and market risk.

If the hedging of risk in connection with financial instruments gives rise to **accounting** mismatches between the hedged items and the derivatives used for the hedge, the mismatches are either eliminated or reduced by designating the hedging transaction as a hedge in accordance with the hedge accounting

requirements of IAS 39, or the fair value option is exercised. Hedge accounting in the DZ BANK Group includes hedging interest-rate risk and currency risk and therefore affects market risk in both the Bank and Insurance sectors. Hedging information is disclosed in note 82 of the notes to the consolidated financial statements.

DZ BANK has exercised the option provided for in section 254 HGB and has generally not recognized hedges on the balance sheet, although economic hedges do exist. However, one hedge is reported in note 41 of the notes to DZ BANK's separate financial statements.

3.5.6. Risk reporting and risk manual

The quarterly **overall risk report** includes the risks throughout the group identified by DZ BANK. Together with the **stress test report**, which is also compiled on a quarterly basis, and the **report on recovery indicators**, which is prepared on a monthly and quarterly basis, the overall risk report is the main channel by which risks incurred by the DZ BANK Group and the management units are communicated to the Supervisory Board, the Board of Managing Directors, and the Group Risk and Finance Committee. In addition, the Board of Managing Directors receives portfolio and exposure-related management information as part of the quarterly **credit risk report**. The Board of Managing Directors also receives monthly information on **liquidity risk** in the DZ BANK Group and in the management units. This information meets the disclosure requirements regarding the flow of risk-related information to the Board of Managing Directors specified in article 435 (2e) CRR.

DZ BANK and the main subsidiaries have further reporting systems for all relevant types of risk. Depending on the degree of materiality in the risk exposures concerned, the purpose of these systems is to ensure that decision-makers and supervisory bodies at all times receive transparent information on the risk profile of the management units for which they are responsible.

The **risk manual**, which is available to all employees of the management units, sets out the general parameters for identifying, measuring, assessing, managing, monitoring, and communicating risks. These general parameters are intended to ensure that risk management is properly carried out in the DZ BANK Group. The manual forms the basis for a shared understanding of the minimum standards for risk management throughout the group.

The main subsidiaries also have their own risk manuals covering special aspects of risk related specifically to these management units. R+V's risk manual was replaced by the Solvency II guidance with effect from January 1, 2016.

3.5.7. Risk inventory and appropriateness test

Every year, DZ BANK draws up a **risk inventory**, the objective of which is to identify the types of risk that are relevant for the DZ BANK Group and assess the materiality of these risk types. According to need, a risk inventory check may also be carried out at other times in order to identify any material changes in the risk profile during the course of the year. A materiality analysis is carried out for those types of risk that could arise in connection with the operating activities of the entities in the DZ BANK Group. The next step is to assess the extent to which there are concentrations of risk types classified as material in the Bank sector, the Insurance sector, and across sectors. The risk inventory check revealed that the main risks that existed were the same as in 2015, even after the merger. A risk concentration that had been considered material in 2015 was reclassified as non-material in 2016.

DZ BANK also conducts an annual **appropriateness test** at DZ BANK Group level. The appropriateness test may also be carried out at other times in response to specific events. The objective is to review the latest groupwide specifications for the analysis of risk-bearing capacity. In addition, the appropriateness test includes a number of other tests to assess whether the risk measurement methods used for all types of risk classified as material are in fact fit for purpose. The appropriateness test found that risk measurement in the DZ BANK Group is generally appropriate. Potential improvements to risk measurement were identified. Suitable measures are being defined and carried out in order to make these improvements.

The risk inventory check and appropriateness test are coordinated in terms of content and timing. All management units in the DZ BANK Group are included in both processes. The findings of the risk inventory and the appropriateness test are incorporated into the risk management process.

Risk inventory checks and appropriateness tests are generally conducted in a similar way for the main subsidiaries.

4. Opportunities

4.1. Management of opportunities

The management of opportunities in the DZ BANK Group and at DZ BANK is integrated into the annual **strategic planning process**. Strategic planning enables the group to identify and analyze market discontinuities based on different macroeconomic scenarios, trends, and changes in the markets, and forms the basis for evaluating opportunities. Identified opportunities are taken into account in the business strategies.

Details about the strategic planning process are presented in section I.3.4. of the (group) management report.

Reports on future business development opportunities are based on the outcome of the business strategies. As part of the general communication of the business strategies, employees are kept up to date about potential opportunities that have been identified.

4.2. Potential opportunities

4.2.1. Corporate strategy

DZ BANK's core functions as a central institution, corporate bank, and holding company mean that it focuses closely on the local cooperative banks, which are its customers and owners.

DZ BANK's **focus on the cooperative banks** is vital in view of the need to manage scarce resources and to meet new regulatory requirements. By focusing more closely on the Volksbanken Raiffeisenbanken cooperative financial network, DZ BANK's aim is to exploit the potential of its core activities more fully, particularly with regard to retail banking and SME business.

The principle of a '**network-oriented central institution/financial services group**' also means that business activities are concentrated on the business areas covered by the cooperative banks and on further enhancing the satisfaction levels of customers of the local cooperative banks. To this end, the DZ BANK Group, in its role as financial services provider, supplies decentralized products, platforms, and services.

The strategic focus of the DZ BANK Group, guided by the 'Verbund First' principle, is a significant contributing factor in helping the **cooperative banks to strengthen their market position**. The local cooperative banks therefore not only receive substantial financial support in the form of commissions, and profit distributions, they also enjoy the transfer of cost benefits and the availability of competitive products and services.

The core activities referred to above are supplemented by **complementary activities** using existing products, platforms, and services, for which DZ BANK acts as a corporate bank vis-à-vis third parties. These activities do not compete directly with those of the cooperative banks and they enable further economies of scale to be created for the entire cooperative financial network.

The **merger** of the two former central institution groups is expected to create extensive synergies, including in terms of growth potential and earnings potential. Once the integration has been completed, it is estimated that the joint central institution will immediately be able to exploit income and cost synergies amounting to at least between €100 million and €150 million per year. The joint marketing activities and broader range of products are also expected to open up tangible opportunities in terms of income synergies.

The **Outlook** in chapter V. of the (group) management report describes expected developments in the market and business environment together with the business strategies and their implications for the financial performance forecast for 2017. These are crucial factors

in the **strategic positioning** and the resulting opportunities for increasing earnings and cutting costs.

4.2.2. Digitalization and demographic change

Digitalization refers to developments that tap into the prevalence of mobile devices and internet-based services and that are supported by the consumerization of technologies, i.e. the availability of high-tech end devices to consumers. These developments are encouraging the intermediation of new competitors at the interface between customers and banking services.

As a consequence of the general advance of digitalization across all areas of life, opportunities are opening up in relation to day-to-day banking business, especially payments processing. This trend is strengthened by **demographic change** and the resulting changes in the behavior of younger generations of customers. For example, increased use of mobile devices in payments processing means that particularly Germany – where paying in cash has generally continued to be more common than in other countries – is now seeing cash transactions being substituted with electronic payments processing. This may also lead to a reduction in the costs incurred by banks in relation to the supply and disposal of coins and notes.

The entities in the DZ BANK Group responded to these developments a while ago by increasing the innovative services that they offer. These included trialing the use of biometric processes by the payments processing provider equensWorldline SE, Utrecht, collaborating with iZettle on the development of a mobile point of sale, and implementing paydirekt (a cross-bank e-commerce payment process), as well as the first transatlantic payment on a blockchain platform between ReiseBank and ATB Financial, Calgary.

This portfolio of measures is helping the DZ BANK Group to drive the substitution of cash payments with mobile and other electronic payment processes so that it can participate in the move toward electronic payment transactions and seize opportunities for increasing its earnings. Furthermore, the Transaction Banking business line is working with universities and technology companies to test technologies and developments that may be of interest in the future – such as blockchains in payments processing and the securities business – and assess whether they are viable for use.

To underpin these measures, cross-sectoral innovation management, including an Innovation Roundtable, has been introduced in order to coordinate the group's innovation activities, monitor market trends, and launch targeted innovation projects.

4.2.3. Credit ratings

DZ BANK is awarded credit ratings by the three largest rating agencies, Standard & Poor's, Moody's, and Fitch. Individual subsidiaries of DZ BANK are also given their own ratings. In view of the high degree of cohesion within the cooperative financial network, Fitch and Standard & Poor's issue a network rating, for the purposes of which the cooperative financial institutions are analyzed on a consolidated basis. The criteria used by the agencies include factors such as strategy, risk assessment, transparency, and solidarity within the cooperative financial network in addition to business performance and collaboration.

The ratings are critical in determining the funding opportunities available on money and capital markets. They open up additional business options and potential opportunities for the entities in the DZ BANK Group.

During the year under review, the rating agencies reviewed the credit ratings issued for DZ BANK. At the start of 2016, as part of an industry-wide credit rating initiative following the amendment of German bank resolution legislation, Moody's downgraded the long-term credit rating of DZ BANK (pre-merger) for unsecured, non-subordinated bonds to Aa3 and upgraded the long-term credit rating for deposits to Aa1. These two changes did not have any impact on the DZ BANK Group's funding. Later in the year, Moody's changed the outlook on the long-term credit rating for unsecured, non-subordinated bonds to positive. This is because Moody's expects that, as a result of the merger of DZ BANK (pre-merger) with the former WGZ BANK, a larger volume of senior, unsecured paper will be available in the future with which to fulfill creditors' claims in the event of the bank's resolution.

In December 2016, Standard & Poor's placed the credit rating for unsecured, non-subordinated bonds on CreditWatch negative in view of Directive 2014/59/EU (Bank Recovery and Resolution Directive, BRRD) and its adoption into German law with effect from January 1, 2017. Consequently, Standard & Poor's subdivided the credit rating for these bonds in February 2017 to create a rating for unsecured, senior bonds and a rating for unsecured, subordinated bonds in this category. The credit rating for unsecured, subordinated bonds in this category was lowered by one notch.

Rating agencies Fitch and Standard & Poor's have confirmed DZ BANK's credit ratings. Fitch has withdrawn its credit rating for DZ BANK's covered bonds.

Figure 10 provides an overview of DZ BANK's credit ratings.

FIG. 10 – DZ BANK RATINGS

	Standard & Poor's		Moody's		Fitch	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Long-term rating for unsecured, non-subordinated bonds	AA-	AA-	Aa3	Aa2	AA-	AA-
Long-term rating for deposits	–	–	Aa1	Aa2	–	–
Covered bonds (DZ BANK BRIEFE)	AA+	AA+	–	–	–	AA+
Short-term rating	A-1+	A-1+	P-1	P-1	F1+	F1+

As at December 31, 2016, the long-term credit rating for the cooperative financial network issued by Fitch and Standard & Poor's remained unchanged at AA-.

5. General risk factors

5.1. Market and sector risk factors

The DZ BANK Group is subject to a range of risk factors that apply generally to the German and European banking industry as a whole. These market and sector risk factors have an impact on liquidity adequacy and capital adequacy. For the most part, the factors can be classified under business risk but are addressed separately here because of their key importance for the DZ BANK Group.

5.1.1. Commercial-law environment

The financial position and financial performance of the DZ BANK Group are presented in accordance with IFRS. Changes to IFRS and the associated interpretations may lead to a discrepancy between the results and financial position that are reported in the future and the current forecasts, or changes to (consolidated) financial reporting standards that are introduced retrospectively may lead to differences between results shown for prior-year periods and the results that were previously published. Such changes may also have an impact on regulatory capital and the financial key performance indicators.

The entities in the DZ BANK Group observe potential changes to (consolidated) financial reporting and examine their possible effects.

The DZ BANK Group faces material risks from a changed (consolidated) accounting standard in connection with the adoption of **IFRS 9 Financial Instruments** into European law. The provisions of IFRS 9 Financial Instruments will supersede the content of IAS 39 Financial Instruments: Recognition and Measurement. IFRS 9 includes requirements relating to the following areas, which have been fundamentally revised: classification and measurement of financial instruments, the impairment model for financial assets, and hedge accounting. The reformed model for allowances for losses on loans and advances and new rules on the categorization of financial instruments, in particular, will result in a need to modify business processes and IT systems. DZ BANK has set up projects to implement IFRS 9.

5.1.2. Regulatory environment

Basel IV

The BCBS is currently preparing comprehensive new rules in some areas of regulatory risk determination. A first draft of the revised CRR ('CRR II') is already available. These new rules, most of which do not

have to be applied until 2 years after the effective date, are expected to increase the capital requirements for the DZ BANK banking group and DZ BANK.

Leverage ratio

The leverage ratio shows the ratio of a bank's Tier 1 capital to its total exposure. In contrast to risk-based capital requirements for which the assumptions are derived from models, the individual line items in the leverage ratio are not given their own risk weighting but are generally included in the total exposure without any weighting at all. All banks have been obliged to report the leverage ratio since 2014. The disclosure requirement has applied since 2015.

A mandatory minimum value for the leverage ratio has not been specified at European level for now. According to the European Commission's latest draft of CRR II, a minimum ratio of 3 percent is to be introduced on January 1, 2019. The draft also states that the adjustment of the calculation method for the total exposure is planned for a later date.

The definition of a mandatory minimum leverage ratio that is stricter than the one in the latest CRR II draft could lead to an additional capital requirement for the DZ BANK Group and/or DZ BANK based on the current volume of business. Implications for the DZ BANK Group's business model and competitive position cannot be ruled out either.

Minimum Requirement for Own Funds and Eligible Liabilities

The BRRD, the Single Resolution Mechanism, and the SAG have created the legal basis at European and national level for the new 'minimum requirement for own funds and eligible liabilities' (MREL) regulatory ratio.

The MREL is intended to ensure that banks hold a sufficiently large volume of capital and liabilities that can be 'bailed-in' to make it possible at all times to carry out an orderly resolution. 'Bail-in-able' liabilities are those that provide for creditors taking an equity interest if a bank gets into financial difficulties, enabling resolution to take place without recourse to government help and without jeopardizing the stability of the financial system.

The MREL ratio is the ratio of own funds and bail-in-able liabilities to the bank's total liabilities and own funds.

In February 2016, the SRB began requesting data with the aim of setting institution-specific minimum MREL ratios and to obtain an indication of the individual institutions' MREL liabilities and bail-in-able liabilities. Such a ratio has not yet been set for the DZ BANK banking group or DZ BANK. It is therefore not possible to gauge the effects of the MREL at present.

Supervisory Review and Evaluation Process

On December 19, 2014, the EBA published its Guidelines on Common Procedures and Methodologies for the Supervisory Review and Evaluation Process. The provisions contained in this document came into force on January 1, 2016. One of the aims being pursued by the EBA with SREP is the EU-wide harmonization of the supervisory review and evaluation process enshrined in Pillar 2 of Basel III. Harmonization is intended to create the same competitive conditions in the jurisdictions involved. At the end of each financial year, the supervisory authorities can use the results of the SREP to set individual capital and liquidity requirements that go beyond the existing requirements.

In 2016, the DZ BANK Group underwent the complete supervisory review and evaluation process on the basis of the EBA's guidance.

Standardized definition of borrower default

In 2016, the EBA published details on harmonizing the definition of 'default of an obligor' pursuant to article 178 CRR. Implementation is mandatory for all institutions that have received approval to use the Standardized Approach to credit risk and the internal ratings-based (IRB) approaches. This requires extensive changes to data management, credit rating models, credit procedures, and internal control processes. The aim is to harmonize the definition of default for the purposes of the Standardized Approach and the IRB approaches and thus to standardize the capital requirements for credit risk.

DZ BANK analyzed the planned new requirements and their impact and also participated in the qualitative and quantitative impact study. Changes to the default history and associated effects on the credit rating

systems – including the possible need for recalibration – cannot be ruled out. This could lead to higher regulatory capital requirements and an increase in the credit value-at-risk.

Capital requirements for market risk

Following 3 consultation papers on the Fundamental Review of the Trading Book in May 2012, October 2013, and December 2014, the BCBS published the finalized rules to fundamentally revise the capital requirements for market risk in the trading book on January 14, 2016.

Significant new features include a revision of the boundary between the trading book and banking book, the introduction of a new standardized approach, a complete revision of the risk measurement approach for the internal market risk model, and more stringent criteria for the approval of internal market risk models, even down to the level of individual trading desks based on the regulator's definition. The new rules are also aimed at greater integration between the Standardized Approach and internal models-based approaches.

The new Standardized Approach must be applied by all banks in the DZ BANK Group. As the requirements cover internal model banks, DZ BANK must also introduce the new standardized approach and is thus obliged to calculate the capital requirement for market risk in the trading book in parallel to the internal model. Implementation of the new rules entails extensive and time-consuming changes to the calculation of the capital requirement for market risk in the trading book.

Banks are likely to have to apply the new Basel capital requirements from 2020 once they have been implemented in national law. Application is expected to mean that the DZ BANK Group and DZ BANK will be subject to an additional capital requirement. Moreover, the possibility of a negative impact on cost structures or implications for organizational structures, the risk management system, the business model, or competitive position cannot be ruled out.

Risk data management

In January 2013, the BCBS published principles for effective risk data aggregation and risk reporting. The principles aim to increase aggregation capability for all risk data used for internal risk management and to improve the risk management and decision-making processes (including internal risk reporting) at banks. The requirements had to be implemented by global systemically important banks (G-SIBs) by the end of 2016. For domestic systemically important banks, the principles come into force three years after classification as an 'other systemically important institution' (O-SII). BaFin classified DZ BANK as an O-SII in the second quarter of 2016. BaFin is also planning to incorporate some of the regulations on risk data management into the national rules with the 5th amendment of MaRisk BA.

The implementation of the new requirements, and possibly also inadequate implementation, could involve changes to the DZ BANK Group's business model (and that of DZ BANK), have a negative effect on their competitive position, or result in the need for additional capital. Moreover, it is impossible to gauge whether the principles will be implemented in the original form proposed by the BCBS or in some amended form.

Amendment of building society legislation

Lawmakers responded to the sustained low level of interest rates in the capital markets by bringing in a new version of the German Building and Loan Associations Act (BauSparkG) back in December 2015 and a related regulation. The new version relates to matters such as granting building societies the right to issue Pfandbriefe and expanding the list of permitted investments. Application of the new rules may impact on the individual risk types.

Solvency II

Solvency II defines requirements for capital adequacy, risk management, and a standardized reporting system for insurance companies that have been applicable throughout the EU since January 1, 2016. The new system of supervision is intended to facilitate more flexible regulation using a stronger principles-based and risk-based approach.

As far as R+V is concerned, Solvency II gives rise to significant changes in capital requirements and in the measurement of assets and liabilities. R+V also has to comply with additional rules on business organization

and further reporting and disclosure obligations. Other changes relate to the group requirements.

Instant payments

The Euro Retail Payments Board, the ECB, and the European Commission have been pushing ahead with SEPA Instant Payments, a new system of payments processing, since late 2014. Implementation is planned for November 2017. In the DZ BANK Group, instant payments particularly affect DZ BANK, which has initiated the necessary measures to comply with the new requirements. In particular, DZ BANK has begun projects to assess the opportunities and risks associated with this new technology and to implement the aforementioned measures. Delayed or inadequate implementation of the requirements could lead to sanctions being imposed by the banking regulator and to reputational damage.

Other regulatory risk factors

In addition to the regulatory requirements described above, the following initiatives may give rise to risks for the DZ BANK Group:

- Single Supervisory Mechanism
- Reform of deposit protection schemes
- German Act on Ringfencing and Recovery and Resolution Planning for Credit Institutions and Financial Groups
- EU directive on structural reforms for banks
- Publication of the findings of regulatory audits.

5.1.3. Macroeconomic risk factors

Economic trends

The business performance of the DZ BANK Group and of DZ BANK is particularly influenced by Germany's economic position and the situation in financial and capital markets. Besides regular fluctuations in demand and production, extraordinary or unparalleled events can play a particular role. For example, the German economy continues to be affected by the fallout from the sovereign debt crisis in Europe. Germany's export-driven economy is highly dependent on international trade. A persistent period of weak growth, stagnation, or a sharp downturn in international trade would cause a drop in production and a correspondingly lower level of demand for finance from businesses.

European sovereign debt crisis

During the year under review, trends in international financial markets continued to be shaped by the stuttering global economy and central banks' expansionary monetary policy. Global economic growth and, in particular, the situation in financial markets since the European sovereign debt crisis have seen a slight improvement again, but the economy, the confidence of financial market players, and the extent of customer activity in the banking business have all also continued to be affected by the consequences of the financial crisis and sovereign debt crisis and, in particular, by the monetary policy response.

The economies of **Portugal**, **Italy**, **Greece**, and **Spain** continue to be characterized by government debt levels that are high in relation to gross domestic product and are still proving difficult to bring down. Consequently, these countries remain vulnerable to fluctuation in investors' risk assessments.

Italy is faced with months of political uncertainty following the resignation of Prime Minister Renzi after his failure to secure approval for constitutional reform in a referendum held on December 4, 2016. Populist opposition forces, such as Beppe Grillo's anti-euro Five Star Movement, could become even stronger on the back of their success in rejecting the constitutional reform. If opponents of the euro and the EU manage to establish themselves as the most influential political force in the next parliamentary elections, Italy is likely to face an enduring loss of confidence in the international political arena and among investors. This would seriously prejudice the ability of the country to obtain funding in international capital markets.

Even after agreement on the third bailout from the European Stability Mechanism, which is due to run until August 2018, **Greece's** solvency is not assured and there is no guarantee that it will stay in the eurozone. 'Grexit' could lead to turbulence in the international financial markets, which would potentially have a negative impact on the countries of the eurozone.

The ECB's extremely expansionary monetary policy and particularly its bond-buying program are currently largely preventing the structural problems in some EMU member countries from being appropriately reflected

in the capital markets. However, there is a risk this could change in the event of an unforeseen change in monetary policy. In this case, highly indebted countries would find it considerably more difficult to arrange funding through capital markets.

Shipping finance

In the **shipping finance business**, the weakness in the global economy and the European sovereign debt crisis combined with an oversupply of shipping tonnage is continuing to adversely affect asset values and customers' credit standings.

Environment of low interest rates

With interest rates at a historically low level, interest receivable on loans is low and the interest margin is relatively narrow, restricting the opportunities for earning income in **traditional banking business**. A risk scenario involving a very long period of low interest rates, possibly combined with a deflationary trend, would therefore also have a considerable negative impact on the performance of the DZ BANK Group and DZ BANK.

If there is a long period of low interest rates, the DZ BANK Group could face the risk of lower earnings, including lower earnings from BSH's extensive **building society operations**. When interest rates are very low, home savings loans lose their appeal for customers, while high-interest home savings deposits become more attractive. Consequently, interest income on home savings loans would fall and the interest cost for home savings deposits would rise. Furthermore, available liquidity could only be invested at low rates of return, an additional factor depressing earnings. Action to mitigate the risk from the low interest rates includes optimizing the home savings portfolio and refining the home savings product, one example being the introduction of new home savings rates in November 2015 and June 2016.

The entire **insurance industry** is affected by the historically low interest rates in the capital markets. This environment of persistently low interest rates is adversely affecting personal insurance providers in the short and medium term because they have to recognize supplementary change-in-discount-rate reserves on their balance sheets. However, recognizing these additional reserves puts in place key, long-term prerequisites for limiting risk in life insurance and pension insurance business.

Given the long period of low interest rates, the challenge faced by the DZ BANK Group's extensive **asset management activities**, brought together under UMH, is to ensure that the guarantee commitments given to customers in respect of individual funds can actually be met from the funds concerned. This particularly affects the UniProfiRente product and the guarantee fund product group. UniProfiRente is a retirement pension solution certified and subsidized by the German government (known in Germany as a Riester pension). The amounts paid in during the contributory phase and the contributions received from the government are guaranteed to be available to the investor at the pension start date. The pension is then paid out under a payment plan with a subsequent life annuity. Guarantee funds are products for which UMH guarantees that a minimum percentage of capital is preserved, depending on the precise product specification. The DZ BANK Group faces the risk that it could have to waive some of the management fee in order to meet the guarantee commitments. If this risk were to materialize, it could have a considerable negative impact on the financial performance of the DZ BANK Group.

A rapid **rise in interest rates** on capital markets could also involve some risks. The pricing losses on fixed-income securities and necessary remeasurement of low-interest long-term lending business that could result from such an upturn could have a detrimental impact on the earnings of the DZ BANK Group.

A long period of low interest rates also increases the risk of **incorrect valuations in financial and real estate markets.**

Latent risk factors

The possible negative impact of the **United Kingdom's exit from the EU** (known as Brexit) that is expected following the referendum on June 23, 2016 presents a risk to future economic growth, both at EU level and, in particular, for the United Kingdom. Reduced exports and a reluctance to invest on the part of companies as a result of increased uncertainty are also likely to subdue the German economy. After the referendum, the United Kingdom's credit rating from Standard & Poor's was downgraded from AAA to AA

with a negative outlook. Moody's maintained the credit rating at Aa1 but changed the outlook to negative. The credit ratings from the two rating agencies therefore still correspond to the internal VR rating class 1A used by the DZ BANK Group.

The Brexit vote has put European bank shares under pressure and drawn the financial markets' attention once again to the problems of the **Italian banking sector**, which has one of the highest proportions of non-performing loans in the EU. The non-performing loans, which total €360 billion, relate mostly to bad debts incurred for economic reasons in the past. In the year under review, it was evident that the non-performing customer loans at a large number of Italian banks had stabilized, albeit at a high level. However, the economic outlook, which remains moderate at best, means that there is no definitive trend reversal in sight at present. Furthermore, any political destabilization in Italy could make it difficult to implement necessary capital increases if capital markets are volatile. As the Renzi government's preferred bailout method using public money is generally no longer permissible because of the new European bail-in arrangements now in force, the privately financed bank rescue funds Atlante and Atlante 2 are now being used to support the recapitalization and recovery of Italian banks. These funds have insufficient resources however, so other options are being considered in individual cases, including the conversion of bank bonds into equity.

The attempted coup in **Turkey** on July 14 and 15, 2016 and the negative political fallout resulted in increased risk. The main critical factors are a possible worsening of what is already a tense relationship between Turkey and the EU due to the country's harsh treatment of political opponents and the potential withdrawal of international investment capital due to declining investor confidence. The full impact of the political changes in Turkey is not yet clear, and further developments will be monitored closely.

Important elections are coming up in 2017 in some European countries, notably in the **Netherlands**, **France**, and **Germany**. There is a risk that anti-EU forces will gain influence, weakening the political and economic cohesion of the Community. As a result, it could become increasingly difficult to make decisions at European level. If elements opposing the EU manage to form a government in key member states, there is a danger this could even lead to the breakup of the EU over the longer term. This would not only have serious political consequences, it would also have a substantial detrimental impact on the exports-based German economy.

In the **United States**, Donald Trump emerged as the victor in the presidential election in November 2016. At the same time, the Republicans gained a majority in Congress. This presents the new US president with significant scope to pursue his political agenda. Over the medium term, there is a risk that an increase in trade barriers could dampen the economic outlook, both in the US and around the world as a whole. Some of the faith in the US Federal Reserve (Fed) could also be lost, leading to a long-term slide in the value of the US dollar.

Risk impact

Negative macroeconomic trends have an impact on various risks to which the DZ BANK Group and DZ BANK are exposed. In the **Bank sector**, this affects credit risk (deterioration in the credit quality of public-sector bonds, and in the case of ship finance, asset values and customer creditworthiness, increase in the allowances for losses on loans and advances), equity investment risk (increased requirement for the recognition of impairment losses on the carrying amounts of investments), market risk (increase in credit spreads, reduced market liquidity), business risk (contraction in the demand for financial services), and liquidity risk (a combination of the effects mentioned above).

In the **Insurance sector**, market risk is the type of risk most affected by macroeconomic trends. An increase in interest rates or a widening of credit spreads on government bonds or other market investments would lead to a drop in fair values. Fair value losses of this nature could have a temporary or permanent adverse impact on operating profit or equity.

5.2. Overarching bank-related risks

The DZ BANK Group is exposed to bank-specific risk factors that have an impact on a number of risk types relevant to liquidity and capital adequacy. These factors are described below. They are generally taken into account as part of the bank's overall risk management.

5.2.1. Shortcomings in the risk management system

Regardless of the fundamental suitability of the risk measurement procedures used in the DZ BANK Group and at DZ BANK, it is conceivable that there may be circumstances in which risks cannot be identified in good time or in which a comprehensive, appropriate response to risks is not possible. Despite careful development of models and regular reviews, situations may arise in which actual losses or liquidity requirements are higher than those calculated in the risk models and stress scenarios.

For any given confidence level, the value-at-risk used for determining the risk capital requirement can be significantly influenced by extreme events for which the probability of occurrence is low. However, estimates for such rare events are generally subject to a great deal of uncertainty (referred to as model risk). Moreover, there are no comprehensive historical observations in most cases for extreme losses of this nature, which makes it more difficult to validate any models. Key input parameters for measurement models are also subject to uncertainty, because they are already estimates themselves.

The measurement of liquidity risk is subject to similar model risk related to the design of models and parameters and their validation. In addition, risks arising from scenarios that extend beyond the risk appetite for serious crises set by the Board of Managing Directors are accepted and are therefore not taken into account for risk management purposes.

Despite continuously reviewing crisis scenarios, it is simply not possible to set down a definitive record of all economic conditions that could potentially have a negative impact. Therefore, an analysis of crisis scenarios in stress tests cannot guarantee that there will not be other crisis situations that could lead to greater losses or liquidity needs.

5.2.2. Rating downgrades

If DZ BANK's credit rating or the network rating for the cooperative financial network were to be downgraded, this would have a negative impact on the costs of raising equity and of borrowing. As a result, new liabilities could arise, or liabilities dependent on the maintenance of a specific credit rating could become due for immediate payment.

DZ BANK's credit rating is an important element in any comparison with competitor banks. It also has a significant impact on the ratings for DZ BANK's main subsidiaries. A downgrade or even just the possibility of a downgrade in the rating for DZ BANK or one of its subsidiaries could have a detrimental effect on the relationship with customers and on the sale of products and services.

Furthermore, if a rating downgrade were to occur, the DZ BANK Group or DZ BANK could face a situation in which it had to furnish additional collateral in connection with rating-linked collateral agreements for derivatives (regulated by the Credit Support Annex or Collateralization Annex) or in which it was no longer considered a suitable counterparty for derivative transactions at all. If the credit rating for DZ BANK or one of its subsidiaries were to fall out of the range covered by the top four rating categories (investment grade ratings, disregarding rating subcategories), the operating business of DZ BANK or the subsidiary concerned, and therefore also the funding costs for all the other management units in the group, could suffer an adverse impact.

5.2.3. Hedge ineffectiveness

The DZ BANK Group and DZ BANK are exposed to the risk that a counterparty in a hedge could become insolvent and therefore no longer be in a position to meet its obligations. Consequently, the hedge could prove to be ineffective and the DZ BANK Group or DZ BANK would then be exposed to risks that it believed it had hedged.

Unforeseen market trends could undermine the effectiveness of action taken to hedge market risk. One example is the risk in connection with the financial crisis and sovereign debt crisis. In this case, the DZ BANK Group or DZ BANK would only be able to minimize some of this risk with great difficulty; it may not be possible to hedge some of the risk at all. One of the particular factors to take into account is that some of the quantitative measurement methods and key risk indicators in the risk management system are based on past experience. Furthermore, the quantitative risk management system does not encompass

all risks and makes assumptions about the market environment that are not based on specific events. It is conceivable there could be market scenarios in which the measurement methods and key risk indicators used do not forecast certain potential losses correctly, resulting in miscalculations.

In the context of the management of market risk, use is made of credit derivatives, comprising credit-linked notes, credit default swaps, and total return swaps, in order to reduce the issuer risk attaching to bonds and derivatives. Macro hedges are used dynamically to mitigate spread risk and migration risk as well as risks attaching to underlying assets. In isolated cases, transactions are conducted on a back-to-back basis. If these instruments and measures turn out to be ineffective or only partially effective, it is possible that the DZ BANK Group and/or DZ BANK could incur losses against which the instruments or measures ought to have provided protection. Moreover, hedging activities give rise to costs and may result in additional risks. Gains and losses arising from ineffective risk hedges can increase the volatility of the earnings generated.

6. Liquidity adequacy

6.1. Principles

The management of liquidity adequacy is an integral component of business management in the DZ BANK Group and at DZ BANK. Liquidity adequacy is defined as the holding of sufficient liquidity reserves. It is considered from both an economic and a regulatory perspective. Whereas the economic perspective implements the requirements of MaRisk BA, the regulatory perspective applies the Basel III requirements.

Economic liquidity adequacy is managed on the basis of the internal liquidity risk model, which takes account of the impact on liquidity of other risks when measuring liquidity risk. The DZ BANK Group fulfills the regulatory liquidity adequacy requirements by managing economic liquidity adequacy.

The entities relevant for determining economic liquidity adequacy are DZ BANK and the following management units: BSH, DG HYP, DVB, DZ PRIVATBANK, TeamBank, VR LEASING, and WL BANK.

Owing to the close ties between management of economic liquidity adequacy at DZ BANK and that of the DZ BANK Group, the information below on economic liquidity adequacy also applies to DZ BANK.

6.2. Economic liquidity adequacy

6.2.1. Risk definition and risk factors

Risk definition

Liquidity risk is the risk that cash and cash equivalents will not be available in sufficient amounts to ensure that payment obligations can be met. Liquidity risk thus has the character of insolvency risk.

Risk factors

Liquidity risk arises from a mismatch in the timing and amount of cash inflows and outflows. The following key factors affect the level of liquidity risk:

- the funding structure of lending transactions;
- the uncertainty surrounding liquidity tied up in the funding of structured issues and investment certificates with termination rights and obligation acceleration;
- changes in the volume of deposits and loans, in which the cash-pooling function in the cooperative financial network is a significant determining factor;
- the funding potential in money markets and capital markets;
- the fluctuations in fair value and marketability of securities, and the eligibility of such securities for use in collateralized funding arrangements, such as bilateral repos or transactions in the tri-party market;
- the potential exercise of liquidity options, such as drawing rights in irrevocable loan or liquidity commitments, and termination or currency option rights in lending business;
- the obligation to pledge collateral in the form of cash or securities (for example, for derivative transactions or to guarantee payments as part of intraday liquidity).

Liquidity risk also arises from changes to an entity's own rating if contractual requirements to provide collateral depend on the rating.

6.2.2. Risk strategy

The entities in the DZ BANK Group operate on the principle that the assumption of liquidity risk is only permitted if it is considered together with the associated opportunities and complies with the **risk appetite** specified by the Board of Managing Directors. Solvency must be ensured, even in times of serious crisis. Risk appetite is expressed in the form of crisis scenarios, and stress tests must demonstrate that there is adequate cover for these scenarios. The crisis scenarios also take into account the specific MaRisk BA requirements for the structure of stress scenarios at capital-market-oriented banks.

However, further extreme scenarios are not covered by the risk appetite. The risks arising in this regard are accepted and therefore not taken into account in the management of risk. Examples of such scenarios are a run on the bank, i.e. an extensive withdrawal of customer deposits as a result of damage to the reputation of the banking system, or a situation in which all non-collateralized funding sources on money markets completely dry up over the long term, also encompassing transactions with those corporate customers, institutional customers, and customer banks that have close ties to the entities in the DZ BANK Group. On the other hand, the risk of a temporary interruption in unsecured funding from institutional investors is not accepted and this risk is the subject of relevant stress scenarios.

Liquidity reserves in the form of liquid securities are held by the entities so that they can remain solvent, even in the event of a crisis. **Potential sources of funding** in the secured and unsecured money markets are safeguarded by maintaining a broadly diversified national and international customer base comprising customers such as corporates, institutions, and banks. This is achieved with active market and customer support, intensively maintained customer relationships, and an excellent reputation in the money markets. The local cooperative banks also provide a significant and stable source of funding.

The liquidity risk strategy is consistently aligned with the overall **business strategies** and to this end is reviewed at least once a year and adjusted as necessary.

6.2.3. Organization, responsibility, and risk reporting

Organization and responsibility

The strategic guidelines for the management of liquidity risk by the entities in the DZ BANK Group are established by the **Group Risk and Finance Committee**. At the level of DZ BANK, this is the responsibility of the Asset Liability Committee/Treasury and Capital Committee.

Liquidity risk control in the DZ BANK Group is coordinated by the Group Risk Management working group and carried out independently of the units in Risk Controlling at DZ BANK that are responsible for liquidity risk management. The risk data calculated by the subsidiaries on the basis of intra-group guidelines is aggregated to provide a group perspective.

Risk reporting

Liquidity up to 1 year and structural liquidity of 1 year or more are reported on a daily basis to the **members of the Board of Managing Directors** of DZ BANK responsible for liquidity risk management and liquidity risk control. The **Board of Managing Directors** receives a monthly report on the current liquidity risk situation and the changes over the previous month.

The DZ BANK **Treasury** unit and the units in the subsidiaries responsible for the management of liquidity risk also receive detailed daily information showing the contribution from each individual position to the aggregate position.

The **Group Risk and Finance Committee** receives a quarterly report on the liquidity risk of the DZ BANK Group and the individual management units.

The **entities in the DZ BANK Group** have their own corresponding reporting procedures that help to manage and monitor liquidity risk at individual entity level.

Group Treasury is informed on a daily basis of the largest providers of liquidity to DZ BANK in the unsecured money markets. This is reported to the **Asset Liability Committee/Treasury and Capital Committee** and the **Board of Managing Directors** on a

monthly basis. The reports make a distinction between customers and banks and relate to DZ BANK in Frankfurt and to each foreign branch. These reports ensure that any possible concentration risk as regards sources of liquidity can be clearly identified at an early stage.

6.2.4. Measurement of liquidity risk

The units responsible for liquidity risk management at the entities in the DZ BANK Group ensure and monitor **intraday liquidity** by constantly managing accounts held with central banks and correspondent banks in Germany and abroad. To this end, the intraday cash flows at DZ BANK for each trading day are broken down by time of day; the collateral required to execute the payments is also measured. This allows DZ BANK to identify any payment concentrations during the course of a day as quickly as possible. The measurement results are also used to model the collateral required for intraday liquidity as part of the overall measurement of liquidity risk.

Within the DZ BANK Group, the biggest intraday cash flows are at DZ BANK.

To determine liquidity risk for a **1-year time horizon**, DZ BANK uses its own liquidity risk measurement and control method approved by BaFin in accordance with section 10 of the German Liquidity Regulation (LiqV) for the assessment of adequate liquidity in accordance with section 2 LiqV in place of the standard regulatory method.

The internal liquidity risk model is also used to determine the liquidity risk at DZ BANK Group level. All entities in the DZ BANK Group with a significant impact on liquidity risk are integrated into the model, which is used to simulate one risk scenario and four stress scenarios a day. The model also covers the liquidity risk arising from short-term funding of the asset-backed commercial paper programs (ABCP programs).

A **minimum liquidity surplus** figure is calculated for each scenario. This figure quantifies the minimum surplus cash that would be available if the scenario were to materialize suddenly within the next 12 months. To carry out this calculation, cumulative cash flow (forward cash exposure) is compared against available liquidity reserves (counterbalancing capacity) on a day-by-day basis.

Forward cash exposure includes both expected and unexpected payments.

The **counterbalancing capacity** includes balances on nostro accounts, liquid securities, and unsecured funding capacity with customers, banks, and institutional investors. By including the counterbalancing capacity, the calculation of the minimum liquidity surplus already takes into account the effect on liquidity of the measures that could be implemented to generate liquidity in each scenario. These measures include collateralized funding of securities in the repo market.

Stress tests are conducted for the forward cash exposure and for the counterbalancing capacity using the following four scenarios with defined limits: 'downgrading', 'corporate crisis', 'market crisis', and 'combination crisis'. The stress scenarios look at sources of crises in both the market and the institution itself. A combination of market-specific and institution-specific sources is also taken into consideration. In crisis scenarios with institution-specific causes, such as a deterioration in the institution's reputation, it is assumed for example that it will be very difficult to obtain unsecured funding from customers, banks, and institutional investors in the 1-year forecast period. The simulated event in each stress scenario represents a serious deterioration in conditions.

The stress scenario with the lowest minimum liquidity surplus is deemed to be the squeeze scenario. Economic liquidity adequacy is determined as the amount of the minimum liquidity surplus in the squeeze scenario.

In addition to the existing stress scenarios with defined limits, **foreign currency stress tests** simulate what would happen if the currency swap market also defaulted. The currencies in the major locations are examined (US dollar, pound sterling, Swiss franc, Hong Kong dollar, Singapore dollar). The currency limits relate only to the critical first month.

Further stress scenarios in addition to the scenarios with defined limits are analyzed, and an **inverse stress test** is carried out and reported on a monthly basis.

The internal liquidity risk model is constantly revised as part of an **appropriateness test** and adjusted in line with changes in the market, products, and processes. The appropriateness test is conducted for each entity in the DZ BANK Group and aggregated at group level.

6.2.5. Risk management

Management of limits for liquidity risk

Liquidity risk limits are set with the aim of ensuring economic liquidity adequacy. They are based on the minimum liquidity surplus calculated for the four stress scenarios with defined limits. The Board of Managing Directors of DZ BANK has set a **limit** for liquidity risk and an **observation threshold** that is higher than the limit. At the level of the entities in the DZ BANK Group, the Board of Managing Directors of DZ BANK has set only one limit for each entity in the group. The liquidity risk control function at DZ BANK monitors the limits and observation threshold.

The limit system ensures that the DZ BANK Group remains solvent even in serious stress scenarios. **Emergency liquidity plans** are in place so that the group is able to respond to crisis events rapidly and in a coordinated manner. The emergency plans are revised annually.

Liquidity risk mitigation

Measures to reduce liquidity risk are initiated by the treasuries of the management units as part of their liquidity management function. Active liquidity risk management is made possible by holding a large number of instruments in the form of cash and liquid securities, and by managing the maturity profile of money market and capital market transactions.

Liquidity transfer pricing system

The DZ BANK Group aims to use liquidity – which is both a resource and a success factor – in line with opportunities and risks. Liquidity costs, benefits, and risks are allocated among the entities in the DZ BANK Group based on the liquidity transfer pricing system using internal prices charged by the units generating liquidity and paid by those consuming liquidity. Care is taken to ensure that the transfer prices are consistent with risk measurement and risk management.

Transfer prices are set at DZ BANK for the liquidity costs of all the main products. The transfer pricing system takes into account the maturity period and market liquidity of the products and has a significant impact on risk/return management.

6.2.6. Quantitative variables

The available liquid securities and the unsecured short-term and medium-term funding are the main factors determining the minimum liquidity surplus. Additional contractual obligations that would be owed if DZ BANK's own rating were downgraded also play a role in the measurement of liquidity risk. These factors are presented below.

Liquid securities

Liquid securities, together with balances on nostro accounts and non-collateralized funding capacity, form the **counterbalancing capacity**. Liquid securities are largely held in the portfolios of the treasury units at the entities in the DZ BANK Group or in the portfolios held by DZ BANK's Capital Markets Trading division. Only bearer bonds are eligible as liquid securities.

Liquid securities comprise highly liquid securities that are suitable for collateralizing funding in private markets, securities eligible as collateral for central bank loans and other securities that can be liquidated in the 1-year forecast period that is relevant for liquidity risk.

Securities are only eligible provided they are not pledged as collateral, e.g. for secured funding. Securities that have been borrowed or taken as collateral for derivatives business or in connection with secured funding only become eligible when they are freely transferable. Eligibility is recognized on a daily basis and also takes into account factors such as restrictions on the period in which the securities are freely available.

Figure 11 shows the liquidity value of the liquid securities that would result from secured funding or if the securities were sold.

FIG. 11 – LIQUID SECURITIES

€ billion	Dec. 31, 2016	Dec. 31, 2015
Liquid securities eligible for GC Pooling (ECB Basket)[1]	**38.0**	**37.1**
Securities in own portfolio	36.5	31.2
Securities received as collateral	11.8	12.5
Securities provided as collateral	-10.3	-6.6
Liquid securities eligible as collateral for central bank loans	**17.7**	**11.8**
Securities in own portfolio	16.2	10.3
Securities received as collateral	4.6	3.7
Securities provided as collateral	-3.1	-2.2
Other liquid securities	**7.1**	**5.1**
Securities in own portfolio	6.9	4.9
Securities received as collateral	0.2	0.4
Securities provided as collateral	-0.1	-0.2
Total	**62.8**	**54.0**
Securities in own portfolio	59.6	46.5
Securities received as collateral	16.6	16.5
Securities provided as collateral	-13.4	-9.0

1 GC = general collateral, ECB Basket = eligible collateral for ECB funding.

As at December 31, 2016, the total liquidity value at the level of the **DZ BANK Group** was €62.8 billion (December 31, 2015: €54.0 billion). The total liquidity value attributable to **DZ BANK** as at December 31, 2016 was €45.4 billion (December 31, 2015: €42.1 billion).

Consequently, liquid securities represent the largest proportion of the counterbalancing capacity for both the DZ BANK Group and DZ BANK, and make a major contribution to ensuring that they remain solvent in the stress scenarios with defined limits at all times during the relevant forecast period. In the first month, which is a particularly critical period in a crisis, liquid securities are almost exclusively responsible for maintaining solvency in the stress scenarios with defined limits.

Funding and liquidity maturities

The level of liquidity risk in the DZ BANK Group and at DZ BANK is determined by the short-term and medium-term funding structure. The main sources of funding on the unsecured money markets are shown in figure 12. The change in the composition of the main sources of funding compared with December 31, 2015 is attributable to a change in the behavior of customers and investors resulting from money market policy implemented by the ECB.

Further details on funding are provided in the business report (section II.5. ('financial position') of the (group) management report).

The maturity analysis of contractual cash inflows and cash outflows is set out in note 84 of the notes to the consolidated financial statements. The cash flows in these disclosures are not the same as the expected and unexpected cash flows used for internal management purposes in the DZ BANK Group.

Additional contractual obligations

Some OTC collateral agreements that entities in the DZ BANK Group have concluded contain rating-based triggers. A downgrade in an entity's own credit rating would trigger collateral calls by counterparties. Because this collateral would no longer be available to generate liquidity if it were called in, the stress scenarios also include deductions arising from these additional contractual obligations.

FIG. 12 – UNSECURED SHORT-TERM AND MEDIUM-TERM FUNDING

	DZ BANK Group		DZ BANK	
%	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Local cooperative banks	46	46	49	49
Other banks, central banks	11	12	10	10
Corporate customers, institutional customers	12	10	11	8
Commercial paper (institutional investors)	30	32	29	32

Figure 13 shows the additional collateral across all currencies that would have to be provided to counterparties should DZ BANK's credit rating be downgraded. The figures reflect the situation in virtually the entire DZ BANK Group because the additional contractual obligations of the other entities in the group to provide further collateral are negligible.

The changes in the additional contractual obligations compared with December 31, 2015 were mainly the result of new transactions and changes in fair value and/or notional amounts.

Additional contractual obligations represent only a minimal liquidity risk that is already covered by the stress scenarios with defined limits.

6.2.7. Risk position

Figure 14 shows the results of measuring liquidity risk in the four stress scenarios with defined limits. The results are based on a daily calculation and comparison of forward cash exposure and counterbalancing capacity. The values reported are the values that occur on the day on which the liquidity surplus calculated over the forecast period of 1 year is at its lowest point.

The minimum liquidity surplus for the **DZ BANK Group**, measured as at the reporting date on the basis of a forecast period of 1 year for the stress scenario with defined limits that had the lowest minimum liquidity surplus (economic liquidity adequacy), was €11.2 billion as at December 31, 2016 (December 31, 2015: €8.9 billion).

During the year under review, liquidity did not fall below the internal minimum figures specified by the Board of Managing Directors for 2016 (€4.0 billion observation threshold, €1.0 billion minimum limit – in both cases unchanged year on year).

The minimum liquidity surplus measured for **DZ BANK** as at December 31, 2016 was €3.8 billion (December 31, 2015: €4.0 billion). This value is derived from the stress scenario with defined limits that had the lowest minimum liquidity surplus and relates to the 1-month forecast period defined for the limit. The minimum liquidity surplus did not fall below the limit at any time in the year under review. The impact of the stress scenarios for DZ BANK is measured and analyzed precisely for each day and is taken beyond the limit period of 1 month right up to 1 year.

The results demonstrate that economic liquidity adequacy was maintained at all times in the reporting year. The minimum liquidity surplus as at December 31, 2016 was positive in the stress scenarios with defined

FIG. 13 – ADDITIONAL CONTRACTUAL OBLIGATIONS

€ million	One-notch deterioration in credit rating		Two-notch deterioration in credit rating		Three-notch deterioration in credit rating	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Additional contractual obligations based on collateral agreements	120	115	212	188	822	840

FIG. 14 – LIQUIDITY UP TO 1 YEAR IN THE STRESS SCENARIOS WITH DEFINED LIMITS: MINIMUM LIQUIDITY SURPLUSES

€ billion	Forward cash exposure		Counterbalancing capacity		Minimum liquidity surplus	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Downgrading	-62.0	-54.8	85.4	71.6	23.3	16.8
Corporate crisis	-62.5	-53.1	73.8	62.0	11.2	8.9
Market crisis	-65.4	-51.2	84.4	70.8	19.1	19.6
Combination crisis	-66.6	-31.4	79.8	45.8	13.2	14.5

limits that were determined on the basis of risk appetite. This is due to the fact that the counterbalancing capacity was above the cumulative cash outflows on each day of the defined forecast period for each scenario, which indicates that the cash outflows assumed to take place in a crisis could be comfortably covered.

6.2.8. Possible impact from crystallized liquidity risk

One of the main operating activities of the management units is to make long-term liquidity available to their customers for different maturity periods and in different currencies, for example in the form of loans. The units generally organize their **funding** to match these transactions that tie up liquidity. Any funding needs that are not covered by the local cooperative banks are met by obtaining additional funding in the money and capital markets, with the deposit base from money market funding reducing the need for long-term funding. When funding matures, it is therefore possible that the replacement funding required to fund transactions with longer maturities has to be obtained at unfavorable terms and conditions.

The entities in the DZ BANK Group are also exposed to the risk that the **minimum liquidity surplus** will fall below the observation threshold or the limit. If it repeatedly falls below the observation threshold, there is an increased risk that the group would subsequently not be able to keep within the limit. If the minimum liquidity surplus were to fall below the limit for an extended period, the possibility of reputational damage and a ratings downgrade could not be ruled out.

Crystallization of liquidity risk causes an unexpected reduction in the liquidity surplus, with negative consequences for an institution's financial position. If a crisis were to occur in which the circumstances were more serious or the combination of factors were significantly different from those assumed in the stress scenarios, there would be a risk of insolvency.

6.3. Regulatory liquidity adequacy

6.3.1. Regulatory framework

Internal liquidity risk management is supplemented by the regulatory liquidity coverage ratio (LCR) specified in the Basel III framework, which was transposed into law with the CRR and Delegated Regulation 2015/61, and by the net stable funding ratio (NSFR), which is based on the Basel III framework (BCBS 295).

The **liquidity coverage ratio** has a short-term focus and is intended to ensure that institutions can withstand a liquidity stress scenario lasting 30 days. This KPI is defined as the ratio of available high-quality liquid assets to total net cash outflows in defined stress conditions over the next 30 days. From January 1, 2016, banks had to maintain an LCR of at least 70 percent. This minimum required ratio was increased to 80 percent from January 1, 2017, and will rise again to 100 percent from January 1, 2018. DZ BANK reports its own LCR and that of the DZ BANK banking group, calculated in accordance with the CRR in conjunction with Delegated Regulation 2015/61, to the supervisory authority on a monthly basis.

The **net stable funding ratio** (NSFR) has a long-term focus and is intended to ensure that institutions restrict mismatches between the maturity structures of their assets-side and liabilities-side business. This ratio is the amount of available stable funding (equity and liabilities) relative to the amount of required stable funding (assets-side business). The funding sources are weighted according to their degree of stability and assets are weighted according to their degree of liquidity based on factors defined by the supervisory authority. Unlike the liquidity coverage ratio, compliance with the NSFR is not expected to become mandatory before the 2019 financial year when CRR II comes into force.

The monthly reporting was extended in April 2016 to include the **additional liquidity monitoring metrics** (ALMMs) specified in the implementing regulation issued on March 1, 2016. The ALMMs comprise a total of 5 further liquidity metrics, in each case at the level of the DZ BANK banking group and DZ BANK. Banks are not required to comply with any minimum requirements in respect of these ALMMs.

6.3.2. Organization, responsibility, and reporting

The liquidity ratios reported for supervisory purposes resulting from the CRR, the Basel III framework, and the Delegated Regulation are calculated for DZ BANK by the **Group Finance** division and aggregated at the level of the DZ BANK banking group with the corresponding values for the management units.

Both the **Asset Liability Committee/Treasury and Capital Committee** and the **Board of Managing Directors** are notified of the LCR (monthly) and the NSFR (quarterly).

6.3.3. Liquidity coverage ratio

The LCRs for the **DZ BANK banking group** and **DZ BANK** calculated in accordance with the Delegated Regulation as at December 31, 2016 are shown in figure 15.

FIG. 15 – LIQUIDITY COVERAGE RATIOS AND THEIR DETERMINING FACTORS

	DZ BANK banking group		DZ BANK	
€ billion	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Total high-quality liquid assets	67.8	46.4	46.9	31.2
Total net cash outflows	44.9	36.9	33.5	29.3
LCR	151.0%	125.8%	139.9%	106.6%

In the reporting year, the regulatory minimum requirement for the LCR of 70 percent was significantly exceeded on every reporting date at the level of both the DZ BANK banking group and DZ BANK.

6.4. Outlook

The extension of the **measurement of intraday liquidity**, which began in 2015, is to continue in 2017. In addition, the new regulatory liquidity reporting ratios will continue to be integrated into liquidity risk management, with activities focused on the **NSFR**.

It is also planned to implement measures to improve **risk data aggregation** and **risk reporting** in relation to economic liquidity adequacy in 2017.

7. Capital adequacy

7.1. Principles

The management of capital adequacy is an integral component of business management in the DZ BANK Group and at DZ BANK. DZ BANK and all other management units are included in the groupwide management of capital adequacy. Active management of economic capital adequacy on the basis of both internal risk measurement methods and regulatory capital adequacy requirements aims to ensure that the assumption of risk is always consistent with the DZ BANK Group's capital resources.

In addition to the management of economic capital, regulatory solvency requirements for the DZ BANK financial conglomerate, the DZ BANK banking group, and the R+V Versicherung AG insurance group are also observed.

7.2. Economic capital adequacy

Owing to the close ties between the management of economic capital adequacy at DZ BANK and that of the DZ BANK Group, the information below also applies to DZ BANK.

7.2.1. Strategy, organization, and responsibility

The **Board of Managing Directors of DZ BANK** defines the corporate objectives and the capital requirement in the DZ BANK Group and at DZ BANK in terms of both risks and returns. In managing the risk profile, the Board of Managing Directors strives for an appropriate ratio between risk and available internal capital. DZ BANK is responsible for risk and capital management, and for compliance with capital adequacy at group level.

The management of economic and regulatory capital adequacy is based on internal target values. To avoid any unexpected adverse impact on **target values and capital ratios** and ensure that any changes in risk are consistent with corporate strategy, groupwide economic upper loss limits and risk-weighted assets are planned as limits for the risk capital requirement on an annual basis as part of the **strategic planning process**. This process results in a requirements budget for the economic and regulatory capital needed by the group. The implementation of any corresponding measures to raise capital is approved by the Asset Liability Committee/Treasury and Capital Committee and then coordinated by Group Treasury at DZ BANK.

The integration of economic risk capital requirements planning into the strategic planning process aims to ensure that the risk strategy for types of risk

covered by capital is closely linked with the business strategies.

7.2.2. Measurement methods

Economic capital management is based on internal risk measurement methods that take into account all types of risk that are material from a capital adequacy perspective. The risk capital requirement is determined by aggregating the relevant risk types of all management units. The methods selected serve to meet the statutory requirements for a groupwide integrated risk capital management system.

As part of **risk-bearing-capacity analysis**, the risk capital requirement is compared with the available internal capital (reduced by a capital buffer) in order to determine the economic capital adequacy. The Board of Managing Directors determines the upper loss limits for a particular year on the basis of the available internal capital and bearing in mind the necessary capital buffer. These limits then restrict the risk capital requirement. If necessary, the upper loss limits can be adjusted during the year, e.g. if economic conditions change.

Available internal capital comprises equity and hidden reserves. It is reviewed on a quarterly basis. The available internal capital is determined as follows:

- The available internal capital from the **Bank sector** is calculated on the basis of the IFRS data (FINREP), but excludes R+V.
- The available internal capital from the **Insurance sector** is based on the own funds of the R+V Versicherung AG insurance group in accordance with Solvency II.

The available internal capital from the two sectors is combined to produce the available internal capital of the DZ BANK Group. During this process, the effects of consolidation between the Bank and Insurance sectors are taken into account, resulting in a reduction in the available internal capital at group level.

It was necessary to **recalculate the overall solvency requirement** as at December 31, 2015 owing to scheduled changes to the parameters for the risk measurement procedures and the updating of actuarial assumptions carried out in the second quarter of 2016 for the Insurance sector on the basis of R+V's 2015 consolidated financial statements. The recalculation reflects updated measurements of insurance liabilities based on annual actuarial analyses and updates to parameters in the risk capital calculation. Because of the complexity and the amount of time involved, the parameters have not been completely updated in the in-year calculation and an appropriate projection has been made.

Recalculating the overall solvency requirement as at December 31, 2015 means that R+V has implemented the finalized requirements of **Solvency II**, which have been in force since January 1, 2016. The calculation of risk was therefore switched to the method using the yield curve excluding interest-rate premium specified by the European Insurance and Occupational Pensions Authority (EIOPA). A stochastic model was used for the life insurance providers' calculations. In addition, the calculation of the overall solvency requirement for occupational incapacity insurance was moved from the life actuarial risk module to the health actuarial risk module. The recalculation also involved changes to the scope of consolidation. These essentially related to the consolidation of the Italian subsidiaries Assimoco S.p.A., Segrate, (Assimoco) and Assimoco Vita S.p.A., Segrate, (Assimoco Vita). The implementation of Solvency II has had an impact on R+V's overall solvency requirement and own funds, although the DZ BANK Group's economic capital adequacy continues to be assured.

The recalculation led to changes in the key risk indicators at DZ BANK Group level. The figures as at December 31, 2015 given in this opportunity and risk report have been restated accordingly and are not directly comparable with the figures in the 2015 opportunity and risk report.

7.2.3. Capital buffer

The purpose of the capital buffer is to cover the lack of precision in some areas of risk measurement as well as account for risks that are not measured as part of the risk capital requirement and not managed using risk limits (upper loss limits). This applies to **migration risk on traditional loans**, for example. The individual components of the capital buffer are quantified using a method based on scenarios and models with input from experts.

The capital buffer also includes components added as part of the **merger** to take into account the risk measurement in the DZ BANK Group (pre-merger) and in the former WGZ BANK Group that has not yet been fully integrated. The capital buffer components concerned will lapse when the full integration of the systems has been completed.

7.2.4. Risk-bearing capacity

The DZ BANK Group's **available internal capital** as at December 31, 2016 was measured at €26,408 million (December 31, 2015: €22,518 million; original figure: €22,616 million). As at December 31, 2016, the **capital buffer** amounted to €1,929 million (December 31, 2015: €1,526 million). The higher values were largely attributable to the impact from the merger. However, the increase in available internal capital also arose because of the positive financial performance in the year under review.

Derived from the available internal capital minus the capital buffer, the total **upper loss limit** for the DZ BANK Group amounted to €22,299 million as at December 31, 2016 (December 31, 2015: €16,866 million). As at December 31, 2016, the **risk capital requirement** was calculated at €14,975 million (December 31, 2015: €12,098 million; original figure: €12,167 million). The rise in the upper loss limit was mainly caused by the merger, model changes at R+V resulting from the implementation of Solvency II, and the refinement of risk models at DZ BANK. The increase in risk capital requirement also resulted from the aforementioned effects and from the fall in the general level of interest rates.

As at December 31, 2016, the **economic capital adequacy ratio** for the DZ BANK Group was calculated at 163.5 percent (December 31, 2015: 173.5 percent; original figure: 173.3 percent). Figure 16 provides an overview of the DZ BANK Group's economic capital adequacy.

The upper loss limits and risk capital requirements for the Bank sector, broken down by risk type, are shown in figure 17.

Figure 18 sets out the upper loss limits and overall solvency requirements for the Insurance sector, broken down by risk type, and includes policyholder participation. The definition of the upper loss limits and determination of overall solvency requirements take into account a favorable effect arising from the ability to offset deferred taxes resulting from the elimination of deferred tax liabilities in the loss scenario against losses. Diversification effects between the risk types are also taken into consideration. Owing to these effects of correlation, the overall solvency requirement and upper loss limits for each risk type are not cumulative.

As the upper loss limits were not retrospectively adjusted when the overall solvency requirement as at December 31, 2015 was recalculated, the prior-year upper loss limits for some of the risk types in the Insurance sector were exceeded retrospectively. This did not affect the overall upper loss limit for the Insurance sector.

7.2.5. Economic stress tests

Economic stress tests at DZ BANK Group level

Economic stress tests are used by DZ BANK on an ongoing basis to establish whether the DZ BANK Group would retain its risk-bearing capacity in extreme but plausible scenarios. The economic stress test framework includes several **multiple-risk economic scenarios** and **specific stress tests for individual risk types** incurred by the DZ BANK Group.

The stress tests are generally designed for a 1-year scenario horizon as a minimum. They take into account both macroeconomic scenarios and historical situations that are particularly relevant for the DZ BANK Group's business model and portfolios. The risk-type-specific stress tests are hypothetical scenarios reflecting a degree of stress for a crisis that can occur every 10 years.

Inverse stress tests complement the scenario analyses referred to above and are used to investigate which of the hypothetical scenarios could conceivably be sufficiently plausible and relevant to jeopardize the ability of the DZ BANK Group to continue as a going concern.

The economic stress test framework applies to all of the DZ BANK Group's material **downside risks,** including risks that are only critical for individual management units because of their particular business model. The stress tests are based on the methods and procedures used for calculating risk-bearing capacity.

FIG. 16 – ECONOMIC CAPITAL ADEQUACY OF THE DZ BANK GROUP

€ million	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	March 31, 2016	Dec. 31, 2015
Available internal capital	26,408	26,929	23,745	24,028	22,518
Capital buffer	-1,929	-1,994	-1,014	-1,493	-1,526
Available internal capital after deduction of capital buffer	24,479	24,935	22,731	22,534	20,992
Upper loss limit	22,299	22,299	19,244	19,244	16,866
Risk capital requirement (after diversification)	14,975	15,836	13,695	14,177	12,098
Economic capital adequacy	**163.5%**	**157.5%**	**166.0%**	**159.0%**	**173.5%**

FIG. 17 – UPPER LOSS LIMITS AND RISK CAPITAL REQUIREMENT IN THE BANK SECTOR

	Upper loss limits					Risk capital requirement				
€ million	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015
Credit risk	6,606	6,609	4,973	4,973	4,860	4,472	4,773	3,780	3,843	3,569
Equity investment risk	1,468	1,405	1,299	1,299	1,081	1,263	1,178	1,068	1,045	854
Market risk[1]	7,582	7,651	6,490	6,490	5,830	4,347	4,599	3,748	3,377	3,204
Technical risk of a home savings and loan company[2]	600	600	600	600	550	541	541	541	541	549
Business risk[3]	1,024	997	847	847	775	912	813	707	743	579
Operational risk	1,152	1,152	1,052	1,052	1,150	892	897	870	886	871
Total (after diversification)	**17,089**	**17,089**	**14,034**	**14,034**	**13,066**	**11,105**	**11,525**	**9,511**	**9,228**	**8,391**

1 Market risk contains spread risk and migration risk.
2 Including business risk and reputational risk of BSH.
3 Apart from that of BSH, reputational risk is contained in the risk capital requirement for business risk.

FIG. 18 – UPPER LOSS LIMITS AND OVERALL SOLVENCY REQUIREMENT IN THE INSURANCE SECTOR

	Upper loss limits					Overall solvency requirement				
€ million	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015
Life actuarial risk	1,200	950	750	680	520	702	813	659	438	403
Health actuarial risk	330	330	330	330	70	148	181	200	286	162
Non-life actuarial risk	3,250	3,250	3,100	2,900	2,600	2,691	2,762	2,692	2,692	2,651
Market risk	3,540	3,650	3,900	4,100	2,950	2,761	2,965	2,959	3,724	2,578
Counterparty default risk	110	110	110	110	50	73	79	75	107	67
Operational risk	640	640	600	580	470	512	534	532	533	478
Non-controlling interests in insurance companies and entities in other financial sectors	120	120	120	120	80	101	101	100	100	100
Total (after diversification)	**5,210**	**5,210**	**5,210**	**5,210**	**3,800**	**3,870**	**4,311**	**4,184**	**4,949**	**3,706**

However, the economic stress tests also reflect events that go beyond the methods established for the calculation of risk-bearing capacity.

The stress testing methods are designed so that the specific features of R+V's business model and its risk and capital management systems are taken into account

comprehensively and in an appropriate manner when determining the results of stress testing in the DZ BANK Group.

The scenarios for the economic stress test translate potential trends in macroeconomic indicators and market prices during a **crisis** into changes in available internal capital and the risk capital requirement. This enables the impact of external economic developments on the risk-bearing capacity of the DZ BANK Group to be addressed comprehensively and consistently.

For the economic stress tests, DZ BANK has put in place a system of threshold values as an **early-warning mechanism.** A continuous reporting system monitors whether values are within these thresholds in the multiple-risk scenarios and the stress tests for specific risk types. These early-warning signals trigger various **risk management processes** so that there is an early response to the potential risks highlighted by the stress tests.

The stress tests are calculated every quarter and approved by the **Risk Committee** or the Board of Managing Directors of DZ BANK.

Economic stress tests in the Bank sector

The method used for stress testing in the Bank sector includes potential **reductions in available internal capital** and amendments to risk exposures resulting from the scenarios. These reductions may be caused, for example, by losses on the measurement of tradable financial instruments, write-downs on the carrying amounts of investments due to changes in market prices, losses due to defaults and changes in fair value due to deteriorations in credit quality and loss rates, losses from operational risk, and changes in sources of return resulting from changing macroeconomic conditions or market situations.

In the stress scenarios, the measurement of market risk, equity investment risk, credit risk, the technical risk of a home savings and loan company, business risk, and operational risk in the Bank sector is also adapted so as to adequately reflect the simulated change triggered by a crisis. The initial parameters for measuring risk are scaled in such a way as to make them suitable for reflecting extremely negative hypothetical or historical situations. The procedure for aggregating risk types into a stress test result covering all management units and risk types is similar to the regular procedure used for risk measurement. In the hypothetical multiple-risk scenarios, increased correlation between different types of risk is also tested.

In the **inverse stress test**, the danger to risk-bearing capacity is simulated with scenarios in which it would no longer be feasible to continue the business model or in which the business model would prove to be no longer sustainable. The priorities in inverse stress tests are therefore, firstly, to identify relevant scenarios with the underlying potential to jeopardize the survival of the business, and secondly, to analyze just how probable and/or plausible a specific, sufficiently serious scenario of this nature would be.

DZ BANK is integrated into the standard risk capital requirement stress tests conducted in the DZ BANK Group. In addition to the standard stress test procedures at group level, DZ BANK creates crisis scenarios based on the internal market risk model and adjusts the scenarios on an ongoing basis to take into account current market data.

Economic stress tests in the Insurance sector

Like the other management units in the DZ BANK Group, R+V regularly conducts the economic stress tests applicable to the group but they are based on a separate stress testing method for the Insurance sector. This means that appropriate account is taken of the specific features of R+V's business model and its risk and capital management systems. In particular, policyholder participation is taken into account.

As a minimum, market and credit risk are covered in the **multiple-risk economic scenarios,** while actuarial risk is addressed using the stressed yield curve. The parameters for the yield curve, exchange rates, share prices, interest-rate volatility, and credit spreads are changed.

In the **specific economic stress tests** for actuarial risk, the parameters for lapse and mortality in life insurance business and the expected number of claims for natural disasters in the non-life insurance business are explicitly changed.

7.2.6. Possible impact from crystallized risk

If risk covered by capital actually materializes, this has a negative impact on both financial performance and financial position. In the income statement, the

recognized expenses are higher and/or the recognized income is lower than originally expected. This is accompanied by a decrease in the net assets on the balance sheet because assets are unexpectedly lower and/or liabilities are unexpectedly higher. A widening of spreads on fungible financial instruments may also lead to a deterioration in the financial position, which is reflected in other comprehensive income.

If there is a deterioration in financial performance, there is the risk of long-term **negative risk-adjusted profitability** where the cost of capital cannot then be covered, and economic value added (EVA) becomes negative. If this situation arose, there would no longer be any point in continuing business operations from a business management perspective.

Viewed in isolation and assuming there are no other influencing factors, this chain of events would apply particularly in a scenario where the equity holder is simply seeking to maximize profits. In the case of DZ BANK, however, there is another significant factor in that the intention of the equity holders (who in many cases are also customers of DZ BANK and its subsidiaries) in committing equity to DZ BANK is not only to achieve, as far as possible, market-level returns commensurate with the risk involved, but also to utilize the decentralized services that DZ BANK provides as a central institution in the cooperative financial network. The return on investment that forms part of any purely monetary analysis therefore needs to be adjusted in the case of DZ BANK to add the effects of the extra benefits. Given this background, EVA is only of limited use for assessing the advantages of the investment in DZ BANK. Thus, a negative EVA is not necessarily associated with the discontinuation of business activities undertaken by DZ BANK or its subsidiaries.

If risk were to materialize and associated losses be incurred, there would be a risk that the DZ BANK Group would **miss its economic capital adequacy target**. However, this situation could also occur with an increase in risk arising from heightened market volatility or as a consequence of changes in the business structure. In addition, a decrease in available internal capital, for example because its components have expired or are no longer eligible, could mean that the risk capital requirement exceeds the available internal capital. Additional or more stringent statutory or regulatory requirements could also have a negative impact on the economic capital adequacy of the DZ BANK Group.

In a situation in which the economic capital adequacy of the DZ BANK Group could not be guaranteed, there would be insufficient capital available to meet the group's own standards with regard to the coverage of risk. This could lead to a deterioration in the credit ratings for DZ BANK and its subsidiaries. If there is also insufficient capital to meet the level of protection demanded by the supervisory authority, this authority could initiate action, which in extreme cases could aim to wind up DZ BANK or its subsidiaries.

7.3. Regulatory capital adequacy

7.3.1. Principles

At DZ BANK, the Group Finance division is responsible for monitoring regulatory capital adequacy. Regular monitoring is designed to ensure that the applicable minimum regulatory requirements for solvency are met at all times. Monitoring takes place continuously for the DZ BANK financial conglomerate, monthly for the DZ BANK banking group and DZ BANK, and at least quarterly for the R+V Versicherung AG insurance group. The Board of Managing Directors and the supervisory authority are notified of the results in the quarterly reports on capital management.

7.3.2. DZ BANK financial conglomerate

The German Supervision of Financial Conglomerates Act (FKAG) essentially forms the legal basis for the supervision of the DZ BANK financial conglomerate.

The financial conglomerate coverage ratio is the ratio between the total of eligible own funds in the financial conglomerate and the total of solvency requirements for the conglomerate. The resulting ratio must be at least 100 percent.

The figures for the R+V Versicherung AG insurance group included in the calculations for the financial conglomerate's solvency as at December 31, 2015 were determined in accordance with Solvency I for the last time. The preliminary figures as at December 31, 2016 for the first time included figures for the R+V Versicherung AG insurance group calculated in accordance with Solvency II.

On the basis of a provisional calculation, the DZ BANK financial conglomerate's eligible own funds as at December 31, 2016 amounted to €25,637 million (December 31, 2015: confirmed final eligible own funds of €20,760 million). On the other side of the ratio, the provisional solvency requirement was €14,358 million (December 31, 2015: confirmed final solvency requirements of €11,213 million). This gives a provisional coverage ratio of 178.6 percent (December 31, 2015: confirmed final coverage ratio of 185.1 percent), which is significantly in excess of the regulatory minimum requirement of 100 percent.

7.3.3. DZ BANK banking group

Regulatory framework

The DZ BANK banking group uses the following methods to calculate the regulatory own funds requirements in accordance with the CRR:

– Credit risk: IRB approaches (primarily the foundation IRB approach and the IRB approach for the retail business; the regulatory credit risk measurement methods used by DVB are based on the advanced IRB approach)
– Market risk: Predominantly the group's own internal models and, to a minor extent, the Standardized Approaches
– Operational risk: Standardized Approach.

In the reporting year, DZ BANK continued to support the further development of banking supervision, once again stepping up its collaboration in the relevant committees, both at national and international levels.

Regulatory capital ratios in accordance with the CRR

The regulatory **own funds** of the **DZ BANK banking group** as at December 31, 2016 amounted to a total of €22,066 million (December 31, 2015: €18,429 million).

The significant rise in own funds was mainly attributable to a total increase of €3,600 million in **common equity Tier 1 capital**. Positive merger effects and net profits eligible for retention led to an increase in share capital, capital reserves, and retained earnings of €4,415 million. Another positive factor was the increase in the revaluation reserve of €355 million, which was eligible for inclusion in accordance with the CRR. On the other hand, the decline in non-controlling interests reduced common equity Tier 1 capital by €933 million. Other adverse effects on common equity Tier 1 capital arose from the rise in capital deductions, which were attributable, among other things, to CRR phase-in stipulations.

There were no changes in the year under review in the portfolio of issued additional Tier 1 bonds (AT1 bonds). The increase of €87 million in this class of capital from €1,748 million as at December 31, 2015 to €1,835 million as at December 31, 2016 was largely explained by lower capital deductions. Under the CRR transitional guidance, the capital deductions, particularly those in connection with intangible assets and goodwill, are being moved from AT1 to common equity Tier 1 capital in five annual stages.

Tier 2 capital declined marginally by €50 million year on year. The additional Tier 2 capital instruments resulting from the merger were more than offset by the decreases resulting from the reduced level of eligibility under the CRR in the last five years before the maturity date.

As at December 31, 2016, the regulatory **own funds requirements** for the DZ BANK banking group were calculated at €9,477 million (December 31, 2015: €7,828 million). The substantial rise resulted from the inclusion of the former WGZ BANK banking group for the first time as at September 30, 2016.

The DZ BANK banking group's **common equity Tier 1 capital ratio** was 14.5 percent as at December 31, 2016 and thus significantly higher than the ratio of 13.9 percent as at the end of 2015. As at December 31, 2016, the **Tier 1 capital ratio** was 16.0 percent, an increase on the ratio of 15.6 percent as at December 31, 2015. The **total capital ratio** declined from 18.8 percent as at December 31, 2015 to 18.6 percent as at the balance sheet date.

The **common equity Tier 1 capital ratio** for **DZ BANK** was calculated at 18.1 percent as at December 31, 2016, which was lower than the equivalent figure of 19.1 percent as at December 31, 2015. The **Tier 1 capital ratio** was also down, from 20.2 percent as at December 31, 2015 to 19.1 percent as at December 31, 2016. The **total capital ratio** declined from 26.6 percent as at December 31, 2015 to 24.4 percent as at the reporting date.

The ratios at DZ BANK banking group level and at DZ BANK level were well above the regulatory minimum CRR capital ratios at all times during 2016.

FIG. 19 – REGULATORY CAPITAL RATIOS OF THE DZ BANK BANKING GROUP IN ACCORDANCE WITH THE CRR

€ million	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016[1]	Mar. 31, 2016[1]	Dec. 31, 2015[1]
Capital					
Common equity Tier 1 capital	17,154	16,472	13,101	13,318	13,554
Additional Tier 1 capital	1,835	1,840	1,890	1,879	1,748
Tier 1 capital	**18,989**	**18,312**	**14,991**	**15,197**	**15,302**
Total Tier 2 capital	3,077	3,134	2,800	3,005	3,127
Total capital	**22,066**	**21,466**	**17,791**	**18,202**	**18,429**
Capital requirements					
Credit risk (including long-term equity investments)	8,153	8,243	6,501	6,272	6,243
Market risk	510	507	693	809	872
Operational risk	814	814	712	712	713
Total	**9,477**	**9,564**	**7,906**	**7,793**	**7,828**
Capital ratios					
Common equity Tier 1 capital ratio (minimum ratio: 5.125%)	14.5%	13.8%	13.3%	13.7%	13.9%
Tier 1 capital ratio (minimum ratio: 6.625%)	16.0%	15.3%	15.2%	15.6%	15.6%
Total capital ratio (minimum ratio: 8.625%)	18.6%	17.9%	18.0%	18.7%	18.8%

1 Pre-merger disclosures.

Figure 19 provides an overview of the DZ BANK banking group's regulatory capital ratios in accordance with the CRR.

SREP minimum capital ratio

Under the Supervisory Review and Evaluation Process (SREP) in connection with Basel III Pillar 2 (article 16 of Regulation (EU) No. 1024/2013), the ECB decided that the DZ BANK banking group had to maintain a common equity Tier 1 capital ratio of at least 9.5 percent in the reporting year. The countercyclical capital buffer, which has to be determined individually for each bank at every reporting date, is added to the common equity Tier 1 capital ratio. As at December 31, 2016, this countercyclical capital buffer amounted to 0.023 percent, producing a total SREP minimum capital ratio of 9.523 percent (December 31, 2015: 8.0 percent). This requirement, which is specific to the banking group, was met at all times during the year under review.

Future regulatory capital ratios with full application of the CRR

According to the rules that will be in force from 2019, under which the CRR will be applied in full, the capital ratios for the DZ BANK banking group and DZ BANK will be as shown in figure 20.

At all times in the reporting year, the ratios were in excess of the minimum values planned for the future and the present ECB requirement specified in the SREP.

Leverage ratio

The leverage ratio shows the ratio of a banking group's or bank's Tier 1 capital to its total exposure. In contrast to risk-based capital requirements for which the assumptions are derived from models, the individual line items in the leverage ratio are not given their own risk weighting but are generally included in the total exposure without any weighting at all.

FIG. 20 – REGULATORY CAPITAL RATIOS WITH FULL APPLICATION OF THE CRR

	DZ BANK banking group		DZ BANK	
	Dec. 31, 2016	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Total capital ratio	18.8%	18.3%	24.4%	26.6%
Tier 1 capital ratio	15.1%	13.8%	19.1%	20.0%
Common equity Tier 1 capital ratio	14.5%	13.0%	18.1%	19.0%

FIG. 21 – LEVERAGE RATIOS

	DZ BANK banking group		DZ BANK	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Leverage ratio according to CRR transitional guidance	4.4%	4.5%	4.0%	4.6%
Leverage ratio applying the CRR in full	4.1%	4.0%	4.0%	4.6%

The leverage ratios for the DZ BANK banking group and DZ BANK – in each case in accordance with the currently applicable CRR transitional guidance and assuming full application of the CRR – are presented in figure 21.

The slight year-on-year decline in the **DZ BANK banking group's** leverage ratio as at December 31, 2016 calculated in accordance with the **CRR transitional guidance** mainly arose because of the increase of €98.1 billion in the total exposure. This increase was primarily due to the merger and also the expansion in on-balance-sheet business as part of ordinary business activities. However, this downward effect on the leverage ratio was almost fully offset by a rise in Tier 1 capital.

At **DZ BANK** level, the total exposure went up by €101.4 billion. The increase was largely attributable to the merger and expansion in on-balance-sheet business in the course of ordinary business activities. The rise in Tier 1 capital, which was lower than the equivalent figure for the DZ BANK banking group, led to a significant fall in the leverage ratio for DZ BANK.

Regulatory stress tests

At banking group level, DZ BANK conducts the quarterly regulatory stress tests that are required to verify the group's capital adequacy, including in crisis situations. In these tests, DZ BANK distinguishes between multiple-risk scenarios and scenarios for specific risk types. Two multiple-risk stress tests are currently being conducted, as is one risk-specific stress test for credit risk. These stress scenarios correspond to those in the economic stress test.

In the stress scenarios, regulatory capital adequacy is examined by stress-testing net profit, the revaluation reserve and, building on that, own funds calculated in accordance with the CRR and the risk-weighted assets for credit risk, market risk, and operational risk, depending on the scenario concerned.

In line with the approach in the economic stress tests, DZ BANK has also put in place a system of threshold values as an early-warning mechanism in the regulatory stress tests. A continuous reporting system monitors whether values are within these thresholds in the multiple-risk scenarios and in the risk-specific credit risk stress test. These early-warning signals trigger various risk management processes so that there is an early response to the potential risks highlighted by the stress tests. The stress tests are calculated every quarter and approved by the Risk Committee.

7.3.4. R+V Versicherung AG insurance group

The regulatory solvency requirements for insurance companies and insurance groups provide a means of evaluating the overall risk position in the R+V Versicherung AG insurance group.

Following the introduction of Solvency II on January 1, 2016, regulatory risk-bearing capacity is calculated using the standard formula as specified in Solvency II. The regulatory risk capital requirement is calculated as value-at-risk with a confidence level of 99.50 percent.

The group's risk-bearing capacity for regulatory purposes is defined as the eligible own funds at group level in relation to the risks arising from operating activities. The changes in the regulatory risk-bearing capacity of the R+V Versicherung AG insurance group as a whole and each of its constituent entities are analyzed at least once a quarter.

As at December 31, 2016, the preliminary figure for the regulatory risk-bearing capacity of the R+V Versicherung AG insurance group was 182.4 percent. Own funds eligible under regulatory requirements

amounting to €9,273 million were available as at December 31, 2016 to cover the solvency requirement of €5,083 million. There are no comparable figures for the prior year because Solvency II was applied for the first time from January 1, 2016.

Analysis of the capital market scenarios applied in the internal planning shows that the regulatory risk-bearing capacity of the R+V Versicherung AG insurance group under Solvency II will exceed the minimum statutory requirement as at December 31, 2017. In view of the ongoing challenging situation in the financial markets, forecasts about changes in the solvency capital requirement and own funds are subject to significant uncertainty. However, R+V will take suitable measures to ensure it maintains its risk-bearing capacity.

The internal stress tests described in section 7.2.5. fulfill the requirement on R+V to conduct stress tests as prescribed by EIOPA and BaFin and to review whether it is in a position to meet its obligations to policyholders, even in the event of a sustained crisis situation on the capital markets.

7.4. Outlook

7.4.1. New definition of economic capital adequacy

From the 2017 financial year, DZ BANK is planning to allocate the economic capital buffer requirement to the individual types of risk on the risk side rather than deduct it from the available internal capital. Risks that cannot be allocated to any particular type of risk are reported separately. The aim is to make the presentation of economic capital adequacy more transparent. If all other factors remain the same, this change will not result in any difference in the absolute coverage of risk provided by the available internal capital. The coverage ratio (ratio of available internal capital to risk capital requirement) is expected to decline slightly as a result of the change.

7.4.2. SREP minimum capital ratio in 2017

The ECB will use a modified approach for determining the SREP minimum ratio for 2017. With the additional Pillar 2 own funds requirement (Pillar 2 requirement), it will specify a mandatory add-on that represents the basis of calculation for the maximum distributable amount (MDA). The add-on will be determined from the findings of the SREP. In addition to this mandatory component, there will be a recommended own funds amount under Pillar 2 (Pillar 2 guidance), which likewise will be determined from the SREP. Failure to comply with the own funds guidance under Pillar 2 does not constitute a breach of regulatory own funds requirements. Nevertheless, this figure will be relevant as an early warning indicator for capital planning.

The mandatory SREP minimum capital ratio and its components are shown in figure 22.

FIG. 22 – SREP MINIMUM CAPITAL RATIO IN 2017

Minimum requirement for common equity Tier 1 capital ratio	4.50%
Additional Pillar 2 own funds requirement	1.75%
Capital conservation buffer	1.25%
O-SII buffer	0.33%
Mandatory minimum requirement for common equity Tier 1 capital ratio	**7.83%**

The countercyclical capital buffer will have to be added to the calculation of the SREP minimum capital ratio going forward. As this figure will be determined individually for each banking group on future reporting dates, there is currently no information available about the amount that will be involved in 2017.

At the same time, the SREP minimum capital ratio represents the regulatory minimum requirement for the Tier 1 capital ratio and the total capital ratio at the level of the DZ BANK banking group.

Based on current planning, it can be assumed that the group will comply with both the mandatory and the recommended SREP minimum capital ratios, including the countercyclical capital buffer.

7.4.3. O-SII capital buffer by 2019

BaFin has issued a decision under which, from 2017, the DZ BANK banking group must maintain an O-SII capital buffer within the meaning of section 10g (1) KWG, comprising common equity Tier 1 capital. The required buffer will change over time as follows:

- From January 1, 2017 to December 31, 2017: 0.33 percent
- From January 1, 2018 to December 31, 2018: 0.66 percent
- From January 1, 2019 onward: 1.0 percent.

7.4.4. Capital requirements for market risk

In the year under review, DZ BANK launched a design and implementation project to prepare for the new Basel standard on regulatory capital requirements for market risk, which is expected to come into force at the end of 2019. The bank will also closely monitor the process of transposing the Basel requirements into national law.

7.4.5. Risk data management

The DZ BANK Group has given a high priority to implementing the principles for effective risk data aggregation and risk reporting published by the BCBS. An as-is analysis was carried out in 2015 and an action plan drawn up. In 2016, this work was further developed, with the involvement of the management units, to create a target scenario for the DZ BANK Group that was used to derive a step-by-step implementation plan that will enable the group to satisfy the main requirements by the end of 2018. The plan will be implemented in groupwide projects.

Bank sector

8. Credit risk

8.1. Definition and causes

8.1.1. Definition

Credit risk is defined as the risk of losses arising from the default of counterparties (borrowers, issuers, other counterparties) and from the migration of the credit ratings of these counterparties.

Credit risk may arise in traditional lending business and also in trading activities. **Traditional lending business** is for the most part commercial lending, including financial guarantee contracts and loan commitments. In the context of credit risk management, **trading activities** refers to capital market products such as securities (in both the banking book and the trading book), promissory notes, derivatives, secured money market business (such as sale and repurchase agreements, referred to below as repo transactions), and unsecured money market business.

In **traditional lending business**, credit risk arises in the form of default risk. In this context, default risk refers to the risk that a customer may be unable to settle receivables arising from loans or advances made to the customer (including lease receivables) or make overdue payments, or that losses may arise from contingent liabilities or from lines of credit committed to third parties.

Credit risk in connection with **trading activities** arises in the form of default risk, which can be subdivided into issuer risk, replacement risk, and settlement risk, depending on the type of transaction involved.

Issuer risk is the risk is of incurring losses from the default of issuers of tradable debt or equity instruments (such as bonds, shares, profit-participation certificates), losses from a default in connection with the underlying instrument in derivatives (for example, credit or equity derivatives), or losses from a default in connection with fund components.

Replacement risk on derivatives is the risk of a counterparty defaulting during the term of a trading transaction where entities in the Bank sector can only enter

into an equivalent transaction with another counterparty by incurring an additional expense in the amount of the positive fair value at the time of default.

Settlement risk arises when there are two mutually conditional payments and there is no guarantee that when the outgoing payment is made the incoming payment will be received. Settlement risk is the risk of a loss if counterparties do not meet their obligations, counter-performance already having taken place.

Country risk is also included within credit risk. Country risk in the narrower sense of the term refers to conversion, transfer, payment prohibition, or moratorium risk. It is the risk that a foreign government may impose restrictions preventing a debtor in the country concerned from transferring funds to a foreign creditor. In the broader sense of the term, country risk forms part of credit risk. In this case, it refers to the risk arising from exposure to the government itself (sovereign risk) and the risk that the quality of the overall exposure in a country may be impaired as a result of country-specific events.

8.1.2. Causes

Credit risk from traditional lending business arises primarily at DZ BANK, BSH, DG HYP, DVB, TeamBank, and WL BANK. The risk results from the specific transactions in each management unit and therefore has varying characteristics in terms of diversification and size in relation to the volume of business.

Credit risk relating to trading transactions arises from issuer risk, particularly in connection with the trading activities and investment business of DZ BANK, BSH, DG HYP, and WL BANK. Replacement risk arises for the most part at DZ BANK, DZ PRIVATBANK, and DVB.

8.2. Risk strategy

The entities in the Bank sector pursue a strictly decentralized business policy aimed at promoting the cooperative banks and are bound by the core strategic guiding principle of a 'network-oriented central institution and financial services group'. The business and risk policy for the credit-risk-bearing core businesses in the group is formulated on the basis of risk-bearing capacity. The credit risk strategy therefore forms the basis for credit risk management and reporting across the whole group and ensures that there is a standard approach to credit risk within the group.

Lending throughout the group is predominantly based on the 'VR rating' system, a rating procedure developed by DZ BANK in collaboration with the BVR.

Both DZ BANK and the subsidiaries with a material credit risk seek to maintain a good rating structure in their credit portfolios at all times. In the future, the portfolios will continue to be characterized by a high degree of diversification.

Where required, the Board of Managing Directors of DZ BANK makes decisions during the course of the year to ensure that the rules for the medium-term and long-term credit risk strategy are adjusted in line with changing circumstances and current developments.

As a result of the merger, additions have been made at DZ BANK in relation to the real estate lending business and treasury activities. At Bank sector level, the minimum credit rating requirements for the joint credit business with the local cooperative banks have been aligned. The size requirements for corporate customers and banks have also been extended and the general conditions for commercial and retail real estate finance harmonized.

8.3. Organization, responsibility, and risk reporting

Responsibilities in the lending process have been defined and are documented in a written set of procedural rules. These responsibilities cover loan applications, approvals, and processing, including periodic credit control with regular analysis of ratings. Decisionmaking authority levels are specified by the relevant **rules** based on the risk content of lending transactions.

Established **reporting and monitoring processes** help to provide decision-makers with information about changes in the risk structure of credit portfolios and form the basis for the active management of credit risk.

As part of the **credit risk report**, the Group Risk and Finance Committee is kept informed of the economic capital required to cover credit risk. In addition to providing management with recommendations for action, internal reporting also includes an in-depth

analysis of the portfolio structure in regard to risk concentrations based on key risk characteristics such as country, industry, credit rating class, and the lending volume to single borrowers. In addition, the reports include details on specific exposures and specific loan loss allowances. The credit value-at-risk in the context of the risk mitigation provided by the upper loss limit is also part of the credit risk report.

8.4. Risk management

8.4.1. Rating systems

Characteristics of the rating systems

The generation of internal credit ratings for the business partners of entities in the Bank sector helps, in particular, to provide a solid basis for lending decisions as part of the management of individual transactions. The **VR rating system** used as standard throughout the cooperative financial network ensures that all the entities in the network apply a sophisticated uniform methodology producing ratings that are comparable.

Numerous rating systems were developed jointly by DZ BANK (pre-merger) and the former WGZ BANK and were already in use as standard in both banks prior to the merger. Given the standardized use, together with the representativity and comparability of the rating systems, the joint central institution received approval from the supervisory authority also to apply the jointly developed rating systems in the version used by pre-merger DZ BANK to determine the regulatory capital requirement for the portfolio of the former WGZ BANK.

DZ BANK primarily uses VR rating systems as part of its credit risk management system to assess large and medium-sized companies, major corporate customers, banks, and countries, as well as project finance, asset finance, acquisition financing, and investment funds. The internal assessment approach is also used to evaluate the liquidity lines and credit enhancements made available by DZ BANK to programs for the issuance of asset-backed commercial paper. These rating systems have been approved by BaFin for the purposes of calculating regulatory capital using the foundation IRB approach.

For internal management purposes, DZ BANK uses further rating systems to assess SMEs (German Mittelstand), agricultural businesses, public-sector entities, not-for-profit organizations, foreign SMEs, and insurance companies. Although these systems satisfy the requirements for the foundation IRB approach in the opinion of DZ BANK, they are deemed to be of less significance and have not yet been reviewed by the supervisory authority. The rating systems for open-ended real estate funds and for commercial real estate used by the former WGZ BANK Group are also used for internal management purposes.

Most of the other entities in the Bank sector also use the DZ BANK rating systems for banks, countries, and major corporate customers. Rating systems for specific business segments are also used by individual subsidiaries.

Development of rating systems

The overhaul of the rating system used by DZ BANK for project finance continued in the year under review and is expected to be completed in 2017. Work also began on the development of the supervisory slotting approach for project finance, which is scheduled to be used from 2020 onward to calculate the regulatory capital requirement. In addition, the development of the rating system for insurers was completed in 2016 and the system has now been introduced. An IRB approach assessment for approval purposes is scheduled for 2017. The enhancement of the rating system for banks was also completed in 2016. A supervisory assessment of the IRB approach followed by approval from the banking supervisor is still required before the rating system can be introduced.

DZ BANK credit rating master scale

The credit rating master scale serves as a groupwide rating benchmark with which to standardize the different rating systems used by the entities in the Bank sector as a result of differences in their business priorities. It thereby provides all management units with a uniform view of counterparties' credit ratings.

Figure 23 shows DZ BANK's credit rating master scale, in which internal credit ratings are matched to the ratings used by Moody's, Standard & Poor's, and Fitch.

It should be noted that some internal ratings cannot be matched with a particular external rating because of the greater degree of refinement in the credit rating master scale. The ratings for securitization exposures are matched to various different external ratings depending on the asset class and region. In DZ BANK's master scale, the default bands remain unchanged to ensure comparability over the course of time, whereas some fluctuation in default rates can be seen in external ratings. Therefore, it is not possible to map the internal ratings directly to the ratings used by the rating agencies. Consequently, the scale can only be used as a starting point for comparison between internal and external credit ratings.

FIG. 23 – BANK SECTOR: DZ BANK'S VR CREDIT RATING MASTER SCALE AND EXTERNAL CREDIT RATINGS

		External rating classes			
Internal rating class	Average default probability	Moody's	Standard & Poor's	Fitch	Rating category
1A	0.01%	Aaa to Aa2	AAA to AA	AAA to AA	Investment grade
1B	0.02%	Aa3	AA-	AA-	
1C	0.03%				
1D	0.04%	A1	A+	A+	
1E	0.05%				
2A	0.07%	A2	A	A	
2B	0.10%	A3	A-	A-	
2C	0.15%	Baa1	BBB+	BBB+	
2D	0.23%	Baa2	BBB	BBB	
2E	0.35%				
3A	0.50%	Baa3	BBB-	BBB-	
3B	0.75%	Ba1	BB+	BB+	Non-investment grade
3C	1.10%	Ba2	BB	BB	
3D	1.70%				
3E	2.60%	Ba3	BB-	BB-	
4A	4.00%	B1	B+	B+	
4B	6.00%	B2	B	B	
4C	9.00%	B3	B-	B-	
4D	13.50%				
4E	30.00%	Caa1 or lower	CCC+ or lower	CCC+ or lower	
5A	Past due >90 days				Default
5B	Specific loan loss allowance				
5C	Exemption from interest/ debt restructuring				
5D	Insolvency				
5E	Compulsory winding-up/ derecognition				
NR	No rating necessary or not rated				

DZ BANK rating desk

The VR rating systems for banks and countries are also available to DZ BANK subsidiaries and the cooperative banks. Users can enter into a master agreement to access the ratings via an IT application (Rating Desk), which is available throughout the cooperative financial network, in return for the payment of a fee. Any accessed ratings are first validated by the entities in the Bank sector or the cooperative banks before they are included in the user's credit procedures.

8.4.2. Pricing in the lending business

The management units in the Bank sector use the risk-adjusted pricing of the financing as a criterion in lending decisions. Adequate standard risk costs and risk-adjusted capital costs are taken into account. The methods used by the management units to manage individual transactions reflect the particular features of the product or business concerned.

To ensure that lending business remains profitable, **standard risk costs** are determined in the management of individual transactions in many parts of the Bank sector. The purpose of these costs is to cover average expected losses from borrower defaults. The aim is to ensure that the net allowances for losses on loans and advances recognized in the financial statements are covered on average over the long term in an actuarial-type approach by the standard risk costs included in the pricing.

In addition to standard risk costs, **an imputed cost of capital** based on the capital requirement is integrated into **DZ BANK's** contribution margin costing. This enables DZ BANK to obtain a return on the capital tied up that is in line with the risk involved and that covers any unexpected losses arising from the lending business. Pricing also includes an appropriate amount to cover the costs of risk concentration.

8.4.3. Management of exposure in traditional lending business

Measuring exposure in traditional lending business

Individual lending exposures are managed on the basis of an analysis of gross lending exposure. The period taken into account in this case is equivalent to the monitoring cycle of 1 year. Together with risk-related credit-portfolio management, volume-oriented credit risk management is one of the components in the management of risk concentrations in the lending business.

In traditional lending business, the credit exposure or lending volume is generally the same as the nominal value of the total loan book and reflects the maximum volume at risk of default. The credit exposure is a gross value because risk-bearing financial instruments are measured before the application of any credit risk mitigation and before the recognition of any allowances for losses on loans and advances.

In the leasing business, minimum lease payments are used as a basis for measuring the gross lending volume, while principal amounts are used for this purpose in building society operations. In addition, loans and advances to customers in building society operations are reduced by the associated deposits. The maximum credit exposure comprises the total lines of credit committed to third parties, or in the case of limit overruns, the higher amounts already drawn.

Limit system for managing exposures in traditional lending business

Limits are set in the relevant entities in the Bank sector for individual borrowers and groups of connected clients. Counterparties are also managed centrally at the level of the Bank sector, depending on the limit level and credit rating.

As a prerequisite for prompt monitoring of limits, suitable **early-warning processes** have been established in the management units that are of material significance for the Bank sector's credit risk. In this context, financial covenants are often incorporated into loan agreements to act as early-warning indicators for changes in credit standing and as a tool for the proactive risk management of lending exposures.

In addition, processes have been set up in the Bank sector to handle instances in which limits are **exceeded**. Such excess exposures must be approved by the relevant level of authority in the management units concerned and in accordance with applicable internal requirements, and must be reduced if necessary.

Country exposure in the traditional lending business is managed by setting **country limits** for industrialized countries and emerging markets at the Bank sector level.

8.4.4. Management of credit exposure in trading transactions

Measuring credit exposure in trading transactions

Issuer risk, replacement risk, and settlement risk are exposure-based measurements of the potential loss in trading transactions. These are determined without taking into account the likelihood of a default. In order to determine the credit exposure, securities in the banking book and trading book are predominantly measured at fair value (nominal amounts are used in building society operations), while derivatives are measured at fair value and, in respect of settlement risk, at the cash-flow-based accepted value.

The fair value of a securities exposure is used to determine the **issuer risk**. Risks relating to the underlying instruments in derivative transactions are also included in issuer risk.

Replacement risk on bilateral, over-the-counter (OTC) derivatives is calculated on the basis of fair value and the add-on for an individual transaction. The add-on takes into account specific risk factors and residual maturities. With regard to exchange-traded derivatives and OTC derivatives settled via a central counterparty (client clearing), the replacement risk vis-à-vis the customer in customer brokerage business and client clearing consists of the actual collateral exchanged (the variation margin and the initial margin), the fair value, and additional collateral requirements. To calculate the replacement risk vis-à-vis stock exchanges, central counterparties, and clearing brokers additional potential for changes in value or add-ons for individual transactions are also taken into consideration. Where legally enforceable, netting agreements and collateral agreements are used at counterparty level for all derivatives in order to reduce exposure. In the case of repos and securities lending transactions, haircuts are applied instead of add-ons. Unsecured money market transactions are measured at fair value.

As regards **settlement risk**, the amount at risk is deemed to be the amount owed, i.e. the amount actually due to be paid by the counterparty to the bank. Settlement risk is recognized for the specified settlement period. It takes into account the amount and timing of outstanding cash flows for the purposes of managing the risk associated with mutual settlement at some point in the future. These future cash flows are already factored into the replacement risk through the fair value measurement and are therefore included in the risk capital requirement. As a result, settlement risk does not need to be covered with risk capital in addition to that for the other types of credit risk related to trading activities.

Limit system for managing trading exposure

DZ BANK has established an exposure-oriented **limit system** to limit the default risk arising from trading business. Replacement risk is managed via a structure of limits broken down into maturity bands. Unsecured money market transactions are subject to separate limits. A daily limit is set in order to manage settlement risk. A specific limit related to credit ratings or, in certain circumstances, a general limit is determined for each issuer as the basis for managing issuer risk. There is a separate limit for covered bonds that are subject to special public supervision in accordance with article 52 (4) of the EU's Directive 2009/65. The main subsidiaries have their own comparable limit systems.

The issuer risk in the investment book of the former WGZ BANK's treasury is restricted by means of portfolio limits in addition to the individual issuer limits.

Exposure in connection with DZ BANK's trading business is measured and monitored using a standard method and a central, IT-supported limit management system to which all relevant trading systems are connected. Furthermore, the trading exposure in the Bank sector is managed on a decentralized basis at management unit level.

As in the traditional lending business, appropriate processes have also been established for the trading business to provide **early warnings and notification of limit overruns**. The member of the Board of Managing Directors responsible for risk monitoring is sent a daily list of significant exceeded trading limits. A monthly report is prepared covering the utilization of replacement and issuer risk in connection with trading activities.

Country exposure in the trading business is managed in the same way as in the traditional lending business by setting **limits for countries** at the Bank sector level.

8.4.5. Management of risk concentrations and correlation risks

Risk concentrations in credit and collateral portfolios

In managing the traditional lending business and its trading business, DZ BANK takes into account the correlation between collateral and the borrower pledging the collateral or between the collateral and the counterparty whose replacement risk the collateral is intended to mitigate. If there is a significant positive correlation between the collateral and the borrower or the counterparty pledging the collateral, the collateral is disregarded or accorded a reduced value as collateral. This situation arises, for example, where a guarantor, garnishee, or issuer forms a group of connected clients or a similar economic entity with the borrower or counterparty.

Wrong-way risk

General wrong-way risk can arise in DZ BANK's trading activities. This is defined as the risk of a positive correlation between the default probability of a counterparty and the replacement value (replacement risk exposure) of a (hedging) transaction entered into with this counterparty because of a change in the macroeconomic market factors of the traded underlying instrument (e.g. price changes for exchange rates).

Specific wrong-way risk can also occur. This is the risk of a positive correlation between the default probability of a counterparty and the replacement value (replacement risk exposure) of a (hedging) transaction entered into with this counterparty because of an increase in the default probability of the issuer of the traded underlying instrument. This type of risk largely arises in connection with OTC equity and credit derivatives in which the underlying instrument is a (reference) security or (reference) issuer.

The measures described below are used to appropriately monitor these risks and significantly reduce them. As a result, wrong-way risk, in particular, is not material at DZ BANK.

Measures to prevent concentration risk and wrong-way risk

In order to prevent unwanted risks that may arise from the concentration or correlation of collateral in the trading business or from general wrong-way risk, DZ BANK has brought into force a collateral policy and its own internal 'minimum requirements for bilateral reverse repo transactions and securities lending transactions'.

These requirements are based on the Credit Support Annex (ISDA Master Agreement) and the Collateralization Annex (German Master Agreement for Financial Futures) and stipulate that, in accordance with the collateral policy, only collateral in the form of cash (mainly in euros or US dollars), investment-grade government bonds, and/or Pfandbriefe can be used for mitigating risks arising from **OTC derivatives**. Exceptions to this rule are only permitted for local cooperative banks, although a very good credit rating (at least 2B on DZ BANK's credit rating master scale) is still required for the relevant securities collateral. The collateral must also be eligible for use as collateral at the ECB. High-grade collateral is also required for **repo transactions** in compliance with DZ BANK's own internal minimum requirements and the generally accepted master agreements, although the range of collateral is somewhat broader here than in the case of OTC derivatives.

In addition, the 'minimum requirements for bilateral reverse repos and securities lending transactions' exclude prohibited concentrations and correlations and specify collateral quality depending on the credit rating of the counterparties. In addition to daily monitoring of the relevant rules and regulations, a semi-annual report is prepared for the Credit Committee that presents the remaining concentration risk and wrong-way risk.

If material specific wrong-way risk occurs in connection with a bilateral OTC trading transaction, it is taken into account when the exposure is calculated and the Credit Committee is notified.

Furthermore, specific wrong-way risk in connection with **credit derivatives** in which the counterparty and underlying instrument form part of the financial sector is notified to the Credit Committee in a quarterly report.

8.4.6. Mitigating credit risk

Collateral strategy and secured transactions

In accordance with the credit risk strategy, **customer credit quality** forms the basis for any lending decision;

collateral has no bearing on the borrower's credit rating. However, depending on the structure of the transaction, collateral may be of material significance in the assessment of risk in a transaction.

Collateral in line with the level of risk in medium-term or long-term financing arrangements is generally sought. In particular, recoverable collateral equivalent to 50 percent of the finance volume is required for new business with SME customers in rating category 3D or below on the credit rating master scale.

Collateral is used as an appropriate tool for the management of risk in export finance or structured trade finance transactions. In the case of project finance, the financed project itself or the assignment of the rights in the underlying agreements typically serve as collateral.

Secured transactions in traditional lending business encompass commercial lending including financial guarantee contracts and loan commitments. Decisions to protect transactions against default risk are made on a case-by-case basis, the protection taking the form of traditional collateral.

Types of collateral

The entities in the Bank sector use all forms of **traditional loan collateral**. Specifically, these include mortgages on residential and commercial real estate, registered ship and aircraft mortgages, guarantees (including sureties, credit insurance, and letters of comfort), financial security (certain fixed-income securities, shares, and investment fund units), assigned receivables (blanket and individual assignments of trade receivables), and physical collateral.

Privileged mortgages, guarantees, and financial collateral are the main sources of collateral recognized for regulatory purposes under the CRR.

In accordance with DZ BANK's collateral policy, only cash, investment-grade government bonds, and/or Pfandbriefe are normally accepted as **collateral for trading transactions** required by the collateral agreements used to mitigate the risk attaching to OTC derivatives. DZ BANK also enters into netting agreements to reduce the credit risk arising in connection with OTC derivatives. The prompt evaluation of collateral within the agreed margining period also helps to limit risk.

In order to reduce the issuer risk attaching to bonds and derivatives, use is made of credit derivatives, comprising credit-linked notes, credit default swaps, and total return swaps. Macro hedges are used dynamically to mitigate spread risk and migration risk as well as risks attaching to underlying assets. In isolated cases, transactions are conducted on a back-to-back basis. For risk management purposes, the protection provided by credit derivatives is set against the reference entity risk, thereby mitigating it. The main protection providers/counterparties in credit derivatives are financial institutions, mostly investment-grade banks in the VR rating classes 1A to 2C.

Management of traditional loan collateral

Collateral management is the responsibility mainly of **specialist units**, generally outside the front-office divisions. The core tasks of these units include providing, inspecting, measuring, recording, and managing collateral and providing advice to all divisions in matters concerning collateral.

To a large extent, standardized contracts are used for the provision of collateral and the associated declarations. Specialist departments are consulted in cases where customized collateral agreements are required. Collateral is managed in separate IT systems.

Collateral **is measured** in accordance with internal guidelines and is usually the responsibility of back-office units. As a minimum, carrying amounts are normally reviewed annually or on the agreed submission date for documents relevant to measurement of the collateral. Shorter monitoring intervals may be specified for critical lending exposures. Regardless of the specified intervals, collateral is tested for impairment without delay if any indications of impairment become evident.

The workout units are responsible for **recovering collateral**. In the case of non-performing loans, it is possible to depart from the general measurement guidelines and measure collateral on the basis of its likely recoverable value and time of recovery. Contrary to the general collateralization criteria, collateral involved in restructuring exposures can be measured using market values or the estimated liquidation proceeds.

Collateral management

In addition to netting agreements (ISDA Master Agreement and German Master Agreement for Financial Futures), collateral agreements (Credit Support Annex to the ISDA Master Agreement and Collateralization Annex to the German Master Agreement for Financial Futures) are entered into as instruments to reduce credit exposure in OTC transactions.

DZ BANK's policy on collateral regulates the content of collateral agreements and the responsibilities and authorities for implementing the rights and obligations they confer within the bank. This policy specifies contractual parameters, such as the quality of collateral, frequency of transfer, minimum transfer amounts, and thresholds. DZ BANK regularly uses bilateral collateral agreements. Exceptions apply to cover assets and special-purpose entities, as the special legal status of the counterparties means that only unilateral collateral agreements can be usefully enforced, and to supranational or government entities. Any decision not to use a bilateral collateral agreement must be approved by a person with the relevant authority.

Netting and collateralization generally result in a significant reduction in the exposure from trading business. IT systems are used to measure exposures and collateral. Margining is carried out on a daily basis for the vast majority of collateral agreements in accordance with the collateral policy.

Collateral agreements entered into generally include thresholds and minimum transfer amounts that are independent of the credit rating. There are also some agreements with triggers based on the credit rating. In these agreements, for example, the unsecured part of an exposure is reduced in the event of a ratings downgrade or the borrower is required to make additional payments (for example, payments known as 'independent amounts').

Central counterparties

The European Market Infrastructure Regulation (EMIR), which covers OTC derivatives, central counterparties, and trade repositories, has permanently changed the environment in which banks, insurance companies, and investment funds conduct OTC derivative transactions. Under this regulation, market players must report all exchange-traded and OTC derivatives to central trade repositories and use predefined steps to trade certain standardized OTC derivatives via central counterparties (known as clearing houses). Furthermore, risk mitigation methods have to be used for OTC derivatives that are not settled centrally through a clearing house. This is intended to minimize counterparty risk.

Any market players not exempted from this new clearing obligation must be connected to a central counterparty. The market player concerned may be a direct member of a clearing house or may process its derivative contracts using a bank that is a member of the central counterparty.

DZ BANK is a direct member of the London Clearing House, which is Europe's largest clearing house for interest-rate derivatives, and of Eurex Clearing AG. The bank therefore has direct access to central counterparties for derivatives for the purposes of clearing derivative transactions.

8.4.7. Management of non-performing lending exposures

Managing and monitoring non-performing exposures

Identified non-performing loans are transferred to the **workout units** at an early stage. By providing intensified loan management for critical exposures and applying tried-and-tested solutions, these special units lay the basis for securing and optimizing non-performing risk positions.

In its traditional lending business, DZ BANK has a comprehensive range of tools at its disposal for the early identification, close support, and high-quality monitoring of non-performing exposures. The subportfolio of non-performing loans is reviewed, updated, and reported on a quarterly basis. The process is also carried out at shorter intervals if required. This process is comprehensively supported by IT systems. Meaningful, prompt internal reporting focused on target groups is a key component of this approach. If necessary, the

intensified loan management put in place for individual borrowers is transferred to task forces specially set up for this purpose. The risks in subportfolios are monitored and analyzed by means of regular reports.

Where required, similar procedures have been implemented in the main subsidiaries, which adapt them to the characteristics of the risks faced in their particular business.

Policies and procedures for the recognition of allowances for losses on loans and advances

The following descriptions apply to DZ BANK. The main subsidiaries in the Bank sector have implemented comparable guidelines on the recognition of allowances for losses on loans and advances adapted in line with their respective business activities.

The entire transaction is deemed to be '**past due**' if interest payments, repayments of principal, or other receivables are more than 1 day in arrears. A borrower is classified as in '**default**' if the borrower is not expected to meet his/her payment obligations in full without the need for action such as the recovery of any available collateral. Regardless of this definition, a borrower is classified as in default according to CRR criteria if payments are past due by more than 90 days.

If there is objective evidence that the value of repayments under **loans** is impaired, a review is carried out to establish whether it is likely that the borrower will not meet his/her contractual obligations in full and whether a financial loss could be incurred. **Specific loan loss allowances** are recognized for the difference between the carrying amount of the loan or advance and the net present value of the anticipated payments (including any proceeds from the recovery of collateral), if the carrying amount of the loan or advance is higher than the net present value.

Provisions for loan commitments and **liabilities under financial guarantee contracts** are recognized in an amount equivalent to the difference between the present value of the potential default amount and the present value of expected payments, provided that it is probable the obligation will actually be incurred.

If no specific allowances are recognized for losses on payments due under loans or if there are no provisions for loan commitments or liabilities under financial guarantee contracts, then these transactions are taken into account in the recognition of the **portfolio loan loss allowance**. Portfolio loan loss allowances consist of the loss allowances for the portfolio of loans and advances, provisions for loan commitments, and liabilities under financial guarantee contracts. As soon as an impairment becomes apparent or a transaction is identified as requiring a provision or liability, it is derecognized from the portfolio allowance and recognized as a specific loan loss allowance. The calculation of the portfolio loan loss allowance is based on the method for the calculation of expected losses used for regulatory purposes.

Latent country risk is recognized in the portfolio loan loss allowances.

In **trading units**, derivatives business and parts of the securities and money market business are measured at fair value through profit or loss. Any impairment is therefore immediately recognized in the income statement and on the balance sheet, precluding the need for the recognition of any allowances for losses on loans and advances. For securities and money market placements that are recognized at amortized cost or fair value through other comprehensive income, impairment losses are determined using the same procedure as that for loans.

BSH and TeamBank recognize **specific loan loss allowances evaluated on a group basis** for their retail business. These specific loan loss allowances evaluated on a group basis are based on cash flows from credit portfolios with the same risk characteristics analyzed using migration scenarios and probabilities of default. At BSH, specific loan loss allowances include, in particular, specific loan loss allowances evaluated on a group basis.

Non-performing loans

The entities in the Bank sector classify a loan as non-performing if it has been rated between 5A and 5E on the VR master scale. This corresponds to the

definition of default specified by the CRR. Non-performing loans are also referred to by the abbreviation NPLs.

The following key figures are used to manage non-performing loans:

– Loan loss allowance ratio (balance of allowances for losses on loans and advances as a proportion of total lending volume)
– Risk cover ratio (balance of allowances for losses on loans and advances as a proportion of the volume of non-performing loans)
– NPL ratio (volume of non-performing loans as a proportion of total lending volume).

The balance of allowances for losses on loans and advances is calculated as the total of specific loan loss allowances, portfolio loan loss allowances, provisions for loan commitments, and liabilities under financial guarantee contracts.

8.4.8. Credit-portfolio management

In risk-related credit-portfolio management, a distinction is made between the expected loss and unexpected loss arising from the credit portfolio as a whole. The calculation of an expected loss for each individual transaction prevents a creeping erosion of equity. Most of the management units determine the standard risk costs necessary for this calculation. These costs vary according to credit rating.

Credit portfolio models are also used together with value-at-risk methods to quantify unexpected losses that may arise from the credit portfolios of management units. Credit value-at-risk describes the risk of unexpected losses arising should a default event occur in the credit portfolio. Credit portfolio models are used to measure the credit value-at-risk. Key factors in determining this credit risk include the lending volume, concentrations in terms of sectors, countries, and/or counterparties, and the credit quality structure of the credit portfolio. The measurement includes credit risk from both lending and trading businesses.

The credit portfolio in the Bank sector is managed by limiting the credit value-at-risk to the upper loss limit set for credit risk.

8.5. Lending volume

8.5.1. Lending volume as risk factor

The amount and structure of the lending volume are key factors in determining the credit risk. For the purposes of internal credit risk management in the Bank sector, the lending volume is broken down by credit-risk-bearing instruments – traditional lending, securities business, and derivatives and money market business. This breakdown corresponds to the risk classes required for the external reporting of risks arising from financial instrument.

The credit-risk-bearing instruments are also classified by sector, country group, credit rating, and term to maturity so that volume concentrations can be identified. Particularly in the case of an accumulation of exposures that have longer terms to maturity and a non-investment-grade rating, there is a danger that the credit risk will materialize, causing losses with a negative impact on the financial performance and financial position of the DZ BANK Group.

8.5.2. Reconciliation of lending volume to the consolidated financial statements

Figure 24 shows a reconciliation of the gross lending volume on which the risk management is based to individual balance sheet items in order to provide a transparent illustration of the link between the consolidated financial statements and risk management. There are discrepancies between the internal management and external consolidated financial reporting measurements for some products owing to the focus on the risk content of the items. The other main reasons for the discrepancies between the internal management figures and those in the external consolidated financial statements are differences in the scope of consolidation and differences in recognition and measurement methods.

Differences in the **scope of consolidation** result from the fact that, in internal credit risk management, only the entities in the Bank sector that contribute significantly to the overall risk of the sector are included.

The discrepancy in the **securities business** is mainly due to the variations in carrying amounts that arise because credit derivatives are offset against the issuer risk attaching to the underlying transaction in the

internal management accounts, whereas such derivatives are recognized at their fair value as financial assets or financial liabilities held for trading in the consolidated financial statements.

Measurement differences in **derivatives business** and **money market business** are mainly because countervailing positions are offset for the purposes of risk management, whereas positions must not be netted in this way in the consolidated financial statements. In addition, add-ons are attached to the current fair values of derivative positions in the internal management accounts to take account of potential future changes in their fair value. By contrast, the external (consolidated) financial statements focus exclusively on the fair values determined on the valuation date, and, unlike in the internal accounts, collateral must not be recognized for risk mitigation purposes.

In **money market business**, further discrepancies arise between the consolidated financial statements and internal credit risk reports due to the method in which repo transactions are recognized. In contrast to the consolidated financial statements, securities provided or received as collateral are offset against the corresponding assets or liabilities for the purposes of the internal management accounts.

8.5.3. Change in lending volume

As a result of the merger with the former WGZ BANK Group and the associated inclusion of WL BANK for the first time, the **total lending volume** of the **Bank sector** rose sharply, by 28 percent, from €302.3 billion as at December 31, 2015 to €387.7 billion as at December 31, 2016. Unless stated otherwise, the following increases in exposures and risk are attributable to effects from the merger.

There was an increase in the volume of **traditional lending business**, which rose from €209.8 billion as at December 31, 2015 to €275.8 billion at the end of 2016, a gain of 31 percent.

The lending volume in the **securities business** was up by 22 percent, from €78.4 billion as at December 31, 2015 to €95.5 billion as at December 31, 2016. This increase was largely attributable to DZ BANK and the first-time inclusion of WL BANK.

At €16.3 billion, the lending volume in the **derivatives and money market business** was up by 16 percent as at December 31, 2016 compared with the figure of €14.0 billion as at December 31, 2015.

At **DZ BANK**, the **total lending volume** rose by 30 percent, from €158.0 billion as at December 31, 2015 to €205.8 billion as at December 31, 2016. This increase arose in particular from the **traditional lending business** (December 31, 2016: €136.1 billion; December 31, 2015: €104.0 billion) and the **securities business** (December 31, 2016: €54.5 billion; December 31, 2015: €41.7 billion). The lending volume in the **derivatives and money market business** advanced by 23 percent, from €12.3 billion at the end of 2015 to €15.1 billion as at December 31, 2016. This gain was generated by the derivatives business.

8.5.4. Collateral called in

Given the efficiency of the workout process in the **Bank sector**, the role played by calling in collateral during the course of workout procedures for non-performing borrowers was as negligible in 2016 as it had been in 2015. The collateral called in by the entities in the Bank sector amounted to €13 million as at December 31, 2016 (December 31, 2015: €18 million).

8.5.5. Sector structure of the credit portfolio

Figure 25 shows the breakdown of the credit portfolio by sector, in which the lending volume is classified according to the industry codes used by Deutsche Bundesbank. This also applies to the other sector breakdowns related to credit risk in this opportunity and risk report.

As at December 31, 2016, a significant proportion (33 percent) of the lending volume in the **Bank sector** continued to be concentrated in the financial sector (December 31, 2015: 35 percent). In addition to the local cooperative banks, the borrowers in this customer segment comprised banks from other parts of the banking industry and other financial institutions.

As at December 31, 2016, a significant proportion (55 percent) of **DZ BANK's** lending volume was also concentrated in the financial sector (December 31, 2015: 57 percent). The composition of this customer segment is the same both at DZ BANK and in the

FIG. 24 – BANK SECTOR: RECONCILIATION OF THE LENDING VOLUME

€ billion

	Lending volume for internal management accounts		Reconciliation			
			Scope of consolidation		Carrying amount and measurement	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Traditional lending business	275.8	209.8	1.8	1.9	18.8	9.6
Securities business	95.5	78.4	–	–	-18.4	-15.3
Derivatives business	13.7	10.6	–	–	-17.5	-13.8
Money market business	2.6	3.5	–	–	37.4	27.2
Total	387.7	302.3	1.8	1.9	20.3	7.8

Not relevant

FIG. 25 – BANK SECTOR: LENDING VOLUME, BY SECTOR

€ billion	Traditional lending business		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Financial sector	88.7	68.2	28.2	26.8	11.5	9.7	128.4	104.7
Public sector	11.1	6.2	54.5	45.4	1.0	0.8	66.6	52.4
Corporates	110.4	84.0	8.6	2.3	2.9	2.6	122.0	88.9
Retail	58.6	45.6	2.8	2.9	–	–	61.4	48.6
Industry conglomerates	6.5	5.4	1.4	1.1	0.9	0.8	8.8	7.2
Other	0.5	0.5	–	–	–	–	0.5	0.5
Total	275.8	209.8	95.5	78.4	16.3	14.0	387.7	302.3

Dec. 31, 2016		Dec. 31, 2015		Lending volume for the consolidated financial statements	Note
292.9	**79.5**	221.3	**65.8**	**Loans and advances to banks**	
	79.5		65.9	of which: loans and advances to banks excluding money market placements	50
	–		-0.1	of which: allowances for losses on loans and advances to banks	52
	173.1		**124.2**	**Loans and advances to customers**	
	175.5		126.2	Loans and advances to customers excluding money market placements	51
	-2.4		-2.0	of which: allowances for losses on loans and advances to customers	52
	40.3		**31.3**	**Financial guarantee contracts and loan commitments**	**87**
77.2	**77.2**	63.2	**63.2**	**Bonds and other securities**	
	9.3		10.9	of which: financial assets held for trading/bonds excluding money market placements	54
	0.9		0.8	of which: financial assets held for trading/promissory notes, registered bonds, and loans and advances	54
	67.0		51.5	of which: investments/bonds excluding money market placements	55
-3.9	**-3.9**	-3.3	**-3.3**	**Derivatives**	
	1.5		0.4	of which: derivatives used for hedging (positive fair values)	53
	23.6		21.7	of which: financial assets held for trading/derivatives (positive fair values)	54
	-3.9		-1.6	of which: derivatives used for hedging (negative fair values)	65
	-25.1		-23.7	of which: financial liabilities held for trading/derivatives (negative fair values)	66
43.6	**43.6**	30.7	**30.7**	**Money market placements**	
	27.7		14.9	of which: loans and advances to banks/money market placements	50
	1.1		0.6	of which: loans and advances to customers/money market placements	51
	0.2		0.4	of which: financial assets held for trading/money market instruments	54
	14.2		14.7	of which: financial assets held for trading/money market placements	54
	0.4		0.1	of which: investments/money market instruments	55
409.8		**312.0**		**Total**	

Balance as at Dec. 31, 2016	**22.1**	**5.7%**
Balance as at Dec. 31, 2015	9.7	3.2%

Bank sector. Loans and advances to public-sector borrowers rose by €3.4 billion year on year, with a particularly large increase in Germany.

In its role as a central institution for the Volksbanken Raiffeisenbanken cooperative financial network, DZ BANK provides funding for the entities in the Bank sector and for the cooperative banks. For this reason, the cooperative banks account for one of the largest receivables items in the DZ BANK Group's credit portfolio. DZ BANK also supports the cooperative banks in the provision of larger-scale funding to corporate customers.

The resulting syndicated business, DZ BANK, DG HYP and DVB's direct business with corporate customers in Germany and abroad, the retail real-estate business under the umbrella of BSH, TeamBank's consumer finance business, and WL BANK's real estate lending and local authority loans businesses determine the sectoral breakdown of the remainder of the portfolio.

8.5.6. Geographical structure of the credit portfolio

Figure 26 shows the geographical distribution of the credit portfolio by country group. The lending volume is assigned to the individual country groups using the International Monetary Fund's breakdown, which is updated annually. This also applies to the other country-group breakdowns related to credit risk in this opportunity and risk report.

As at December 31, 2016, 95 percent of the lending in the **Bank sector** (December 31, 2015: 94 percent) and 96 percent of the total lending by **DZ BANK** (December 31, 2015: 95 percent) was concentrated in Germany and other industrialized countries.

8.5.7. Residual maturity structure of the credit portfolio

Residual maturities in the overall credit portfolio

The breakdown of the credit portfolio by residual maturity presented in figure 27 for the **Bank sector** as at December 31, 2016 shows that the lending volume had increased by €7.1 billion in the short-term maturity band compared with the figure as at December 31, 2015. The increase in the medium-term maturity band amounted to €17.2 billion. The biggest leap in lending volume was in the longer-term maturity band, where the figure rose by €61.1 billion.

Lending volume past due but not impaired

Figures 28 and 29 show the portion of the lending volume that is past due but not impaired. The disclosures largely relate to traditional lending business.

No valuation allowances are recognized for these loans because it can generally be assumed that the amounts past due will be repaid promptly. Furthermore, it can be assumed that the entire amounts due under the lending agreements concerned can be collected by recovering collateral. Because of the conservative risk provisioning policy of the entities in the Bank sector, past-due loans only account for a relatively small proportion of the overall credit portfolio.

In the **Bank sector**, the rise in loans in the corporates sector that were past due but not impaired, which went up from €522 million as at December 31, 2015 to €1,134 million as at December 31, 2016, was largely attributable to DVB's shipping and offshore businesses. In the retail sector, the increase from €61 million at the end of 2015 to €388 million as at the reporting date

FIG. 26 – BANK SECTOR: LENDING VOLUME, BY COUNTRY GROUP

	Traditional lending business		Securities business		Derivatives and money market business		Total	
€ billion	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Germany	232.9	168.8	60.3	52.3	10.7	8.8	303.8	229.8
Other industrialized countries	29.5	27.5	31.3	22.7	5.1	4.7	65.8	54.9
Advanced economies	3.5	4.2	0.5	0.6	0.1	0.1	4.1	4.9
Emerging markets	9.9	9.3	0.8	0.7	0.1	0.2	10.9	10.2
Supranational institutions	–	–	2.7	2.2	0.4	0.3	3.0	2.5
Total	**275.8**	**209.8**	**95.5**	**78.4**	**16.3**	**14.0**	**387.7**	**302.3**

FIG. 27 – BANK SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

	Traditional lending business		Securities business		Derivatives and money market business		Total	
€ billion	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
≤ 1 year	49.9	44.0	15.0	15.3	11.0	9.5	75.9	68.8
> 1 year to ≤ 5 years	55.2	47.3	38.5	29.4	2.1	1.8	95.8	78.6
> 5 years	170.7	118.5	42.1	33.7	3.3	2.7	216.0	154.9
Total	**275.8**	**209.8**	**95.5**	**78.4**	**16.3**	**14.0**	**387.7**	**302.3**

was due to a change in the method of calculation used at BSH. The rise shown therefore does not mean that the portfolio has deteriorated. The past-due loans in arrears by more than 3 months amounting to €812 million (December 31, 2015: €237 million) were predominantly loans secured by mortgages.

At **DZ BANK**, the volume of loans that were past due but not impaired fell from €87 million as at December 31, 2015 to €61 million as at December 31, 2016.

8.5.8. Rating structure of the credit portfolio

Rating structure of the total lending volume

Figure 30 shows the Bank sector's consolidated lending volume by rating class according to the VR credit rating master scale. 'Not rated' comprises counterparties for which a rating classification is not required.

In the **Bank sector**, the proportion of the total lending volume accounted for by rating classes 1A to 3A (investment grade) was 78 percent as at December 31, 2016 (December 31, 2015: 74 percent). Rating classes 3B to 4E (non-investment grade) represented 20 percent of the total lending volume as at the reporting date (December 31, 2015: 23 percent). Defaults in rating classes 5A to 5E accounted for 1 percent of the Bank sector's total lending volume as at December 31, 2016 and thus remained at the low level of the previous year.

Rating classes 1A to 3A (investment grade) also dominated lending at **DZ BANK**, where they accounted for 89 percent of the total lending volume (December 31, 2015: 88 percent). Rating classes 3B to 4E (non-investment grade) represented 10 percent of the total lending volume as at the reporting date, which was unchanged compared with the end of 2015. Defaults (rating classes 5A to 5E) accounted for 1 percent of the total lending volume as at December 31, 2016, which was again largely unchanged year on year.

FIG. 28 – BANK SECTOR: LENDING VOLUME PAST DUE BUT NOT IMPAIRED, BY SECTOR

	Past due up to 5 days		Past due > 5 days to 1 month		Past due > 1 month to 2 months		Past due > 2 months to 3 months		Past due > 3 months		Total	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Financial sector	13	9	1	–	–	1	–	–	–	5	14	15
Public sector	–	–	–	1	–	–	–	–	–	–	–	1
Corporates	18	22	301	244	127	31	5	10	684	215	1,134	522
Retail	37	18	123	18	63	6	38	2	128	17	388	61
Industry conglomerates	9	3	–	–	–	–	–	–	–	–	9	4
Other	–	–	–	–	–	–	–	–	–	–	–	–
Total	**76**	53	**425**	263	**190**	39	**42**	13	**812**	237	**1,545**	603

FIG. 29 – BANK SECTOR: LENDING VOLUME PAST DUE BUT NOT IMPAIRED, BY COUNTRY GROUP

	Past due up to 5 days		Past due > 5 days to 1 month		Past due > 1 month to 2 months		Past due > 2 months to 3 months		Past due > 3 months		Total	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Germany	64	43	201	69	91	39	42	13	188	70	585	233
Other industrialized countries	10	2	224	42	1	–	1	–	175	52	410	96
Advanced economies	3	1	–	60	29	–	–	–	217	43	248	104
Emerging markets	–	7	–	92	69	–	–	–	233	71	302	170
Supranational institutions	–	–	–	–	–	–	–	–	–	–	–	–
Total	**76**	53	**425**	263	**190**	39	**42**	13	**812**	237	**1,545**	603

FIG. 30 – BANK SECTOR: LENDING VOLUME, BY RATING CLASS

€ billion		Traditional lending business		Securities business		Derivatives and money market business		Total	
		Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Investment grade	1A	6.1	1.8	38.4	26.9	1.4	1.2	45.9	30.0
	1B	2.5	1.8	10.1	10.3	1.9	1.1	14.5	13.3
	1C	82.5	63.9	9.2	11.8	4.3	3.9	96.0	79.6
	1D	4.8	2.3	2.4	2.6	0.2	0.3	7.5	5.2
	1E	7.0	2.3	2.2	1.3	1.9	0.4	11.1	4.0
	2A	12.7	7.8	2.5	1.7	0.7	2.0	16.0	11.5
	2B	11.7	6.2	10.4	8.5	1.9	1.5	24.0	16.2
	2C	14.5	11.6	4.8	2.4	0.9	0.9	20.2	15.0
	2D	15.6	9.1	2.5	3.0	0.7	0.7	18.8	12.8
	2E	21.4	16.5	7.2	4.2	1.0	0.8	29.6	21.5
	3A	17.3	12.8	1.4	0.8	0.7	0.3	19.3	13.9
Non-investment grade	3B	17.5	16.8	0.6	0.6	0.2	0.3	18.3	17.7
	3C	16.4	11.6	1.3	1.6	0.1	0.1	17.8	13.3
	3D	13.9	13.5	0.8	0.6	0.1	0.1	14.8	14.2
	3E	4.6	3.5	0.2	0.1	–	–	4.9	3.6
	4A	2.3	2.8	0.1	0.1	–	–	2.4	2.9
	4B	7.2	6.9	0.2	0.2	–	–	7.4	7.1
	4C	6.2	5.5	0.1	0.1	–	–	6.3	5.6
	4D	0.6	0.6	–	–	–	–	0.6	0.6
	4E	3.8	4.5	0.1	0.1	–	–	3.9	4.6
Default		5.6	5.0	0.2	0.2	–	–	5.8	5.2
Not rated		1.7	2.8	0.8	1.2	0.4	0.4	2.8	4.5
Total		**275.8**	**209.8**	**95.5**	**78.4**	**16.3**	**14.0**	**387.7**	**302.3**

Single borrower concentrations

As at December 31, 2016, the 10 counterparties associated with the largest lending volumes accounted for 9 percent of total lending in the **Bank sector** (December 31, 2015: 11 percent). The equivalent proportion for **DZ BANK** was also 9 percent (December 31, 2015: 11 percent). These counterparties largely comprised financial-sector and public-sector borrowers domiciled in Germany with an investment-grade rating.

Investment-grade lending volume

Figures 31 and 32 show the lending volume that is neither impaired nor past due, i.e. the investment-grade proportion of the total credit portfolio.

In the **Bank sector**, the proportion of the total lending volume represented by this portfolio as at December 31, 2016 was 98 percent, unchanged on December 31, 2015.

The situation was similar at **DZ BANK**, where the proportion of the total lending volume with an investment-grade rating was unchanged year on year at 99 percent as at December 31, 2016.

As in previous years, the large proportion of investmentgrade business is attributable to the risk-conscious lending policy pursued by the entities in the Bank sector.

8.5.9. Collateralized lending volume

Figure 33 shows the breakdown of the collateralized lending volume at overall portfolio level by type of collateral and class of risk-bearing instrument. In the case of traditional lending business, figures are generally reported before the application of any offsetting agreements, whereas the collateralized exposure in the securities business and derivatives and money market business is shown net.

As at December 31, 2016, the collateralized lending volume in the **Bank sector** had risen to €116.2 billion from €90.4 billion as at December 31, 2015. The

FIG. 31 – BANK SECTOR: LENDING VOLUME NEITHER IMPAIRED NOR PAST DUE, BY SECTOR

€ billion	Total portfolio		Portfolio neither impaired nor past due	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Financial sector	128.4	104.7	128.3	104.5
Public sector	66.6	52.4	66.6	52.4
Corporates	122.0	88.9	117.3	85.4
Retail	61.4	48.6	60.2	47.5
Industry conglomerates	8.8	7.2	8.8	7.2
Other	0.5	0.5	0.5	0.5
Total	**387.7**	302.3	**381.7**	297.4

FIG. 32 – BANK SECTOR: LENDING VOLUME NEITHER IMPAIRED NOR PAST DUE, BY COUNTRY GROUP

€ billion	Total portfolio		Portfolio neither impaired nor past due	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Germany	303.8	229.8	300.7	227.1
Other industrialized countries	65.8	54.9	64.2	53.9
Advanced economies	4.1	4.9	3.7	4.4
Emerging markets	10.9	10.2	10.1	9.6
Supranational institutions	3.0	2.5	3.0	2.5
Total	**387.7**	302.3	**381.7**	297.4

FIG. 33 – BANK SECTOR: COLLATERALIZED LENDING VOLUME, BY TYPE OF COLLATERAL

€ billion	Traditional lending business		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Guarantees, indemnities, risk subparticipation	7	6.9	–	–	0.3	0.3	7.3	7.3
Credit insurance	3	2.7	–	–	–	–	3.1	2.7
Land charges, mortgages, ship mortgages	98.0	72.7	–	–	–	–	98.0	72.8
Pledged loans and advances, assignments, other pledged assets	5.8	5.3	–	–	–	–	5.8	5.3
Financial collateral	1.5	1.6	–	–	0.1	0.3	1.6	1.9
Other collateral	0.4	0.4	–	–	–	–	0.4	0.4
Collateralized lending volume	**115.7**	89.7	**–**	–	**0.5**	0.7	**116.2**	90.4
Gross lending volume	275.8	209.8	95.5	78.4	16.3	14.0	387.7	302.3
Uncollateralized lending volume	**160.1**	120.1	**95.5**	78.4	**15.8**	13.3	**271.5**	211.9
Collateralization rate	**41.9%**	42.7%	**–**	–	**3.0%**	5.2%	**30.0%**	29.9%

collateralization rate was 30.0 percent at the reporting date (December 31, 2015: 29.9 percent).

In the Bank sector's **traditional lending business**, most of the collateralized lending volume – 85 percent as at December 31, 2016 (December 31, 2015: 81 percent) – was accounted for by lending secured by charges over physical assets such as land charges, mortgages, and registered ship mortgages. These types of collateral are particularly important for BSH, DG HYP, DVB, and WL BANK. In contrast, charges over physical assets are of lesser importance at DZ BANK because DZ BANK bases its lending decisions primarily on borrower credit quality.

In **securities transactions**, there is generally no further collateralization to supplement the hedging activities already taken into account. Equally, in the **derivatives and money market business**, collateral received under collateral agreements is already factored into the

calculation of gross lending volume with the result that only a comparatively low level of collateral (personal and financial collateral) is then additionally reported.

At €12.4 billion, **DZ BANK's** collateralized lending volume at December 31, 2016 was up year on year (December 31, 2015: €7.5 billion). The collateralization rate was 6 percent at the reporting date (December 31, 2015: 5 percent).

In terms of traditional collateral, **securities transactions** are generally concluded on an unsecured basis. A low level of personal collateral (guarantees and indemnity agreements) and financial collateral is used to mitigate risk in **derivatives and money market business**.

8.5.10. Securitizations

The asset-backed securities (ABS) portfolio in the Bank sector is predominantly held by DZ BANK and DG HYP. It had a fair value of €3,430 million as at the reporting date (December 31, 2015: €3,528 million). This includes the ABS wind-down portfolio dating back to the period before the financial crisis, which had a fair value of €2,474 million (December 31, 2015: €2,851 million).

The changes in the wind-down portfolio in 2016 were largely in line with expectations, both in terms of the contraction of the portfolio as a result of redemptions and in terms of the overall performance of the portfolio.

In addition, DZ BANK acts as a sponsor in ABCP programs that are funded by issuing money market-linked asset-backed commercial paper or liquidity lines. The ABCP programs are made available for DZ BANK customers who then securitize their own assets via these companies.

8.6. Portfolios with increased risk content

The following disclosures relating to exposures in subportfolios also form part of the above analyses of the entire credit portfolio. However, these subportfolios have been analyzed separately because of their significance for the risk position.

Due to the reduction of the lending exposure in **Russia** and **Hungary**, these countries have no longer been included in the portfolios with increased risk content. Their credit ratings have not changed. This section of the report therefore no longer includes disclosures relating to the Russian and Hungarian lending exposures, which were last presented in section 8.6.1. of the 2015 opportunity and risk report.

8.6.1. European sovereign debt portfolio

As at December 31, 2016, loans and advances to borrowers in the countries directly affected by the **European sovereign debt crisis** attributable to the **Bank sector** and to **DZ BANK** amounted to €8,721 million (December 31, 2015: €8,095 million) and €2,670 million (December 31, 2015: €3,196 million) respectively. The increase in the lending exposure to the Italian public sector to €2,920 million as at December 31, 2016 was caused by the inclusion of WL BANK for the first time.

As a result of the improvement in the credit ratings for counterparties in Ireland, the lending exposure for this country has not been shown separately in internal risk reporting since the start of the reporting year. Consequently, the total lending volume in respect of the eurozone periphery countries as at December 31, 2015 disclosed in this opportunity and risk report differs from the corresponding amount in the 2015 opportunity and risk report. Figure 34 shows the borrower structures of the entities in the Bank sector for the eurozone periphery countries by credit-risk-bearing instrument.

8.6.2. Shipping finance portfolio

Background

DVB is the main entity in the Bank sector that engages in shipping finance. DZ BANK also has this type of finance in its credit portfolio, but the proportion is significantly lower than at DVB.

DVB operates at an international level and offers finance for various means of transport, such as ships, aircraft, offshore service vessels, drilling platforms, and rail transport rolling stock. Criteria for granting shipping loans include the quality and recoverability of the shipping asset itself, the cash flow that the borrower can generate with the ship concerned to repay the debt, and the extent to which the ship involved can be remarketed. DVB generally only enters into financing arrangements for which the financed ship can be used as collateral.

FIG. 34 – BANK SECTOR: LOANS AND ADVANCES TO BORROWERS IN EUROZONE PERIPHERY COUNTRIES

€ million	Traditional lending business[1]		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Portugal	**117**	106	**1,017**	741	**–**	–	**1,134**	847
of which: public sector	–	–	894	645	–	–	894	645
of which: non-public sector	117	106	122	96	–	–	240	202
of which: financial sector	25	–	3	4	–	–	28	5
Italy	**190**	209	**3,468**	2,563	**15**	17	**3,673**	2,790
of which: public sector	–	–	2,920	2,088	–	–	2,920	2,088
of which: non-public sector	190	209	548	475	15	17	753	702
of which: financial sector	33	31	144	213	14	15	192	259
Greece	**13**	41	**–**	–	**–**	–	**13**	41
of which: public sector	–	–	–	–	–	–	–	–
of which: non-public sector	13	41	–	–	–	–	13	41
of which: financial sector	–	–	–	–	–	–	–	–
Spain	**319**	336	**3,555**	4,055	**26**	26	**3,901**	4,416
of which: public sector	26	33	2,132	1,875	–	–	2,158	1,908
of which: non-public sector	293	303	1,423	2,180	26	26	1,742	2,509
of which: financial sector	39	20	575	1,370	21	22	636	1,412
Total	**639**	692	**8,040**	7,360	**41**	43	**8,721**	8,095
of which: public sector	26	33	5,947	4,609	–	–	5,973	4,641
of which: non-public sector	613	659	2,093	2,751	41	43	2,748	3,453
of which: financial sector	98	51	722	1,588	36	37	855	1,675

1 Unlike the other presentations of lending volume, traditional lending business in this case includes long-term equity investments.

DZ BANK offers shipping finance as part of its joint credit business with the local cooperative banks. Shipping finance in the narrow sense refers to capital investment in mobile assets involving projects that are separately defined, both legally and in substance, in which the borrower is typically a special-purpose entity whose sole business purpose is the construction and operation of ships. In such arrangements, the debt is serviced from the cash flows generated by the ship. The assessment of the credit risk is therefore based not only on the recoverability of the asset, but also in particular on the capability of the ship to generate earnings. To reduce risk, the finance must normally be secured by a first mortgage on the vessel and the assignment of insurance claims and proceeds. A distinction is made between shipping finance in the narrow sense and finance provided for shipyards and shipping companies. The following disclosures for DZ BANK relate solely to shipping finance in the narrow sense.

At DVB and DZ BANK, the lending volume associated with shipping finance comprises loans and advances to customers, guarantees and indemnities, irrevocable loan commitments, securities, and derivatives.

Change in lending volume

As at December 31, 2016, the Bank sector's shipping finance portfolio had a value of €12,763 million (December 31, 2015: €12,684 million). Figure 35 shows the portfolio structure by country group and credit-risk-bearing instrument.

As at December 31, 2016, **DVB's** shipping finance portfolio comprised finance provided for 1,420 vessels and 0.4 million containers (December 31, 2015: 1,328 vessels and 0.5 million containers). The average exposure as at the reporting date was €40 million (December 31, 2015: €41 million) and the largest single exposure was €237 million (December 31, 2015: €213 million).

FIG. 35 – BANK SECTOR: SHIPPING FINANCE LENDING VOLUME, BY COUNTRY GROUP

	Traditional lending business		Securities business		Derivatives business		Total	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Germany	1,504	1,588	–	–	3	12	1,507	1,599
Other industrialized countries	7,453	7,004	–	–	5	15	7,458	7,020
Advanced economies	1,907	2,173	–	–	–	–	1,907	2,173
Emerging markets	1,885	1,883	–	–	5	8	1,890	1,892
Total	**12,749**	**12,649**	**–**	**–**	**14**	**35**	**12,763**	**12,684**

DVB's total exposure as at December 31, 2016 amounted to €11,948 million compared with €11,789 million as at December 31, 2015. The increase was attributable to exchange rate fluctuations (appreciation of the US dollar). The shipping finance portfolio was broadly diversified in terms of geographical region, type of vessel, borrower, charterer, and shipping activity. The largest proportion of the volume lent was attributable to the financing of tankers. As at December 31, 2016, this proportion had risen by 2 percentage points to 48 percent of the total volume of shipping finance. The increase related to the crude oil tanker, chemical tanker, and gas tanker segments of the shipping market, while the proportion of the portfolio attributable to product tankers as at December 31, 2016 was virtually unchanged year on year at 11 percent. The portfolio was almost fully collateralized in compliance with DVB strategy.

The current overcapacity in some shipping sectors, mainly in the bulk freighter and container ship sectors, continued to be the source of downward pressure on ship asset values and charter rates. There is likely to be an overall rise in default rates in the shipping industry because liquidity reserves have been exhausted. In view of this trend, the additions to allowances for losses on loans and advances in the shipping business were increased in the year under review.

DZ BANK's shipping finance exposures amounted to €815 million as at December 31, 2016 (December 31, 2015: €895 million). Broken down by type of ship, the portfolio was focused mainly on multifunctional merchant vessels and, in terms of carrying capacity, comprised almost exclusively small- to medium-sized vessels. As in 2015, DZ BANK's shipping finance portfolio in 2016 was mainly concentrated in Germany but broadly diversified by type of vessel, borrower, charterer, and shipping activity.

8.7. Non-performing lending volume

8.7.1. Impaired lending volume

Figures 36 and 37 show the impaired lending volume. The collateral shown is available for securing the lending volume after specific loan loss allowances. The disclosures largely relate to traditional lending business.

As at December 31, 2016, the **Bank sector's** lending volume after allowances for loans and advances amounted to €2,622 million, which was virtually unchanged on the figure of €2,623 million as at December 31, 2015.

At **DZ BANK**, the impaired lending volume rose from €795 million as at December 31, 2015 to €835 million as at December 31, 2016. This increase was almost entirely the result of a higher volume of impaired loans to corporates.

8.7.2. Volume of non-performing loans

Because the volume of non-performing loans reported for the **Bank sector** rose from €5.2 billion to €5.8 billion during 2016, while the total lending volume also increased from €302.3 billion to €387.7 billion, the NPL ratio had gone down to 1.5 percent at the end of 2016 (December 31, 2015: 1.7 percent).

At **DZ BANK**, there was also an increase in the volume of impaired loans, which went up from €1.9 billion as at December 31, 2015 to €2.3 billion as at the 2016 balance sheet date. As a result of this change, and because the total lending volume had grown from

FIG. 36 – BANK SECTOR: IMPAIRED LENDING VOLUME AND COLLATERAL, BY SECTOR

	Amount before specific loan loss allowances		Specific loan loss allowances		Amount after specific loan loss allowances		Collateral	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Financial sector	81	148	41	46	40	102	31	66
Public sector	–	–	–	–	–	–	–	–
Corporates	3,517	3,023	1,436	1,137	2,081	1,886	1,237	1,171
Retail	859	1,014	358	391	501	623	491	599
Industry conglomerates	2	18	1	6	1	12	–	11
Other	–	27	–	27	–	–	–	–
Total	**4,458**	**4,230**	**1,836**	**1,607**	**2,622**	**2,623**	**1,758**	**1,847**

FIG. 37 – BANK SECTOR: IMPAIRED LENDING VOLUME AND COLLATERAL, BY COUNTRY GROUP

	Amount before specific loan loss allowances		Specific loan loss allowances		Amount after specific loan loss allowances		Collateral	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Germany	2,521	2,554	1,221	1,183	1,300	1,371	913	1,022
Other industrialized countries	1,226	918	365	239	861	679	459	352
Advanced economies	219	341	132	94	87	247	101	166
Emerging markets	492	417	118	91	374	326	285	308
Supranational institutions	–	–	–	–	–	–	–	–
Total	**4,458**	**4,230**	**1,836**	**1,607**	**2,622**	**2,623**	**1,758**	**1,847**

€158.0 billion to €205.8 billion, there was a slight year-on-year fall in the NPL ratio, which stood at 1.1 percent (December 31, 2015: 1.2 percent).

Figure 38 shows key figures relating to the volume of non-performing loans.

8.8. Allowances for losses on loans and advances

8.8.1. Allowances for losses on loans and advances in the total portfolio

Figures 39 and 40 show the change in the volume of allowances (specific loan loss allowances, including the specific loan loss allowances evaluated on a group basis, and portfolio loan loss allowances), the provisions for loan commitments, and liabilities under financial guarantee contracts in 2016 and 2015 for the entire credit portfolio of the Bank sector and DZ BANK.

FIG. 38 – BANK SECTOR: KEY FIGURES FOR THE VOLUME OF NON-PERFORMING LOANS

	Bank sector		DZ BANK	
€ billion	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Total lending volume	387.7	302.3	205.8	158.0
Volume of non-performing loans	5.8	5.2	2.3	1.9
Balance of allowances for losses on loans and advances	2.7	2.4	1.3	1.2
Loan loss allowance ratio	0.7%	0.8%	0.6%	0.7%
Risk cover ratio	47.0%	47.1%	57.4%	60.2%
NPL ratio	1.5%	1.7%	1.1%	1.2%

FIG. 39 – BANK SECTOR: ALLOWANCES FOR LOSSES ON LOANS AND ADVANCES IN THE TOTAL PORTFOLIO

	Specific loan loss allowances[1]		Portfolio loan loss allowances		Total loan loss allowances		Provisions for loan commitments[2] and liabilities under financial guarantee contracts	
€ million	2016	2015	2016	2015	2016	2015	2016	2015
Balance as at Jan. 1	1,607	1,908	466	480	2,073	2,388	148	167
Additions	908	666	218	95	1,126	761	117	48
Utilizations	-244	-377	–	–	-244	-377	–	–
Reversals	-416	-437	-139	-113	-555	-550	-71	-69
Interest income	-31	-45	–	–	-31	-45	2	2
Other changes	12	-108	13	4	25	-104	58	–
Balance as at Dec. 31	1,836	1,607	558	466	2,394	2,073	254	148
Directly recognized impairment losses	48	68	–	–	48	68		
Recoveries on loans and advances previously impaired	-116	-121	–	–	-116	-121		

1 Including specific loan loss allowances evaluated on a group basis.
2 Excluding other provisions for loans and advances.

Not relevant

FIG. 40 – BANK SECTOR: ALLOWANCES FOR LOSSES ON LOANS AND ADVANCES IN DZ BANK'S TOTAL PORTFOLIO

	Specific loan loss allowances		Portfolio loan loss allowances		Total loan loss allowances		Provisions for loan commitments and liabilities under financial guarantee contracts	
€ million	2016	2015	2016	2015	2016	2015	2016	2015
Balance as at Jan. 1	825	958	119	129	944	1,087	138	157
Additions	256	303	92	4	348	307	114	46
Utilizations	-103	-182	–	–	-103	-182	–	–
Reversals	-192	-261	-32	-14	-224	-275	-66	-68
Interest income	-10	-15	–	–	-10	-15	3	2
Other changes	10	22	–	–	10	22	53	1
Balance as at Dec. 31	786	825	179	119	965	944	242	138
Directly recognized impairment losses	–	4	–	–	–	4		
Recoveries on loans and advances previously impaired	-59	-71	–	–	-59	-71		

Not relevant

These items are disclosed for the Bank sector in the notes to the consolidated financial statements as follows:

– Loan loss allowances: note 52 (allowances for losses on loans and advances)
– Provisions for loan commitments: note 67 (provisions)
– Liabilities under financial guarantee contracts: note 69 (other liabilities).

Over the course of the reporting period, the **volume of specific loan loss allowances** in the **Bank sector**

rose by €229 million compared with December 31, 2015. This increase was primarily attributable to DVB's shipping and offshore businesses. Some of the increase was offset by decreases at DG HYP, TeamBank, and **DZ BANK** (€39 million). As at December 31, 2015, there had been a year-on-year contraction in the volume of specific loan loss allowances of €301 million in the Bank sector and €133 million at DZ BANK.

In the year under review, a net addition was made to the specific loan loss allowances in the **Bank sector**, including **DZ BANK**, taking into account the effects from the merger. The specific loan loss allowances recognized – mainly in corporate banking – were offset by reversals resulting from the continued success of efforts to aid the recovery of non-performing loans and recoveries from loans and advances previously impaired. Overall, the change in specific loan loss allowances – which also benefited from stable economic conditions – reflects the stability of the credit portfolio and the sustainable risk policy adopted by the entities in the Bank sector, including DZ BANK.

There was a net addition to **portfolio loan loss allowances** in the reporting year. The net addition in the **Bank sector** totaled €92 million (December 31, 2015: net reversal of €14 million), of which €60 million related to **DZ BANK** (December 31, 2015: net reversal of €10 million). The balance of these allowances at DVB and TeamBank also went up, although the equivalent balance at DG HYP was reduced.

The volume of **provisions for loan commitments and liabilities under financial guarantee contracts** likewise rose in 2016, both in the **Bank sector** (by €106 million; December 31, 2015: fall of €19 million) and at **DZ BANK** (by €104 million; December 31, 2015: fall of €19 million).

8.8.2. Allowances for losses on loans and advances in portfolios with increased risk content

The level of specific loan loss allowances for the Bank sector's exposure in the **peripheral countries of the eurozone** declined slightly in the year under review. The opening balance for the allowances for losses on loans and advances recognized for the peripheral eurozone countries was adjusted in the same way as the lending volume was adjusted in respect of Ireland. The reported opening balance as at January 1, 2016 was therefore different from the closing balance as at December 31, 2015 reported in the 2015 opportunity and risk report.

A net reversal was recognized for portfolio loan loss allowances in the reporting year, the largest contribution coming from DG HYP.

Additions of €207 million and €5 million were recognized for specific loan loss allowances and portfolio loan loss allowances respectively in relation to DVB's **shipping finance portfolio** in 2016 in view of the deterioration in international shipping markets, especially in the second half of the year. In contrast, the level of specific and portfolio loan loss allowances for the shipping finance portfolio at DZ BANK was reduced slightly.

Changes in the individual components of the allowances for losses on loans and advances for portfolios with increased risk content for 2016 and 2015 are shown in figure 41 (Bank sector) and in figure 42 (DZ BANK).

8.9. Risk position

The amount of capital required to cover credit risk is based on a number of factors, including the size of single-borrower exposures, individual ratings, and the industry sector of each exposure.

As at December 31, 2016, the **Bank sector's** risk capital requirement amounted to €4,472 million (December 31, 2015: €3,569 million), with an upper loss limit of €6,606 million (December 31, 2015: €4,860 million).

The rises in the risk capital requirement and upper loss limit were mainly due to the inclusion of the former WGZ BANK Group for the first time.

As at December 31, 2016, the risk capital requirement for **DZ BANK** was calculated at €1,577 million (December 31, 2015: €1,249 million), with an upper loss limit of €2,200 million (December 31, 2015: €1,600 million). Again, the higher values were largely attributable to the impact from the merger.

The risk capital requirements for the Bank sector and for DZ BANK were within the applicable upper loss limits at all times during the course of 2016.

FIG. 41 – BANK SECTOR: ALLOWANCES FOR LOSSES ON LOANS AND ADVANCES FOR PORTFOLIOS WITH INCREASED RISK CONTENT

	Specific loan loss allowances[1]		Portfolio loan loss allowances		Total loan loss allowances		Provisions for loan commitments[2] and liabilities under financial guarantee contracts	
€ million	2016	2015	2016	2015	2016	2015	2016	2015
Eurozone periphery countries								
Balance as at Jan. 1	13	8	14	20	27	29	–	–
Balance as at Dec. 31	10	13	10	14	20	27	–	–
Shipping finance								
Balance as at Jan. 1	327	349	43	39	369	388	2	4
Balance as at Dec. 31	510	327	46	43	556	369	–	2

1 Including specific loan loss allowances evaluated on a group basis.
2 Excluding other provisions for loans and advances.

FIG. 42 – BANK SECTOR: ALLOWANCES FOR LOSSES ON LOANS AND ADVANCES FOR PORTFOLIOS WITH INCREASED RISK CONTENT, DZ BANK

	Specific loan loss allowances		Portfolio loan loss allowances		Total loan loss allowances		Provisions for loan commitments and liabilities under financial guarantee contracts	
€ million	2016	2015	2016	2015	2016	2015	2016	2015
Eurozone periphery countries								
Balance as at Jan. 1	5	5	3	2	8	7	–	1
Balance as at Dec. 31	5	5	2	3	7	8	–	–
Shipping finance								
Balance as at Jan. 1	184	247	20	19	204	266	2	4
Balance as at Dec. 31	160	184	18	20	178	204	–	2

FIG. 43 – BANK SECTOR: FACTORS DETERMINING THE CREDIT VALUE-AT-RISK

	Average probability of default				Expected loss (€ million)				Risk capital requirement (€ million)			
	Bank sector		DZ BANK		Bank sector		DZ BANK		Bank sector		DZ BANK	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Traditional credit risk	0.7%	0.7%	0.2%	0.2%	503	409	112	104	2,566	2,091	974	811
Issuer risk	0.2%	0.3%	0.2%	0.2%	70	78	38	32	1,571	1,183	325	238
Replacement risk	0.2%	0.1%	0.1%	0.1%	12	10	10	9	335	295	278	200
Total					**585**	497	**161**	145	**4,472**	3,569	**1,577**	1,249
Average	**0.5%**	0.6%	**0.2%**	0.2%								

Not relevant

FIG. 44 – BANK SECTOR: CREDIT VALUE-AT-RISK FOR CREDIT PORTFOLIOS WITH INCREASED RISK CONTENT

	Bank sector		DZ BANK	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Eurozone periphery countries	946	701	16	17
Shipping finance	361	266	58	52

Figure 43 shows the credit value-at-risk together with the average probability of default and expected loss.

The risk capital required in the **Bank sector** and at **DZ BANK** for credit portfolios exposed to increased credit risk is shown in figure 44.

The year-on-year increase of 35 percent in the risk capital requirement for exposures held by entities in the Bank sector to **European periphery countries** was largely the result of including WL BANK for the first time. Because Irish counterparties were removed from the analysis of particularly risky credit portfolios, the risk capital requirement for eurozone periphery countries as at December 31, 2015 that was given in the 2015 opportunity and risk report has been restated. The risk capital requirement in the Bank sector for **shipping finance** stemmed primarily from DVB.

8.10. Summary and outlook

All internal **rating systems** approved by the banking supervisor for solvency reporting were validated in 2016. For 2017, DZ BANK is planning to complete the further development work on the project finance rating system and to develop a supervisory slotting approach for project finance, which is scheduled to be used from 2020 onward to calculate the regulatory capital requirement. It is also expected that the rating system for insurance companies used in connection with the IRB approach will be subject to a supervisory review, and that the rating systems used in the IRB approach will be validated, taking into account the portfolios of the former WGZ BANK.

From March 1, 2017, OTC derivatives are subject to a more extensive collateralization obligation under the EMIR. In this regard, the **collateral policy** has been revised to include further standardization of contract parameters. In connection with the introduction of a portfolio-based approach for measuring the replacement risk in the bulk of the **derivatives portfolio**, further progress was made in 2016 on the design of the approach and technical preparations were put in place for live implementation. Furthermore, the inclusion of proprietary **exchange-traded futures and options** and those traded on behalf of customers below the replacement risk limits was completed. Another notable development planned for 2017 is the **migration and integration of the former WGZ BANK's business portfolios**. In addition, DZ BANK intends to initiate further measures as part of its continuous optimization of the internal **credit risk measurement** system.

In 2017, the entities in the Bank sector will continue to apply their existing **risk-strategy approach** to lending. At DZ BANK, this will involve further stepping up business with the cooperative financial network and selected customers. The Bank sector also plans to further increase its market share in SME business and strengthen its positioning in this segment in Germany, especially in the medium-sized company subsegment.

Given the predictions for economic growth, the Bank sector and DZ BANK are both likely to make additions to **specific loan loss allowances** in 2017, but within the expected level of allowances for losses on loans and advances.

9. Equity investment risk

9.1. Definition and causes

Equity investment risk is the risk of losses arising from negative changes in the fair value of the portion of the long-term equity investments portfolio for which the risks are not included in other types of risk.

In the Bank sector, equity investment risk arises primarily at DZ BANK, BSH, and DVB.

The long-term equity investments in the banking book are held largely for strategic reasons and normally cover markets, market segments, or parts of the value chain in which the entities of the Bank sector themselves or the cooperative banks are not active. These investments therefore support the sales activities of the cooperative banks or help reduce costs by bundling functions. The investment strategy is continuously aligned with the needs of cooperative financial network policy.

9.2. Risk strategy and responsibility

Risk strategy requirements must be observed in the management of long-term equity investments. Such management is subject to the principle that equity investment risk (measured as risk capital requirement) may be taken on only if this risk is considered together with the associated opportunities and only if the risk remains below the existing upper loss limits.

Decisions on whether to acquire or dispose of **long-term equity investments** are made by the Board of Managing Directors of the entities in the Bank sector in consultation with the relevant committees.

At DZ BANK, the Group Strategy and Controlling division is responsible for **supporting these investments**, whereas at BSH the task falls within the scope of the International Markets division and the Controlling and Investment Management division. At DVB, the investments are the responsibility of the Accounting and Legal Affairs departments.

The **monitoring and measurement** of equity investment risk is the responsibility of the relevant planning and control units, which must then submit quarterly reports on the results of their activities to the Supervisory Board, the Board of Managing Directors, and the division responsible for supporting the investments.

9.3. Risk management

Goodwill relating to long-term equity investments is regularly tested for possible impairment in the last quarter of the financial year. If there are any indications during the course of the year of possible impairment, more frequent impairment tests are also carried out. In an impairment test, the carrying amount of the units to which the goodwill relates is compared with the market price that could be achieved at this point.

Since the first quarter of 2016, the capital requirement for equity investment risk at **DZ BANK** has been determined using a Monte Carlo simulation. In this method, which replaces the previous variance-covariance approach, portfolio concentrations in sectors and individual counterparties are taken into account by simulating industry-wide and individual investment-related risk factors.

At **BSH**, risk is still determined using a variance-covariance method, in which the value-at-risk is measured with a holding period of 1 year.

The main risk drivers are the market values of the long-term equity investments, the volatility of the market values, and the correlations between the market values, with market price fluctuations mainly derived from reference prices listed on an exchange.

At **DVB**, the capital requirement for equity investment risk has been determined using an earnings-at-risk approach since the second quarter of 2016.

The measurement of equity investment risk takes into account both the equity-accounted investments and fully consolidated investees. As part of acquisition accounting and during the course of preparing the consolidated financial statements, the investment carrying amounts for consolidated subsidiaries are offset against the relevant share of net assets. Consequently, the investment carrying amounts disclosed in the notes to the consolidated financial statements are considerably lower than the carrying amounts used for determining risk.

9.4. Risk factors and risk position

If a future impairment test determines that the goodwill of long-term equity investments reported on the balance sheet is significantly **impaired**, this could have an adverse impact on the financial performance and financial position of the DZ BANK Group.

In the case of **non-controlling interests**, there is a risk that key information may not be available or cannot be obtained promptly by virtue of the fact that the investment is a minority stake; this would lead to an increase in the impairment risk.

The **carrying amounts of long-term equity investments** in the **Bank sector** relevant for the measurement of equity investment risk amounted to €2,786 million as at December 31, 2016 (December 31, 2015: €3,235 million). The decrease was primarily attributable to a switch in the valuation method used at DVB. As at December 31, 2016, the carrying amounts of the long-term equity investments of **DZ BANK** totaled €1,709 million (December 31, 2015: €1,544 million).

As at the reporting date, the **economic capital requirement** for equity investment risk in the **Bank sector** was measured at €1,263 million, which was higher than the corresponding figure at the end of 2015 of €854 million. The upper loss limit was €1,468 million (December 31, 2015: €1,081 million). As at December 31, 2016, the economic capital requirement for equity investment risk at **DZ BANK** amounted to €722 million (December 31, 2015: €439 million). The principal reasons for this increase were the introduction of a newly developed risk measurement model and the impact from the merger. The upper loss limit at December 31, 2016 was €760 million (December 31, 2015: €440 million). The upper loss limits for the entities in the Bank sector, including DZ BANK, were not exceeded at any time during 2016.

10. Market risk

10.1. Definition and causes

Market risk in the Bank sector comprises market risk in the narrow sense of the term, and market liquidity risk.

Market risk in the narrow sense of the term – referred to below as market risk – is the risk of losses on financial instruments or other assets arising from changes in market prices or in the parameters that influence prices. Depending on the underlying influences, market risk can be broken down for the most part into interest-rate risk, spread risk and migration risk, equity risk, fund price risk, currency risk, commodity risk, and asset-management risk. These risks are caused by changes in the yield curve, credit spreads, exchange rates, share prices, and commodity prices.

Market risks arise in particular from DZ BANK's customer-account trading activities, DZ BANK's cash-pooling function for the cooperative financial network, and from the lending business, real-estate finance business, building society operations, investments, and issuing activities of the various management units. Spread risk, including migration risk, is the most significant type of market risk for the Bank sector. Market risk also arises from the assets and liabilities in connection with direct pension commitments.

Market liquidity risk is the risk of loss arising from adverse changes in market liquidity, for example as a result of a reduction in market depth or of market disruption. The consequences are that assets can only be liquidated in markets if they are discounted and that it is only possible to carry out active risk management on a limited basis. Market liquidity risk arises primarily in connection with securities already held in the portfolio as well as funding and money market business.

10.2. Risk strategy

The following principles for managing market risk apply to DZ BANK and its subsidiaries in the Bank sector:

- Market risk is only taken on to the extent that it is necessary to facilitate attainment of business policy objectives.
- The assumption of market risk is only permitted within the existing limits and only provided that it is considered together with the associated opportunities.
- Statutory restrictions, provisions in the Articles of Association, or other limitations enshrined in the risk strategy that prohibit the assumption of certain types of market risk for individual management units are observed.

For regulatory purposes, **DZ BANK** is classed as a trading book institution. It conducts trading activities as part of its role as a central institution in the cooperative financial network and – on this basis – as a corporate bank for customers outside the cooperative financial network. As part of a range of services for the cooperative financial network, DZ BANK provides investment and risk management products, platforms, research, and expertise, and acts as an intermediary transforming small deposits into larger-scale lending. DZ BANK also provides facilities ensuring risk transfer from the cooperative financial network and cash pooling within the cooperative financial network. DZ BANK's trading strategy is aimed at generating profits primarily from customer margins and structuring margins.

Unmatched market-risk positions, primarily involving spread risk and migration risk, arise in connection

with customer business and from holding securities portfolios for trading on behalf of customers. To support its liquidity management function as a central institution and corporate bank, and on behalf of the DZ BANK Group, DZ BANK also maintains liquidity portfolios in which it holds – within the relevant limits – bonds eligible for central bank borrowing. It also holds portfolios of bonds and credit derivatives for the purposes of managing credit risk. DZ BANK manages market risk in its lending business and own issues and also incurs market risk from holding issues from the primary banks and subsidiaries.

The risks arising in connection with the assets and liabilities associated with direct pension commitments form part of the daily risk management process and are also regularly assessed by a DZ BANK investment committee. Corrective action to eliminate risk is taken where necessary. Changes in legislation, decisions by the courts, or accounting standards may make it necessary to adjust existing provisions for pensions and other post-employment benefits.

As an institution with a banking book for regulatory purposes, **BSH** is exposed to market risks, primarily in the form of interest-rate risk, spread risk, and migration risk. In the case of interest-rate risk, the risk arising from collective business is particularly significant because the business guarantees customers fixed interest rates on both their credit balances and on loans to be drawn down in the future. Risk quantification models designed specifically for the building society business take account of this transaction structure. BSH enters into capital-market transactions in order to manage interest-rate risk from the collective business and to invest surplus home savings deposits. This primarily involves purchasing securities. BSH does not conduct any own-account trading with a view to exploiting short-term pricing fluctuations. Spread risk and migration risk arise on its securities portfolio.

For regulatory purposes, **DG HYP** is also classed as an institution with a banking book. DG HYP's business model means that the risks relevant to its management of market risk are interest-rate risk, spread risk, migration risk, and currency risk. Currency risk only represents a low risk in this case, as it is usually largely eliminated. Spread risk and migration risk are monitored as part of the internal reporting system.

As DG HYP is classed as a banking book institution, it does not engage in own-account trading in the sense of exploiting short-term fluctuations in interest rates and prices.

For regulatory purposes, **DVB** has the characteristics of a trading book institution, although its trading positions are minimal. Given its business model, it is particularly exposed to interest-rate risk and currency risk, as well as a small degree of equity risk. These forms of market risk primarily arise from customer business and funding activities. DVB is also exposed to a low level of spread risk and migration risk that mainly results from holding securities for the purpose of liquidity management. DVB does not trade on its own account to generate profits from temporary fluctuations in prices and exchange rates.

Both **UMH** itself and its subsidiaries invest their own resources in purchasing Union Investment mutual funds. UMH and its subsidiaries also acquire units in newly launched Union Investment funds in order to provide initial funding for the funds, but not with the intention of generating short-term trading profits. In addition, pledged employee investments are invested in Union Investment funds in order to cover pension entitlements. Fund price risk is not broken down into other subtypes of market risk for management purposes.

UMH is also exposed to asset-management risk. This risk arises from its obligation to pay additional capital for guarantee products. Any shortfall in a contractually agreed minimum capital value on a maturity date triggers a payment obligation on the part of the fund provider, giving rise to these obligations to pay additional capital.

Interest-rate risk arises in connection with the valuation of defined benefit obligations.

UMH and its foreign subsidiaries are also exposed to currency risk on a small scale. This mainly results from exposures for processing payments and for ensuring liquidity.

For regulatory purposes, **WL BANK** is classed as an institution with a banking book. Because of WL BANK's strategic focus, it is exposed to market risks, primarily in the form of interest-rate risk, spread risk,

and migration risk. Interest-rate risk arises largely as a result of temporary or long-term maturity mismatches in connection with fixed-interest periods for interest-bearing transactions. This risk is subject to specified limits and is closely monitored. Spread risk and migration risk are monitored as part of the internal reporting system. The risk arising on transactions subject to currency risk is eliminated by hedging. As a non-trading book institution, WL BANK does not conduct any own-account trading with a view to exploiting short-term pricing fluctuations.

10.3. Organization, responsibility, and risk reporting

10.3.1. Organization and responsibility

As a trading book institution, **DZ BANK** generally manages market risk on a decentralized, portfolio basis. The traders responsible for managing a portfolio bear responsibility for its risk and performance.

Market risk arising at **BSH** is managed at overall bank level and exclusively as part of the banking book. Market risk arising at **DG HYP**, **DVB**, and **UMH** is managed centrally by specialist committees at each institution. The committees provide guidance for treasury activities based on market risk reporting. Committee decisions are implemented operationally by the portfolio managers and treasury departments at each entity. WL BANK's market risk is largely managed by Pfandbrief treasury within the limits decided by the Board of Managing Directors of WL BANK.

10.3.2. Risk reporting

Key figures for market risk are submitted at **sector level** to the Group Risk and Finance Committee within the overall risk report for the DZ BANK Group. DZ BANK is informed of any limit overruns at management unit level by means of an ad-hoc reporting system.

As part of internal reporting at **DZ BANK**, **BSH**, **DG HYP**, **DVB**, and **WL BANK**, Risk Controlling provides the portfolio managers and the senior managers responsible for risk management and risk control with daily, weekly, or monthly market risk updates. Twice a month, **UMH** calculates the risk attaching to its own-account investing activities and reports this risk to its Board of Managing Directors and the committee responsible for managing own-account investing.

10.4. Risk management

10.4.1. Refinement of the portfolio structure

With effect from January 1, 2016, the existing definitions for trading portfolios and non-trading portfolios were amended in the context of value-at-risk, which is used for short-term risk management. '**Trading portfolios**' is now the overarching term for the trading and banking books assigned to the capital-markets-related trading units of DZ BANK. This differs from the previous definition of 'trading portfolios', which used to also cover parts of the treasury portfolios.

Under the new definition, the **non-trading portfolios** continue to cover all of the other portfolios of DZ BANK as well as the portfolios of the other management units within the Bank sector. They now also include the parts of the treasury portfolios that are not assigned to the trading portfolios. In addition, plan assets and defined benefit obligations that do not form part of any outsourced pension plans are allocated to the non-trading portfolios.

10.4.2. Measurement of market risk

Measurement of market risk in the narrow sense

DZ BANK, BSH, DG HYP, DVB, UMH, and **WL BANK** determine market risk from the short-term (operating) perspective using the **value-at-risk** method.

Value-at-risk is a key performance indicator that describes the maximum expected loss for a given probability (confidence level) and within a specified holding period for the positions under normal market conditions. The model does not reflect the maximum potential loss that could be incurred in extreme market situations, but is based on observed historical market scenarios over periods of 250 trading days (DZ BANK, DG HYP, WL BANK), 1,500 trading days (BSH), 256 trading days (DVB), and 1 year (own-account investments of UMH).

DZ BANK, **BSH**, **DVB**, and **DG HYP** generate market scenarios using a **historical simulation**. Holding periods of 1 day and 10 days are used.

UMH uses **Monte Carlo simulation** to determine the market risk arising from its own-account investing.

This measurement method provides a 'look through' to the individual securities in the funds and it is also used when quantifying the asset-management risk for most product types. The measurement of risk in each case is based on a unilateral confidence level of 99.9 percent and a holding period of 1 year.

For **DZ BANK**, **BSH**, **DG HYP**, **DVB**, and **WL BANK**, calculations are carried out to determine an overall value-at-risk and – where relevant – separate values-at-risk for interest-rate risk, spread risk, equity risk, currency risk, and commodity risk, broken down into trading portfolios and non-trading portfolios. The risk in the banking book is included in the value-at-risk for the non-trading portfolios. An overall value-at-risk is calculated for the own-account investing activities carried out by **UMH**. To determine risk values at the level of the Bank sector, DZ BANK also uses a central, sector-wide risk model, which quantifies market risk for the Bank sector taking into account the effects of concentration and diversification.

To quantify market risk from a longer-term (strategic) perspective, the credit institutions in the Bank sector regularly calculate the **capital requirement for market risk** and compare it with the associated upper loss limit.

The risk measurements from both the operating and strategic perspectives for the credit institutions in the Bank sector are linked to each other by a consistent **system of limits**, whereas the market risk incurred by UMH is managed directly at the level of its risk capital requirement. Consequently, it does not require a limit system for linking the operating and strategic perspectives.

Changes to the measurement of risk from pension commitments

The reclassification of the portfolios described in section 10.4.1. was accompanied by refinements to the measurement of the risk from pension commitments in the Bank sector. The market risk arising on **defined benefit obligations** is now included in the daily measurement of risk in the non-trading portfolios. Until mid-June 2016, some of these risks were backed by a general capital buffer.

DZ BANK has also refined the way in which it shows the amounts invested to meet the defined benefit obligations. These **plan assets**, which are held as a fund, were previously reported for risk purposes in terms of the market risk attaching to the fund or equities. The fund is now broken down into its constituent asset classes (interest rates, credit spreads, equities, and currencies) for the purposes of risk calculation. As the fund only contains a small proportion of equities, this has resulted in a sharp fall in the risk assigned to the equities category.

Measurement of market liquidity risk

In the **Bank sector** and at **DZ BANK**, market liquidity effects are taken into account centrally when determining the risk capital requirement for spread risk and migration risk.

In addition, the market liquidity risk associated with interest-rate risk, equity risk, fund price risk, currency risk, commodity risk, and asset-management risk is measured using special stress scenarios when determining the risk capital requirement for market risk. The economic capital requirement calculated in these stress scenarios is compared against the available cover assets in order to obtain an indication of capital adequacy during periods of adverse trends in market liquidity.

10.4.3. Backtesting and stress tests

The methods used by the entities in the Bank sector to quantify continuous market risk are subjected to **backtesting**, the purpose of which is to check the predictive quality of these methods. Changes in the value of portfolios on each trading day are usually compared against the value-at-risk calculated using risk modeling.

Risks arising from extreme market situations are primarily recorded using **stress tests**. The crisis scenarios underlying the stress tests include the simulation of significant fluctuations in risk factors and serve to highlight potential losses not generally recognized in the value-at-risk approach. Stress tests are based on extreme market fluctuations that have actually occurred in the past together with crisis scenarios that – regardless of market data history – are considered to be economically relevant. The crisis scenarios used in this case are regularly reviewed to ensure they are appropriate. In these stress tests, the following are deemed to be material risk factors: interest-rate risk, spread risk, migration risk, equity risk, currency risk, and commodity risk.

10.4.4. Management of limits for market risk

Market risk is managed at **DZ BANK**, **BSH**, and **DG HYP** using a limit system appropriate to the portfolio structure. This system limits the risks assumed in parts of the group as well as any losses arising during the course of the year.

Within the trading divisions of **DZ BANK** and the treasury at **DG HYP**, the management of risk based on value-at-risk is supported by a limit system structured around sensitivities and scenarios, and by stress test limits. At DG HYP, the treasury's system of limits is based on value-at-risk and sensitivities.

The limit system used at both **DVB** and **UMH** is based on the value-at-risk or risk capital required at the highest portfolio level.

WL BANK manages interest-rate risk, together with spread risk and migration risk, at overall bank level within the sector-related limits specified by DZ BANK.

10.4.5. Mitigating market risk

Market risk hedging

As part of the decentralized management of portfolios, market risk at **DZ BANK** is hedged by portfolio managers. At **DG HYP**, it is hedged by treasury. At **WL BANK**, this responsibility lies with Pfandbrief treasury. In the case of the latter, market risk is hedged mainly by using OTC transactions with suitable counterparties.

Risks are hedged at **DZ BANK** either through internal transactions with the front-office trading unit responsible for the relevant product or through external exchange-based and OTC transactions.

DG HYP exclusively uses external exchange-based and OTC transactions to hedge against market risk, although the OTC transactions used for hedging are primarily with counterparties within the Bank sector.

At **BSH**, the asset-liability committee decides whether to hedge market risk via OTC transactions.

DVB's treasury uses OTC interest-rate and currency derivatives to hedge market risk.

As soon as action is required to reduce the market risk arising from own-account investing at **UMH**, changes are made to the composition of the fund positions in its own-account investments. For this reason, UMH is only exposed to fund price risk.

Hedge effectiveness

The measurement of market risk at **DZ BANK** is based on the inclusion of the individual positions subject to market risk. There is therefore no need to monitor the economic effectiveness of hedges.

At **DG HYP**, the effectiveness of any hedging is reviewed and reported daily in terms of both risk and performance. The report covers the entire DG HYP book. Derivatives in various forms are used to mitigate market risk. These are predominantly plain vanilla products.

Interest-rate risk incurred by **DVB** is eliminated by the use of interest-rate swaps. Currency risk is hedged by the use of currency swaps and cross-currency swaps with the aim of closing out all currency exposure.

Market risk is measured at **WL BANK** in the Finance division, which reports the value-at-risk in the overall interest-rate book daily. Interest-rate derivatives are the main instrument used to hedge this risk.

10.4.6. Managing the different types of market risk

Management of interest-rate risk

At **DZ BANK**, interest-rate risk arises from trading in interest-rate-sensitive products on behalf of customers, from structuring its own issues for trading on behalf of customers, and from exposures in connection with liquidity management. The risks arising from trading on behalf of customers are dynamically hedged within the set limits and the risks from liquidity management are generally minimized. At DZ BANK, interest-rate risk also arises from the assets and liabilities in connection with direct pension commitments.

BSH is subject to particular interest-rate risks arising from its collective home savings business since it gives customers a binding interest-rate guarantee both for savings and for the loan element that may be drawn down in the future. BSH uses a simulation model based on the behavior of building society customers

to measure interest-rate risk. The model forecasts the volume of collective assets held, taking into consideration planned new business and different customer options.

At **DG HYP**, interest-rate risk largely arises from Pfandbrief cover assets and funding transactions. These risks are mitigated by hedging on a regular basis.

Interest-rate risk at **DVB** largely arises from customer business, the purchase of securities for the liquidity portfolio, and funding transactions. This risk is generally eliminated.

Management of spread risk and migration risk

Spread risk and migration risk on all financial instruments subject to credit spread risk are incorporated into risk capital management. An upper loss limit and operational limits together with a process for monitoring them were introduced in order to ensure that the risk capital for these two forms of market risk is managed effectively.

At **DZ BANK**, spread risk and migration risk arise from holding securities portfolios for trading on behalf of customers, from trading in its own issues on behalf of customers, and from the liquidity management function that the bank carries out for the Bank sector. The risk incurred in connection with trading on behalf of customers is actively managed. In liquidity management, the risk tends to be limited to that which is absolutely necessary to allow DZ BANK to carry out its responsibilities as a central institution and in connection with the liquidity management function.

Spread risk and migration risk arise at **BSH** from investing surplus home savings deposits in securities. The resulting risk is managed as part of a conservative investment policy.

Spread risk and migration risk at **DG HYP** largely result from holding securities as Pfandbrief cover assets. The risks are included in an active internal reporting system and are monitored on a daily basis. Migration risk is not covered by this daily monitoring. Since the switch in DG HYP's business model, the entity only takes on new spread risk or migration risk if it is necessary as part of the management of cover assets.

Spread risk and migration risk arise at **DVB** from holding securities in its liquidity portfolio.

Spread risk and migration risk at **WL BANK** result from holding securities as Pfandbrief cover assets and for liquidity purposes. The risk associated with these exposures is monitored as part of regular risk monitoring.

Management of equity risk

Equity risk is only of minor significance at **DZ BANK**. It essentially arises from transactions on behalf of customers involving equities, equity and equity-index derivatives, investment funds and alternative investments, warrants, and investment certificates. It is managed by using equities, exchange-traded futures and options, and OTC derivatives.

Equity risk is primarily incurred by **DVB** in relation to its holding of treasury shares. The risk is not material.

Management of fund price risk

Fund price risk largely arises at **DZ BANK** in connection with business conducted on behalf of customers. Funds are also used to cover defined benefit obligations, but these funds are broken down into their constituent parts for the purposes of calculating risk and therefore no longer treated as fund exposures. The risk determined for the constituent parts is actively managed within existing limits.

Fund price risk arises at BSH from investing surplus home savings deposits in special funds. Funds are also used to cover defined benefit obligations. In both cases, the funds are broken down into their constituent parts for risk management purposes and not treated as fund exposures. The determined risk is managed within existing limits in the same way as other types of risk.

UMH is exposed to fund price risk because it invests its own resources in funds and also invests pledged employee investments in order to cover pension entitlements. While market risk arising from the funds it holds is measured by 'looking through' to individual-security level, the risk incurred by own-account investing is measured at fund level. For this reason, UMH is only exposed to fund price risk. The management of fund price risk focuses on the liquidity requirements of UMH's subsidiaries and the need to acquire fund units when providing initial funding for investment funds.

The requirements for a conservative investment policy are also observed.

Management of currency risk

Only a small amount of currency risk arises at **DZ BANK**, primarily in connection with interest-rate products denominated in foreign currency and in connection with customer business involving currency products and derivatives. Currency risk is eliminated for the most part. Generally speaking, DZ BANK does not hold any significant open currency positions.

At **BSH**, currency risk arises mainly as a result of capital transfers between BSH and subsidiaries in non-eurozone countries. This risk is not material and is eliminated by hedging where required.

The currency risk resulting from customer business at **DG HYP** is not material and is normally eliminated in full.

Currency risk is largely incurred by **DVB** as a result of currency transactions on behalf of customers and funding transactions in foreign currencies. This risk is generally eliminated.

Transactions at **WL BANK** subject to currency risk are not material and generally eliminated by hedges.

Management of commodity risk

DZ BANK is exposed to a low level of commodity risk arising from customer business involving commodity derivatives. The exposure is hedged for the most part or passed on directly and in full to external counterparties in back-to-back transactions.

Management of asset-management risk

Asset-management risk arises from minimum payment commitments given by **UMH** and/or its subsidiaries for guarantee products. The risks arising from these guarantee products are managed conservatively.

The launch of new guarantee products is governed by the guidelines for medium-term planning that apply to UMH and takes into account the risk capital required and the available internal capital. Before new products are launched, the risks associated with them are analyzed and assessed. Management mechanisms embedded in the products aim to prevent the value of an individual product from falling below its guaranteed level during its lifetime.

Asset-management risk is reported using a separate internal system and is monitored regularly at individual product level by UMH.

10.5. Risk factors

Credit spreads

Some credit risk premiums for bank bonds and corporate bonds declined significantly over the course of 2016. In particular, there was a perceptible narrowing of credit spreads on investment-grade government and corporate bonds. This trend was accompanied by a corresponding increase in the fair values of bonds.

If credit spreads on bank and corporate bonds or other investments, particularly government bonds, were to widen again, this would lead to a drop in fair values. Present value losses of this nature could have a temporary or permanent adverse impact on the profits generated by the entities in the Bank sector.

Market liquidity

A market-wide liquidity squeeze could be detrimental to the business activities of the DZ BANK Group and therefore also to its financial position and financial performance. Tighter market liquidity arises particularly in stressed market conditions, for example during the financial crisis.

10.6. Risk position

10.6.1. Risk capital requirement

As at December 31, 2016, the risk capital requirement for market risk used to determine the risk-bearing capacity of the **Bank sector** amounted to €4,347 million (December 31, 2015: €3,204 million) with an upper loss limit of €7,582 million (December 31, 2015: €5,830 million). This growth in the risk capital requirement was largely due to the impact of the merger and to exposures being transferred from the capital buffer to the regular market risk calculation.

The risk capital requirement for the Bank sector includes **asset-management risk**. The asset-management risk for guarantee funds was measured at €50 million as at December 31, 2016 (December 31, 2015: €60 million). The asset-management risk for

UniProfiRente as at the reporting date amounted to €28 million (December 31, 2015: €30 million).

As at December 31, 2016, **DZ BANK's** risk capital requirement for market risk amounted to €1,200 million (December 31, 2015: €752 million) with an upper loss limit of €2,400 million (December 31, 2015: €1,300 million). DZ BANK is not exposed to any asset-management risk.

Throughout the year under review, the risk capital requirement remained below the upper loss limit at the levels of both the Bank sector and DZ BANK.

10.6.2. Value-at-risk

Figure 45 shows the change in the value-at-risk in the trading and non-trading portfolios and the change in the aggregate risk for the Bank sector in the year under review.

In addition, figure 46 shows the daily changes in risk and the results of daily backtesting of trading portfolios.

As the Bank sector's trading portfolios consist exclusively of the trading portfolios of DZ BANK, the associated figures for the Bank sector are the same as those for DZ BANK.

As at December 31, 2016, the **aggregate risk** in the **Bank sector** was measured at €119 million (December 31, 2015: €105 million). The aggregate risk for **DZ BANK** as at December 31, 2016 was calculated at €33 million (December 31, 2015: €29 million). There was therefore only a negligible year-on-year increase in risk despite the integration of the former WGZ BANK and of WL BANK into the risk model. The main reason was lower volatility in a generally stable market environment.

The value-at-risk for the **trading portfolios** in the Bank sector as at December 31, 2016 was €4 million (December 31, 2015: €27 million). The substantial fall in the reported risk was attributable to the new breakdown between trading and non-trading portfolios, and the associated allocation of parts of the treasury portfolios to the non-trading portfolios. If this modification to the allocation had not been carried out, the risk in the trading portfolios would have remained virtually unchanged over the course of the year.

In the year under review, hypothetical changes in fair value exceeded the forecast risk value on one trading day.

As at December 31, 2016, the value-at-risk for the **Bank sector's non-trading portfolios** was calculated at €119 million (December 31, 2015: €75 million). The increase in risk in the Bank sector was mostly attributable to WL BANK's integration into the risk model. Other contributory factors were the refinement of the portfolio structure and the inclusion of defined benefit obligations for the first time.

The risk for the non-trading portfolios at **DZ BANK** rose during the course of 2016 from €13 million to €32 million. The principal reasons were the first-time inclusion of pension liabilities in the risk model from mid-June 2016 and the reallocation of parts of the treasury portfolios to this group of portfolios. The noticeable increase in interest-rate risk to €17 million as at December 31, 2016 was also due to the integration of defined benefit obligations.

Alongside the inclusion of the defined benefit obligations in the risk measurement, plan assets were integrated into the model by breaking them down into the constituent parts of the funds; previously, the plan assets had been treated as funds without a 'look through' approach. This led to a decline in equity risk at DZ BANK.

10.7. Summary and outlook

In 2016, DZ BANK continued to integrate the measurement and management of market risk to a greater depth in the management units of the Bank sector. This included the further expansion of the market risk model across the sector.

As in previous years, the focus of DZ BANK's trading business will be on customer business in 2017.

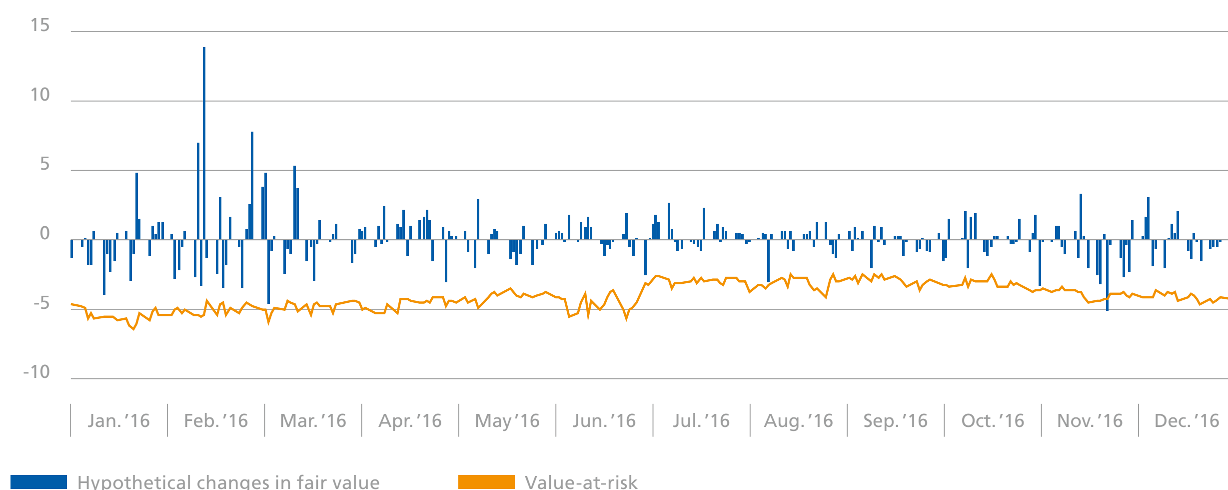
FIG. 45 – BANK SECTOR: VALUE-AT-RISK FOR MARKET RISK IN THE TRADING AND NON-TRADING PORTFOLIOS[1 2]

€ million	Interest-rate risk		Spread risk		Equity risk[3]		Currency risk		Commodity risk		Diversification effect[4]		Total	
	Bank sector	DZ BANK	Bank sector	DZ BANK	Bank sector	DZ BANK	Bank sector	DZ BANK	Bank sector	DZ BANK	Bank sector	DZ BANK	Bank sector	DZ BANK
Aggregate risk[5]														
Dec. 31, 2016	18	17	108	20	7	3	2	4	–	–	-15	-12	**119**	**33**
Dec. 31, 2015	12	6	99	28	14	9	1	4	–	–	-22	-18	105	29
Trading portfolios														
Dec. 31, 2016	2	2	4	4	1	1	1	1	–	–	-4	-4	**4**	**4**
Average	3	3	4	4	1	1	1	1	–	–	-4	-4	4	4
Maximum	5	5	5	5	1	1	2	2	–	–	-4	-4	5	5
Minimum	2	2	3	3	–	–	–	–	–	–	-5	-5	3	3
Dec. 31, 2015	4	4	26	26	1	1	2	2	–	–	-7	-7	27	27
Non-trading portfolios														
Dec. 31, 2016	19	17	104	17	7	3	2	4	–	–	-13	-9	**119**	**32**
Average	23	13	99	24	11	6	2	5	–	–	-26	-14	108	33
Maximum	44	21	124	27	15	11	3	6	–	–	-13	-9	140	42
Minimum	12	3	75	17	7	3	1	3	–	–	-42	-17	69	23
Dec. 31, 2015	11	3	68	3	14	9	1	2	–	–	-20	-4	75	13

1 Value-at-risk with 99.00% confidence level, 1-day holding period, 1-year observation period, based on a central market risk model for the Bank sector. Concentrations and effects of diversification were taken fully into account when calculating the risks.
2 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period. Consequently, they cannot be aggregated to produce the minimum or maximum aggregate risk due to the diversification effect.
3 Including funds, if not broken down into constituent parts.
4 Total effects of diversification between the types of market risk for all consolidated management units.
5 Owing to the effects of diversification between trading portfolios and non-trading portfolios, the mathematical total of the risks for these two parts of the overall portfolio are different from the figure for aggregate risk.

FIG. 46 – BANK SECTOR: VALUE-AT-RISK FOR MARKET RISK AND HYPOTHETICAL CHANGES IN FAIR VALUE IN TRADING PORTFOLIOS

€ million, value-at-risk with 99.00% confidence level, 1-day holding period, 1-year observation period



11. Technical risk of a home savings and loan company

11.1. Definition and causes

Technical risk of a home savings and loan company is subdivided into two components: new business risk and collective risk. **New business risk** is the risk of a negative impact from possible variances compared with the planned new business volume.

Collective risk refers to the risk of a negative impact that could arise from variances between the actual and forecast performance of the collective building society operations caused by significant long-term changes in customer behavior unrelated to changes in interest rates. It can be distinguished from interest-rate risk by incorporating a change in customer behavior unrelated to interest rates in the collective simulation. Conversely, only changes in customer behavior induced by changes in interest rates are relevant to interest-rate risk.

Technical risk of a home savings and loan company arises in the Bank sector in connection with the business activities of BSH. This risk represents the entity-specific business risk of BSH. A home savings arrangement is a system in which the customer accumulates savings earmarked for a specific purpose. The customer enters into a home savings contract with fixed credit balance and loan interest rates so that at a later point – following a savings phase (around 6 to 10 years in a standard savings arrangement) – he/she can be granted a low-interest home savings loan (with a maturity of 6 to 14 years) when payout is approved. A home savings agreement is therefore a combined asset/liability product with a very long maturity.

11.2. Risk strategy and responsibility

Technical risk of a home savings and loan company is closely linked with the BSH business model and cannot therefore be avoided. Against this backdrop, the **risk strategy** aims to prevent an uncontrolled increase in risk. The risk is managed in particular through a forward-looking policy for products and scales of rates and charges, and through appropriate marketing activities and sales management.

BSH is **responsible** for managing the technical risk of a home savings and loan company within the Bank sector. This includes measuring the risk and communicating risk information to the risk management committees at BSH and to the Board of Managing Directors and Supervisory Board of BSH. Technical risk of a home savings and loan company forms an integral part of the DZ BANK Group's internal risk reporting system.

11.3. Risk management

A special collective simulation, which includes the effects of a (negative) change in customer behavior and a drop in new business, is used to **measure the technical risk of a home savings and loan company**. The results of the collective simulation are fed into an income statement for the period using a long-term forecast of earnings. The variance between the actual earnings in the risk scenario and the necessary earnings to achieve the target is used as a risk measure. The variance is discounted to produce a present value. The total present value of the variances represents the technical risk of a home savings and loan company and therefore the risk capital requirement for this type of risk.

In order to determine the technical risk of a home savings and loan company in a **stress scenario**, the stress parameters, particularly the assumptions about customer behavior, are severely impaired. An appropriate collective simulation is then generated on this basis and is analyzed using the same methodology used for the measurement of current risk. Stress tests are carried out quarterly.

For the present value perspective in the liquidation approach within BSH's **overall bank limit system**, the technical risk of a home savings and loan company is backed by risk capital.

11.4. Risk factors

A variance between the actual and planned new business volume (new business risk) could lead to lower deposits from banks and customers over the short to medium term. Over the medium to long term, the lower level of new business could also lead to a decrease in loans and advances to banks and customers.

Variances between the actual and forecast performance of the collective building society business caused by significant long-term changes in customer behavior unrelated to changes in interest rates (collective risk) could also lead to lower deposits from banks and customers.

Over the medium to long term, there is a risk that a lower level of new business and change in customer behavior could cause net interest income to taper off with an adverse impact on the financial position and financial performance of the DZ BANK Group. There is also a risk that the liquidity position could deteriorate, in particular as a consequence of the drop in deposits from banks and customers.

11.5. Risk position

As at December 31, 2016, the capital requirement for the technical risk of a home savings and loan company amounted to €541 million (December 31, 2015: €549 million) with an upper loss limit of €600 million (December 31, 2015: €550 million). The risk capital requirement did not exceed the applicable upper loss limit at any point during the course of 2016.

12. Business risk

12.1. Definition and causes

Business risk denotes the risk of losses arising from earnings volatility for a given business strategy and not covered by other types of risk. In particular, this comprises the risk that, as a result of changes in material circumstances (for example, the regulatory environment, economic conditions, product environment, customer behavior, market competitors) corrective action cannot be taken at an operational level to prevent the losses.

DZ BANK's core functions as a central institution, corporate bank, and holding company mean that it focuses closely on the local cooperative banks, which are its customers and owners.

The key entities incurring business risk in the Bank sector in addition to DZ BANK are the management units DVB, DZ PRIVATBANK, and UMH.

12.2. Organization and risk management

The management of business risk is a primary responsibility of the **Board of Managing Directors of DZ BANK** and is carried out in consultation with the senior management of the main subsidiaries and the heads of the DZ BANK divisions involved. Group management is integrated into a committee structure, headed by the **Group Coordination Committee**. The Group Strategy and Controlling division supports the Board of Managing Directors as part of its role in supervising the activities of the subsidiaries.

The **Financial Services Advisory Council** increases the involvement of the cooperative banks in the joint development and marketing of the DZ BANK Group's products and services and it works closely with the BVR and its Special Committees. The Financial Services Advisory Council therefore acts as a recommendation committee on product and sales issues arising from the partnership between the cooperative banks and the DZ BANK Group. This approach endeavors to engender a high degree of mutual commitment while at the same time fully maintaining the decentralized structure to the benefit of the cooperative banks.

The management of business risk is closely linked with the **management of opportunities** and the tools used in the strategic planning process. It is based on setting targets for the subsidiaries involved in active management and for the divisions of DZ BANK. **Risk is quantified** using a risk model based on an earnings-at-risk approach.

To identify strategic regulatory initiatives with an impact on the DZ BANK Group and the individual management units, a centralized **regulation management** office has been set up at DZ BANK. This office establishes direct contact with the relevant units at DZ BANK and in the other management units, organizes regular bank-wide and groupwide dialog on identified and new strategic regulatory initiatives, and uses a 'regulatory map' to report to the responsible steering committees, the Board of Managing Directors, and the Supervisory Board of DZ BANK.

12.3. Risk factors

Costs of regulation

Over the next few years, the DZ BANK Group is likely to face **increased costs**, and thus reduced profits, in connection with implementing the requirements resulting from the commercial-law and regulatory initiatives currently being planned by legislators (see sections 5.1.1. and 5.1.2.).

Merger of DZ BANK and WGZ BANK

The process of integration after the merger of DZ BANK (pre-merger) and the former WGZ BANK will lead to

restructuring expenses. Once everything is up and running after the integration is complete, the joint institution is expected to be able to make full use of cost synergies in connection with structures, processes, and infrastructure and to avoid duplication of capital expenditure.

Competition based on pricing and terms

One of the features of the German banking sector is the fierce competition, frequently centered on pricing and terms. This can lead to margins that are not attractive from an economic perspective or are inadequate given the risk involved. The earnings situation is under particular pressure in the **retail banking business**. Competitors are giving greater focus to retail banking than to their core businesses – and increasingly with new, digital business models – so this situation could become even tougher in the future.

Corporate banking is also subject to competition that is becoming increasingly international in nature. A number of foreign providers have already expanded their presence in the German market. The intensity of the competition could therefore continue to increase in the future, with the result that it could be difficult to generate attractive margins, fees and commissions in individual segments or subsegments of the market.

In the event of a renewed economic downturn, this trend could become even worse. The resulting increased pressure on prices and lower business volume would notch up the competitive pressure still further. Again, this could give rise to margins that are economically unattractive or that do not adequately cover the risk arising from the corresponding transactions.

Changes in the market resulting from electronic trading platforms

DZ BANK increasingly offers its customers the option of conducting transactions in selected financial instruments using electronic trading platforms. Depending also on product demand from market players, European regulation relating to the trading and settlement of financial instruments is expected to lead to a transfer of the trading volume in certain products to electronic trading platforms. It is predicted that this will bring about a **change in competitor structure**, with **competition becoming fiercer in the trading of certain financial instruments for customer account**, resulting in the risk of a reduction in margins and revenue going forward.

Digitalization and demographic change

The prevalence of mobile devices and internet-based services (**digitalization**) is encouraging the intermediation of new competitors at the interface between customers and banking services. Banks are often confronted by new, unregulated competitors that frequently originate from the non-banking sector and that only selectively arrange, or actually offer, high-margin products or services for customers, leaving the complex and thus high-risk areas of business to the established banks. Consequently, if traditional financial service providers offering the full range of products and services come under threat in high-margin areas of business from competitors that are subject to little or no regulation, yet are expected to continue offering the other standard products, the earnings prospects of the entities in the DZ BANK Group may deteriorate in their payments processing and card processing businesses.

In the coming years, the banking industry will also face challenges relating to **demographic change** and the resulting alterations in customer behavior, while becoming subject to increased regulation.

The **opportunities** associated with digitalization and demographic change are presented in section 4.2.2.

12.4. Risk position

As at December 31, 2016, the economic capital requirement for the business risk incurred by the **Bank sector** amounted to €912 million (December 31, 2015: €579 million). The rise was largely the result of a recalculation based on DZ BANK's updated business forecasts. The upper loss limit was €1,024 million at the reporting date (December 31, 2015: €775 million).

As at December 31, 2016, the economic capital requirement for **DZ BANK** was calculated at €717 million (December 31, 2015: €398 million). The upper loss limit as at December 31, 2016 was €750 million (December 31, 2015: €550 million).

13. Reputational risk

13.1. Definition and causes

Reputational risk refers to the risk of losses from events that damage confidence, mainly among customers (including the local cooperative banks), shareholders, employees, the labor market, the general public, and the supervisory authority, in the entities in the Bank sector or in the products and services that they offer.

Reputational risk can arise as an independent risk (primary reputational risk) or as an indirect or direct consequence of other types of risk, such as business risk, liquidity risk, and operational risk (secondary reputational risk).

13.2. Risk strategy and responsibility

Reputational risk is incorporated into the risk strategy by pursuing the following objectives:

- Avoiding loss resulting from reputation-damaging incidents by taking preventive action
- Mitigating reputational risk by taking preventive and responsive action
- Raising awareness of reputational risk within the Bank sector, e.g. by defining the people responsible for risk and establishing a sector-wide reporting system and set of rules for reputational risk.

These objectives are applicable both at the Bank sector level and in the management units. The management units are responsible for complying with the rules and for deciding what suitable preventive and responsive action to take.

The reputational risk strategy is based on the business strategies in each management unit and to this end is reviewed at least once a year and adjusted as necessary.

Each management unit is responsible for managing its reputational risk and must comply with the requirements laid down in the set of rules for reputational risk. The principle of **decentralized** responsibility applies equally within all the management units, including DZ BANK. Based on this approach, responsibility for managing reputational risk lies with each division with the involvement of other functions such as communications, marketing, business continuity management, and compliance.

13.3. Risk management

Reputational risk is generally taken into account within business risk and is therefore implicitly included in the measurement of risk and risk capital adequacy in the Bank sector. At BSH, reputational risk mainly is measured and the capital requirement determined as part of the technical risk of a home savings and loan company. In addition, the risk that obtaining funding may become more difficult as a consequence of reputational damage is specifically taken into account in liquidity risk management.

Crisis communications aimed at mitigating reputational risk are designed to prevent greater damage to the entities in the Bank sector if a critical event occurs. The management units therefore follow a stakeholder-based approach in which reputational risk is identified and evaluated from a qualitative perspective depending on the stakeholder concerned.

13.4. Risk factors

If the Bank sector as a whole or the individual management units acquire a negative reputation, there is a risk that existing or potential customers will be unsettled with the result that existing business relationships might be terminated or it might not be possible to carry out planned transactions. There is also a risk that it will no longer be possible to guarantee the backing of shareholders and employees necessary to conduct business operations. Ultimately, reputational damage could make it more difficult to obtain funding.

14. Operational risk

14.1. Definition and causes

DZ BANK defines operational risk as the risk of loss from human behavior, technological failure, weaknesses in process or project management, or external events. This closely resembles the regulatory definition. Legal risk is included in this definition.

The activities of DZ BANK and those of BSH, DG HYP, DVB, DZ PRIVATBANK, and UMH

have a particularly significant impact on operational risk for the Bank sector.

14.2. Risk strategy

The Bank sector entities aim to manage operational risk efficiently. The following principles represent areas in which it has taken action, or is planning to take action, to ensure this core objective is achieved:

- Continuous enhancement of **risk awareness**, so that it is reflected in an appropriate risk culture focusing not only on individual areas of responsibility but also on overarching interests; establishment of comprehensive, open communication systems to support these aims
- An open and largely penalty-free **approach to operational risk** promoting a problem-solving culture
- Depending on the materiality of the operational risk identified, **action** to prevent, reduce, or transfer the risk, or alternatively a conscious decision to accept the risk
- **Risk appetite** defined in the form of an upper loss limit and alert thresholds for contributions to operational risk that is continuously adjusted in line with prevailing circumstances
- Individual **methods** for managing operational risk coordinated with each other to provide an accurate, comprehensive picture of the risk situation coherently integrated into the overall management of all risk types
- Mandatory rule for all material **decisions** to take into account the impact on operational risk; this applies in particular to the new product process and to business continuity planning
- **Management** of operational risk on a decentralized basis, but within the strategically defined limits set out in the framework for operational risk.

14.3. Organization, responsibility, and risk reporting

Each management unit is responsible for managing its operational risk. The principle of **decentralized** responsibility applies equally within all the management units, including DZ BANK.

One of the purposes of the **framework for operational risk** is to harmonize organizational structures throughout the sector. The sector-wide coordinated approach to operational risk is also managed by a **committee** assigned to the Group Risk Management working group and comprising representatives from DZ BANK and its main subsidiaries.

A **DZ BANK** unit responsible for controlling operational risk located within the Group Risk Controlling division develops the management and control methods based on regulatory requirements and business needs applicable to the Bank sector. The unit ensures that operational risk is monitored independently and it is responsible for central reporting.

Corresponding organizational units are also in place at the other main entities in the **Bank sector**.

In most of the management units in the Bank sector, including **DZ BANK**, specialist divisions with central risk management functions manage operational risk. As part of their overarching responsibility, these specialist divisions in each entity also perform an advisory and guiding function for the matters within their remit, such as IT risk.

Because operational risk can affect all divisions, local operational risk coordinators are located in each division of the main **management units** and they act as interfaces with Central Risk Controlling. This also applies to **DZ BANK**.

Regular **reports** on loss data, risk self-assessments, risk indicators, and risk capital are submitted to the Board of Managing Directors, the Group Risk and Finance Committee, the Risk Committee, and operational management, facilitating effective management of operational risk on a timely basis.

14.4. Central risk management

14.4.1. Measurement of operational risk

The calculation of the risk capital requirement for operational risk in the Bank sector is based on an economic portfolio model, in which losses are monitored on the basis of the expected loss calculated by the model. The results from the model, combined with the tools used to identify risk, enable the efficient, centralized management of operational risk.

14.4.2. Identifying operational risk

Loss database

The groupwide collation of loss data in a central database allows the Bank sector to identify, analyze, and evaluate loss events, highlighting patterns, trends, and concentrations of operational risk. This data-gathering focuses particularly on loss data related to risks that have been incurred, for example in connection with the risk factors specified in section 14.5. The assembled data history also forms the basis for the calculation of economic capital using a portfolio model. Losses are recorded if they are above a threshold value of €1,000.

Risk self-assessment

Senior managers from all management units assess operational risk as part of a scenario-supported risk self-assessment process in order to identify and evaluate all material operational risks and ensure maximum possible transparency regarding the risk position. The main potential risks for all first-level risk categories as defined by the CRR are calculated and described using risk scenarios. The findings are fed into the internal portfolio model for operational risk that is used to calculate any capital buffer requirement. The scenarios also enable risk concentrations to be identified.

Risk indicators

In addition to the loss database and risk self-assessment, risk indicators help the Bank sector to identify risk trends and concentrations at an early stage and detect weaknesses in business processes. A system of warning lights is used to indicate risk situations based on specified threshold values. Risk indicators within the Bank sector are collected systematically and regularly on a wide scale.

14.4.3. Limiting operational risk

The upper loss limit for operational risk is used as the basis for central monitoring of the risk capital requirement at the Bank sector level. The risk capital requirement for the Bank sector is broken down into risk contributions for each management unit using a risk- sensitive allocation procedure so that the management units in the Bank sector can be monitored centrally. These risk contributions are then monitored centrally using alert thresholds for each management unit.

14.4.4. Mitigating and avoiding operational risk

Continuous improvement of business processes is one of the methods used with the aim of mitigating operational risk. The transfer of risk by means of insurance or outsourcing as permitted by liability regulations provides further protection.

Operational risk is **avoided**, for example, by rejecting products that can be identified during the new product process as entailing too much risk.

In all relevant management units, comprehensive **contingency plans** covering business-critical processes have been established to ensure the continuation of business in the event of process disruption or system breakdown. These business continuity plans are regularly reviewed and simulated to ensure they are fully functional.

14.5. Management of special risks

Risks that affect specific matters or areas are called special risks. Special risks primarily impact operational risk but also affect business risk and reputational risk. This particularly applies to aspects of HR risk, IT risk, outsourcing risk, and tax risk. The scope and level of detail for the risk management system described below varies between the management units because of their different business and risk profiles.

Special risks are mostly, but not always, managed and monitored by the generally eponymous specialist divisions. This applies to the majority of the management units in the Bank sector, including DZ BANK.

14.5.1. HR risk

Risk management

The entities in the Bank sector have developed a mechanism known as a **Human Resources KPI cockpit** with standardized key performance indicators (KPIs). The Human Resources KPI cockpit is intended to integrate HR strategies between the management units, increase transparency, and ensure comparability between the HR management systems in the Bank

sector as well as enable the management units to measure and manage their HR activities. To this end, the cockpit specifies 21 KPIs across the following four categories: value added/finance, employer appeal, organization/efficiency, and innovation/learning.

The entities in the Bank sector pursue the objective of preventing or minimizing HR risk by identifying negative trends and abnormalities, and then initiating suitable corrective action. HR risk is managed and monitored using the following four risk factors embedded in the Human Resources KPI cockpit:

– **Exit risk**: Exit risk is measured and assessed using the employee turnover rate and the employee resignation rate.

– **Availability risk**: Quantitative and qualitative staffing requirements are managed on an annual basis as part of the strategic and operational planning in the management units. Data on sickness and absenteeism, appointment ratios for key positions, and information on numbers in trainee development help to minimize this risk.

– **Skills and qualifications risk**: The suitability and qualifications of employees are recorded using specific key figures for continuing professional development.

– **Motivational risk**: The entities in the Bank sector use standardized employee surveys to regularly update the Organizational Commitment Index and the results are presented transparently in the cockpit.

Compliance functions and a comprehensive internal control system are used to counter fraud. Examples include internal rules on the minimum absence for employees with responsibility for trading positions.

As part of risk control at DZ BANK, relevant KPIs for HR management have been defined as risk indicators. The key figures are collated on a monthly basis as part of the risk indicator process and include training days per employee, resignation rate, total staff turnover rate, and the percentage of vacant positions.

The HR division of DZ BANK is involved in designing the standard scenarios relating to HR risk and validates the scenario assessment of the other entities in the Bank sector, particularly with regard to basis of calculation, frequency of occurrence, and loss level.

Risk factors

The majority of employees at the German offices of the entities in the Bank sector fall within the scope of collective pay agreements or other collective arrangements, such as company agreements. The entities in the Bank sector could be hit by strikes called by labor unions. Because the collective pay agreement was terminated by the employers' association in November 2012, there is currently no obligation not to engage in industrial action at DZ BANK.

Other HR measures, such as job cuts in response to a permanent fall in demand or to achieve efficiency enhancements, could lead to industrial disputes between the workforce (or the employee representatives/labor unions) and the entities in the Bank sector.

As part of contingency and crisis management systems, the entities in the Bank sector have initiated a range of measures to maintain business continuity in the event of **strikes and other business interruptions**. However, the possibility cannot be ruled out that simultaneous industrial action at all sites over several days could cause lasting disruption to processes and workflows. Moreover, sensitive internal and external interfaces could be jeopardized by long-term business interruptions.

Similar concerns would also apply in the event of business interruptions, strikes or similar action at partners on which the operating activities of the entities in the Bank sector are reliant.

The future success of the entities in the Bank sector is dependent upon **capable managers and employees with the necessary skills and qualifications**. Given the current challenges presented by the regulatory environment, this particularly applies in the areas of regulatory reporting, external (consolidated) financial reporting, and risk control. In the labor market, there is fierce competition for managers and employees in these areas of activity driven by

high demand and insufficient numbers of suitable individuals.

Unless the necessary number of suitable managers and employees can be attracted to the entities in the Bank sector within the required timeframe, and/or existing managers and employees can be retained by the entities in the sector, there will be a heightened risk that the sector will be unable or insufficiently able to satisfy the statutory requirements regarding regulatory reporting, external (consolidated) financial reporting, and risk control as a result of inadequate expertise in terms of either quality or quantity.

This could lead to sanctions from the banking supervisor and a qualified audit opinion in the consolidated and separate financial statements and group management reports and management reports prepared by the entities in the Bank sector, which would impact negatively on the reputation of the DZ BANK Group overall and of individual entities in the Bank sector.

14.5.2. IT risk

Risk management

The entities in the Bank sector use computers and data processing systems to carry out their operating activities. Practically all business transactions and activities are processed electronically using appropriate IT systems. These systems are networked with each other and are operationally interdependent.

Processes in the IT units of the entities in the Bank sector are designed with risk issues in mind and are monitored using a variety of control activities in order to ensure that IT risk is appropriately managed. The starting point is to determine which risks are unavoidable in certain aspects of IT. Detailed requirements can then be specified. These requirements determine the extent to which checks need to be carried out and are intended to ensure that all activities are conducted in compliance with the previously defined risk appetite.

IT units apply comprehensive physical and logical precautionary measures to guarantee the security of data and applications and to ensure that day-to-day operations are maintained. A particular risk would be a partial or total breakdown in data processing systems. The Bank sector counters this risk by using segregated data processing centers in which the data and systems are mirrored, special access security, fire control systems, and an uninterruptible power supply supported by emergency power generators. Regular exercises are carried out to test defined restart procedures to be used in emergency or crisis situations with the aim of checking the efficacy of these procedures. Data is backed up and held within highly secure environments in different buildings.

The central risk assessment method used by the IT division at **DZ BANK** is the assessment of risk events in the IT risk profile report. Risk events are deemed to be specific scenarios for which the level of loss and the probability of occurrence are assessed. The assessment carried out by IT division managers takes into account the results of the self-assessment report on the internal control system, the report on control points, and the report on findings and incidents.

The results of the assessment of IT risk events conducted at **DZ BANK** are used to prepare the risk self-assessment scenarios for the IT division. The IT risk groups, comprising IT operating risk, IT outsourcing risk, IT security risk, and IT project risk, are each allocated one or more scenarios in the risk self-assessment. When the risk self-assessment is completed, the results of the decentralized risk assessment are compared with internal IT estimates and then analyzed. The results of the risk self-assessment process are also used as parameters for assessing IT risk events in the following year.

Risk factors

Malfunctions or breakdowns in data processing systems or in the programs used on these systems, including attacks from external sources – such as hackers or malware –, could have an adverse impact on the ability of the entities in the Bank sector to efficiently maintain the processes necessary to carry out operating activities, protect saved data, ensure sufficient control, or continue to develop products and services. Furthermore, such malfunctions or breakdowns could lead to temporary or permanent loss of data, or cause additional costs because the original capability would

need to be restored and/or preventive measures introduced to provide protection against similar events in the future.

Events outside the control of the entities of the Bank sector could also disrupt operational procedures. For example, when executing forward, currency, or commodities trades a risk arises that a system breakdown at a clearing agent, exchange, clearing house, or other financial intermediary could prevent the transactions in question from being settled at the agreed time and thus could also prevent the entities of the Bank sector from meeting their obligations. This could result in the withdrawal of counterparties from agreements entered into with entities in the Bank sector or lead to claims for damages against those entities.

14.5.3. Outsourcing risk

Risk management

The entities in the Bank sector have outsourced activities and processes to third-party service providers to a considerable extent.

The process of assessing the risk and determining the degree to which an outsourcing arrangement is material is mostly carried out as part of the risk analysis for the outsourcing arrangement by the division responsible for the outsourcing with the involvement of a number of corporate and functional units, including internal audit, legal affairs, business continuity management, and compliance, and in consultation with the local coordinators for operational risk.

The Central Outsourcing Management (COM) unit has been set up at DZ BANK to coordinate outsourcing activities. COM acts as a central point of contact for outsourcing matters at DZ BANK and lays down standards for handling outsourcing activities and their operational management. In the year under review, the RSA Archer outsourcing management tool was introduced in conjunction with COM. This tool is used as the central application for recording outsourcing projects at DZ BANK and for managing outsourcing partners.

DZ BANK's main IT outsourcing partners responsible for running key IT applications are Fiducia & GAD and T-Systems International GmbH (T-Systems). In addition, the entire operation of DZ BANK's network has been outsourced to Ratiodata IT-Lösungen & Services GmbH, Münster, (Ratiodata). Investment services and custody business services are processed by Deutsche WertpapierService Bank AG, Frankfurt am Main. The service provider equensWorldline SE, Utrecht, is contracted to process payments. CardProcess GmbH, Karlsruhe, is responsible for credit card processing and acquiring processes on behalf of DZ BANK.

BSH has also outsourced application development, IT operations, and the processing of lending and building society operations to Schwäbisch Hall Kreditservice GmbH (SHK).

DG HYP has transferred its IT and network operations to T-Systems and Ratiodata. Until the end of 2016, retail real estate loans were processed by Hypotheken Management GmbH, Mannheim, an indirect subsidiary of BSH. DG HYP terminated the outsourcing arrangement at that point and from the 2017 financial year is once again processing the remaining credit portfolio in-house.

The main IT service provider used by **DVB Bank** to operate its core banking systems on the basis of SAP software is itelligence Outsourcing & Services GmbH, Bautzen.

EBRC, Luxembourg, is the outsourcing partner of **DZ PRIVATBANK** for its data center infrastructure. Further IT services are provided by Ratiodata. Fund accounting has been transferred to Union Investment Financial Services S.A., Luxembourg.

The main IT service providers for **UMH** are T-Systems, Fiducia & GAD, Ratiodata, and Computacenter AG & Co. oHG. Other activities, including activities within custody business and portfolio management, have also been outsourced.

In the entities of the Bank sector, outsourcing partners are managed in accordance with the currently applicable guidelines for insourcing and outsourcing. Service meetings are regularly held with service providers to facilitate communication and coordinate the IT services and other services to be provided by the

third parties concerned. Compliance with contractually specified service level agreements is monitored by means of status reports and uptime statistics. The outsourcing partners submit annual audit reports in which they evaluate and confirm the effectiveness of the general controls and procedures.

Risk factors

The risk arising in connection with the outsourcing of business activities is limited to the extent required by the supervisory authority. Nevertheless, there is a risk that a service provider could fail or cease to be available as a result of insurmountable technical or financial difficulties. There is also a risk that the services performed by the service provider might not meet the contractually agreed requirements. The consequences could be that only some of the outsourced processes or services can be provided, or even that the outsourced processes or services cannot be provided at all. This could lead to a loss of business and to claims for damages from customers. There are contingency plans, explicit liability provisions in contracts, and exit strategies for this eventuality, including action to reduce this risk.

14.5.4. Risks in connection with the (consolidated) financial reporting process

Risk management

In order to limit operational risk in this area of activity, DZ BANK and the other entities in the Bank sector have set up internal control systems for the (consolidated) financial reporting process as an integral component of the control systems put in place for the general risk management process. The functionality of these control systems is described in section 3.4.7.

Risk factors

An internal control system relating to the (consolidated) financial reporting process needs to provide reasonable assurance that the financial statements are free from misstatements. The main risks in the (consolidated) financial reporting process are that, as a result of unintended misstatements or deliberate action, the consolidated financial statements and group management report of the DZ BANK Group as well as the consolidated financial statements, group management reports, separate financial statements, and management reports of DZ BANK and the other entities in the Bank sector might not provide a true and fair view of financial position and financial performance and/or that publication might be delayed. These risks could then have an adverse impact on investors' confidence in the DZ BANK Group and the individual entities in the Bank sector or on their reputation. Furthermore, sanctions could be imposed, for example by the banking supervisor.

The (consolidated) financial statements do not provide a true and fair view of financial position and financial performance if the disclosures in the statements are materially different from what they should be. Differences are classified as material if, individually or as a whole, they could influence economic decisions made by the users of the financial statements on the basis of the financial statements. The internal control system related to the (consolidated) financial reporting process aims to reduce these risks.

14.5.5. Legal risk

Risk management

Legal risk could arise, in particular, from changes in the legal environment (legislation and decisions by the courts), changes in official interpretations, government interventions, court or arbitration proceedings, and changes in the business environment. Tax risk with legal risk implications is not included at this point; it is described in section 14.5.6. below.

In the entities of the Bank sector, responsibility for managing legal disputes normally lies with their organizational units responsible for dealing with legal issues.

The entities in the Bank sector pursue a strategy of avoiding legal risk. The organizational units responsible for assessing legal issues therefore continuously monitor proposed legislation and regulatory requirements that are legally relevant, as well as developments in decisions by the courts. On this basis, these units identify legal risk and are involved in informing the departments concerned as soon as possible and implementing any necessary changes. The legal affairs units are responsible for reviewing and assessing circum-

stances from a legal perspective and also for coordinating any legal proceedings. The latter consists of both defending claims pursued against the entities in the Bank sector and enforcing claims by the management units against third parties.

If any legal risk is identified, the management unit concerned assesses the risk parameters in terms of their probability of occurrence and possible impact. In addition, the amounts in dispute in the divisions are calculated quarterly as part of the assessment of risk indicators and, if they exceed certain thresholds, the affected divisions must prepare a report. As part of the annual risk self-assessment in the management and control of operational risk, the legal affairs divisions of the management units help to assess the standard scenarios for legal risk. The results are taken into account when determining the economic capital.

Identified risks are limited and mitigated by organizational measures, either legal or procedural, or are taken into account by recognizing provisions or similar allowances for losses on loans and advances.

The legal affairs divisions in the Bank sector entities also submit reports on risk-related issues to the member(s) of the Board of Managing Directors with relevant responsibility, independently of the established regular reports on cases pending before the courts.

Provisions recognized on the balance sheet

The entities in the Bank sector report potential losses arising from legal risk in accordance with the relevant (consolidated) financial reporting standards, which includes recognizing any provisions that may be required. This also encompasses potential risk in connection with cases pending before the courts.

Any concentrations of risk owing to similarities between individual cases are taken into consideration. Comparable cases are aggregated to form a group.

Risk factors

The entities in the Bank sector have recognized provisions for legal risk arising in connection with capital market and credit products.

14.5.6. Tax risk

Risk management

Tax risk can arise, in particular, from changes in tax circumstances (tax legislation, decisions by the courts), changes in interpretation by tax authorities, changes in non-tax regulations, and from changes in the business environment.

The entities in the Bank sector have decentralized systems for managing tax risk. Within the management units, responsibility for managing tax risk normally lies with the organizational units responsible for dealing with tax issues.

The entities in the Bank sector pursue a strategy of avoiding tax risk. The starting point for managing tax risk is the ongoing process of identifying, recording, and monitoring risk. If any tax risk is identified, the risk parameters are assessed in terms of their probability of occurrence and possible impact in quantitative and qualitative terms. Identified risks are limited and mitigated by means of tax organizational measures.

The tax department at DZ BANK reports the group-wide data relevant to risk to the head of the Group Finance division and to the member of the Board of Managing Directors with relevant responsibility. Separately, and depending on materiality thresholds, ad hoc risk reports are also submitted to the above individuals.

Risk factors

The entities in the Bank sector are subject to regular **audits by the tax authorities**.

Currently, audits for the tax-assessment periods in 2010 and 2011 are being carried out by the tax authorities at **DZ BANK** (including the tax group) in relation to corporation tax, trade tax, and value added tax. A follow-on audit by the tax authorities covering the period from 2012 up to and including 2014 was started at DZ BANK during the autumn of the year under review. A tax audit for the former WGZ BANK covering the assessment periods 2007 to 2010 is still pending at present.

Tax authority audits for the tax-assessment periods in 2010 to 2011 are currently also being carried out,

or have now been completed, at **other entities** in the Bank sector. In individual cases, these audits have been extended to cover subsequent years up to and including the 2014 financial year.

At **DZ BANK**, the audit for payroll tax purposes relating to the period 2007 to 2010 inclusive is still pending at the moment, although the audit for the subsequent years 2011 to 2014 inclusive has already begun.

In the context of these tax audits, an alternative assessment of the tax risk or, in some cases, other information could give rise to retrospective tax liabilities or retrospective liabilities in relation to social security contributions for periods that have already been assessed. If the retrospective liabilities exceed the provisions recognized for tax risk, this could have a negative effect on the financial performance of the DZ BANK Group and individual entities in the Bank sector.

As there are still outstanding audits by the tax authorities relating to a number of financial years, there is a risk that retrospective tax payments could be required and these payments would be subject to interest charges.

Business transactions are assessed for tax purposes on the basis of current tax legislation, taking into account the latest decisions by the courts and interpretations by the authorities. The outcome is factored into the measurement of the allowances for losses on loans and advances. Further risks could arise as a result of **changes in tax law or in decisions by the courts**, which could also have retroactive implications.

In particular, in the years 2009 to 2011, **DZ BANK** claimed credits of dividend withholding tax paid in respect of dividends received on shares acquired in cash equities trades set up around the dividend date (known in Germany as **cum/cum transactions**). Based on a decision by the German Federal Court of Finance (BFH) of August 18, 2015 disallowing tax credit options under securities lending structures, discussions are currently taking place to assess the implications of this decision for other transactions, notably the aforementioned cash equities trades.

According to the information currently available, in particular a letter from the Bundesministerium der Finanzen (BMF) [German Federal Ministry of Finance] dated November 11, 2016, DZ BANK satisfies the criteria for tax credits on the claimed dividend withholding tax including the solidarity surcharge. However, there is some uncertainty as to whether the BMF's pronouncement will be retained in this form because some German federal states are pressing for a revision of the content.

14.5.7. Compliance risk

Risk management

In the context of their operating activities, the entities in the Bank sector must comply with various legal requirements in a large number of countries. These include prohibitions on accepting or granting benefits in connection with efforts to attract business, and prohibitions on other unfair business practices.

The management of risk arising from non-compliance with applicable laws, regulatory requirements, and internal rules and regulations is described in section 3.4.4.

Risk factors

The compliance and risk management systems in the Bank sector are generally appropriate. Nevertheless, there is a risk that these systems could be inadequate for completely preventing or uncovering violations of legal provisions, for identifying and assessing all relevant risks for the entities in the Bank sector, or for initiating appropriate corrective measures.

The entities in the Bank sector cannot rule out the possibility of the existing compliance system proving to be inadequate, or of their employees violating domestic or foreign legal provisions regardless of the existing legal requirements, internal compliance guidelines and organizational requirements, and despite appropriate training and reviews, or of such activities remaining undiscovered.

A violation of legal provisions may have legal implications for the entity concerned, for the members of its decision-making bodies, or for its employees. It may give rise, for example, to fines, penalties, retrospective tax payments, or claims for damages by third parties. The reputation of the DZ BANK Group as a whole and of the individual entities in the Bank sector may also suffer as a result.

14.6. Loss events

Losses from operational risk do not follow a consistent pattern. Instead, the overall risk profile can be seen from the total losses incurred over the long term and is shaped by a small number of large losses. Consequently, comparisons between net losses in a reporting period and those in a prior-year period are not meaningful. Prior-year figures are therefore not disclosed.

Figure 47 shows the losses for the **Bank sector** reported in 2016 classified by loss event category. Over the course of time, there are regular fluctuations in the pattern of losses as the frequency of relatively large losses in each individual case is very low. The losses are selected on the date on which the expense results in a cash outflow, thus ensuring consistency with the internal reporting.

In the **Bank sector**, the 'Clients, products, and business practices' event category accounted for the majority (77 percent) of net losses. The net loss in the 'Clients, products, and business practices' category was attributable to two different loss events. One loss event resulted from changes arising from court decisions and legal interpretation; a second loss event related to a site that had already been closed.

Accounting for 90 percent of total net losses, the largest loss event category at **DZ BANK** was also 'Clients, products, and business practices'. The net losses were attributable to the loss event referred to above arising from a site that has already been closed.

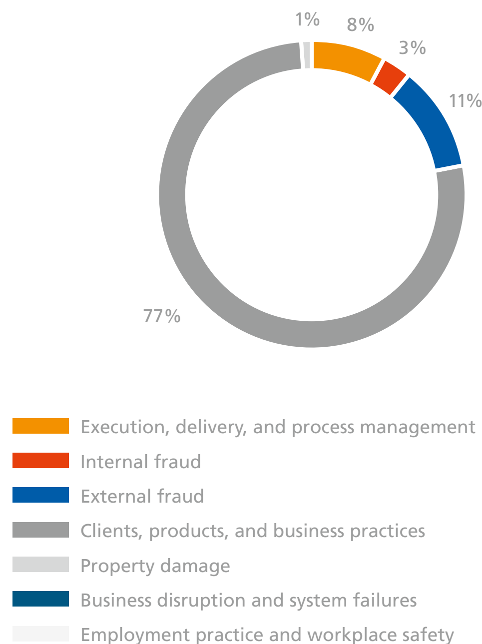
Losses did not reach a critical level relative to the expected loss from operational risk at any point during 2016 in either the Bank sector or DZ BANK.

14.7. Risk position

Using the internal portfolio model, the **Bank sector's** capital requirement for operational risk as at December 31, 2016 was calculated as €892 million (December 31, 2015: €871 million), with an upper loss limit of €1,152 million (December 31, 2015: €1,150 million).

As at December 31, 2016, **DZ BANK's** capital requirement for operational risk calculated using the internal portfolio model amounted to €439 million (December 31, 2015: €331 million). The alert threshold for contributions to operational risk amounted to €479 million as at December 31, 2016 (December 31, 2015: €548 million). The risk capital requirements both for the Bank sector and for DZ BANK were within the applicable upper loss limit and alert threshold at all times during the course of 2016.

FIG. 47 – BANK SECTOR: NET LOSSES BY EVENT CATEGORY IN 2016[1]



- Execution, delivery, and process management
- Internal fraud
- External fraud
- Clients, products, and business practices
- Property damage
- Business disruption and system failures
- Employment practice and workplace safety

1 In accordance with the CRR, losses caused by operational risks that are associated with risks such as credit risk are also shown.

14.8. Summary and outlook

Since 2015, the economic risk capital requirement for operational risk has been calculated using a portfolio model. This approach has also been used for the joint central institution and the post-merger DZ BANK Group since the fourth quarter of 2016. The results from this model, combined with the materiality limits for collation of loss data, scenario-based risk self-assessments, and risk indicators, enable the efficient management of operational risk.

In 2017, it is planned to extend the scope of the framework used for operational risk and carry out quality assurance reviews with a view to optimizing the application of the tools used for managing this risk.

Insurance sector

15. Basic principles of risk management in the Insurance sector

15.1. Risk strategy

The principles of risk management in the Insurance sector are based on R+V's approved risk strategy, which is updated every year. The risk strategy is derived from the business strategies, taking into account the strategic 4-year plan approved by the Board of Managing Directors at its spring meeting.

Life actuarial risk is managed with the objectives of holding a broadly diversified product portfolio and of developing existing products while structuring new, innovative products. In order to diversify the life insurance and pension provision portfolios, pension, endowment and risk insurance, working life and semi-retirement products, and index-linked products are underwritten in a way that achieves a balance between the product pillars. The actuarial assumptions are designed so as to build in adequate safety margins and address changes in the latest findings in order to withstand both the current risk situation as well as potential changes in this situation. Where products have policyholder participation, this represents the main instrument for mitigating risk. Policyholder participation is set appropriately. Underwriting guidelines and risk audits are used to prevent anti-selection. The risk exposure in the case of large individual risks may be limited by taking out appropriate reinsurance.

The objectives of managing **health actuarial risk** are a risk-conscious actuarial policy, rigorous cost/benefit management, the development of existing products, and the structuring of new, innovative products. In this case too, the actuarial assumptions are designed so as to build in adequate safety margins and address changes in the latest findings in order to withstand both the current risk situation as well as potential changes in this situation. The risk exposure in the case of large individual risks may be limited by taking out appropriate reinsurance.

The management of **non-life actuarial risk in direct business** aims to optimize portfolios in terms of risk and reward. R+V focuses on business in Germany, offering a full range of non-life insurance products. The assumption of risk in connection with expanding its market share is accepted subject to the proviso that the business is profitable. Underwriting guidelines and size restrictions ensure targeted risk selection. Depending on its risk-bearing capacity, R+V reviews whether to purchase reinsurance cover to reduce earnings volatility, insure against major and cumulative claims, and protect and boost existing financial strength and earnings power.

In **inward non-life business**, R+V also aims to optimize the portfolio from a risk/reward perspective. Risk selection is based on binding underwriting guidelines and the exclusions of liability defined in those guidelines. The assumption of reinsurance risk is managed by using individual liability and aggregate limits as part of the sales and underwriting policy.

R+V's investments particularly give rise to interest-rate risk, spread risk, and equity risk. R+V's **market risk strategy** is determined by the regulatory investment principles specified in section 124 VAG and by internal rules.

Insurance companies must invest all assets so as to ensure the security, quality, liquidity, and profitability of the portfolio as a whole; the location of the assets must also ensure that they are available. In addition, well-established collaboration arrangements between R+V's underwriting and investment departments as part of the management of assets and liabilities ensure that insurance contract benefit obligations on the balance sheet are matched with investment opportunities.

The market risk assumed by R+V reflects the investment portfolio structure developed as part of strategic asset allocation taking into account the individual risk-bearing capacity and long-term income requirements of R+V subsidiaries. The risk is managed within the framework of the overall risk management system and in compliance with the upper loss limits specified at DZ BANK Group level.

The management of market risk is connected with the following fundamental objectives of risk policy:

ensuring competitive returns on investments taking into account individual risk-bearing capacities, achieving defined minimum investment returns in stress scenarios, and securing a hidden asset level sufficient to ensure consistent earnings. The aim is also to guarantee that there is a sufficient proportion of fungible investments. The methods used to limit life insurance risk include policyholder participation, the setting of an appropriate discount rate, and recognition of supplementary change-in-discount-rate reserves.

In line with the risk strategy for **counterparty default risk**, R+V aims to maintain a high average credit rating for its portfolios, to avoid concentrations of issuers at portfolio level, and to comply with the limits that have been set for counterparties and debtors of insurance and reinsurance companies.

The risk strategy for **operational risk** aims to further raise awareness of operational risk.

15.2. Organization, responsibility, and risk reporting

The risk management process, which is implemented across all entities in the R+V subgroup, defines rules for the way in which risks are identified, analyzed, assessed, managed and monitored, and the way in which they are reported and communicated. These rules form the basis for a central **early-warning system**.

Participations are also included in the R+V subgroup's risk management system. In addition, the risk management system incorporates a business continuity management system. Risk-bearing capacity is reviewed and measured at least once a quarter and the process includes a qualitative review of binding key performance indicators and threshold values. Corrective action must be initiated if a specified index value is exceeded. Risk-bearing capacity and all material risks are subsequently evaluated each quarter by the Risk Committee.

R+V extended its governance system on January 1, 2016 by appointing key function holders and preparing the internal guidelines required under Solvency II.

The central **reporting of risk** at R+V is intended to provide transparent reporting. A system of reports to the member of R+V's Board of Managing Directors responsible for the business area concerned and to the member of R+V's Board of Managing Directors responsible for risk management allows for the notification of material changes in risks. Company information that has a bearing on risk exposure is passed to the relevant supervisory bodies, both regularly and on an ad hoc basis.

16. Actuarial risk

16.1. Definition and causes

16.1.1. Definition

Actuarial risk is the risk that the actual cost of claims and benefits deviates from the expected cost as a result of chance, error or change. It is broken down into the following categories defined by Solvency II:

- life actuarial risk
- health actuarial risk
- non-life actuarial risk.

Life actuarial risk

Life actuarial risk refers to the risk arising from the assumption of life insurance obligations, in relation to the risks covered and the processes used in the conduct of this business. Life actuarial risk is calculated as the combination of capital requirements for, as a minimum, the following sub-modules:

- **Mortality risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from changes in the level, trend, or volatility of mortality rates, where an increase in the mortality rate leads to an increase in the value of insurance liabilities.

- **Longevity risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from changes in the level, trend, or volatility of mortality rates, where a decrease in the mortality rate leads to an increase in the value of insurance liabilities.

- **Disability-morbidity risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from changes in the level, trend, or volatility of disability, sickness, or morbidity rates.

- **Life catastrophe risk** describes the risk of loss or adverse change in the value of insurance liabilities, resulting from the significant uncertainty of pricing and assumptions when recognizing provisions related to extreme or unusual events.

- **Lapse risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from changes in the level or volatility of the rates of policy lapses, cancellations, renewals, and surrenders.

- **Life expense risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from changes in the level, trend, or volatility of the expenses incurred in servicing insurance or reinsurance contracts.

Health actuarial risk

Health actuarial risk refers to the risk arising from the assumption of health and casualty insurance obligations, in relation to the risks covered and the processes used in the conduct of this business.

Non-life actuarial risk

Non-life actuarial risk refers to the risk arising from the assumption of non-life insurance obligations, in relation to the risks covered and the processes used in the conduct of this business. It is calculated as the combination of capital requirements for the following submodules:

- **Premium and reserve risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from fluctuations in the timing, frequency, and severity of insured events, and in the timing and amount of claim settlements.

- **Non-life catastrophe risk** describes the risk of loss or an adverse change in the value of insurance liabilities, resulting from the significant uncertainty of pricing and assumptions when recognizing provisions related to extreme or unusual events.

- **Lapse risk** describes uncertainty about the continuation of the direct insurance and reinsurance contracts. It results from the fact that the lapse of contracts that are profitable for the insurance company will lead to a reduction in own funds.

16.1.2. Causes

In the DZ BANK Group, actuarial risk arises from the business activities of the insurance subsidiary R+V and its subsidiaries. The risk arises from the direct life insurance and health insurance business, the direct non-life insurance business, and the inward reinsurance business.

Actuarial risk arises in the form of variances from the expected level of losses resulting from the random nature of the timing, frequency, and amount of claims. The risk may also arise from unpredictable changes in insured risks, claim distributions, expected values and mean variations due, for example, to changes in climatic and geological conditions or technological, economic or social changes. Incomplete information about the true degree of regularity in the distribution of claims due to incorrect statistical analysis, or incomplete information about the future validity of the degree of regularity in the distribution of claims in the past could be other causes.

The actuarial risk situation in life insurance companies is also characterized to a large extent by fixed premiums and the long-term nature of the guaranteed benefits in the event of a claim.

The actuarial risk situation of a health insurance company is characterized to a large extent by a rise in the cost of claims, caused both by the performance of its portfolio and by the behavior of policyholders and service providers.

16.2. Management of life actuarial risk

16.2.1. Risk measurement

The risk for insurance contracts subject to **mortality risk** is modeled as a 15 percent increase in mortality.

The risk for insurance contracts subject to **longevity risk** is modeled as a 20 percent increase in longevity.

The overall solvency requirement for **disability-morbidity risk** is analyzed on the basis of a permanent 35 percent rise in the disability rates expected for the next 12 months, a permanent 25 percent rise in the disability rates expected for the period after those 12 months, and a permanent 20 percent decrease in all expected likely cases of policyholders being able to return to work.

The risk for insurance contracts affected by **life catastrophe risk** is modeled as an immediate increase of 0.15 percentage points in mortality rates in the next 12 months.

The risk for insurance contracts subject to **lapse risk** is modeled for the following scenarios: for an increase in lapses, a 50 percent rise in the lapse rate; for a decrease in lapses, a 50 percent reduction in the lapse rate; for a mass lapse event, lapse of 40 percent of the contracts.

The overall solvency requirement for **life expense risk** is based on the following stress scenarios: a permanent 10 percent rise in the costs reflected in the measurement of the insurance liabilities; an increase of 1 percentage point in the cost inflation rate.

16.2.2. Risk management in direct life insurance business

Actuarial risk is minimized by carrying out a careful, prudent cost calculation while products are still in development. This applies to the development of existing products as well as the design of innovative new types of insurance and is carried out by incorporating adequate safety margins into actuarial assumptions in compliance with legislation. The assumptions are structured in such a way that they not only withstand the current risk situation, but also accommodate potential changes in the risk position. Actuarial control systems are used on a regular basis to decide whether the cost calculation for future new business needs to be changed. The calculation is also adjusted on an ongoing basis in line with the latest actuarial findings. The appointed actuary carries out reviews as part of product development and during the course of the term of contracts to verify that the actuarial assumptions used are appropriate.

A number of measures are taken to prevent a concentration of adverse risks in the portfolio. Before contracts are signed, extensive risk reviews are carried out to limit **mortality and disability-morbidity risks**. In general, risk is only assumed in compliance with fixed underwriting guidelines. High levels of individual or cumulative risk are limited by an appropriate degree of reinsurance.

In principle, the broad diversification of insured risks within R+V has the effect of mitigating risk. For example, an increase in mortality has an adverse impact on endowment life and risk insurance policies, but at the same time has a positive impact on the longevity risk associated with pension insurance.

Life expense risk is mitigated by cutting costs as far as possible and operating sustainably.

Lapse risk is mitigated by structuring life insurance contracts to provide maximum flexibility should policyholders' circumstances change. A range of different options enables customers to maintain their contract instead of canceling it. Designing policyholder participation with an attractive final bonus also counteracts lapse risk.

Advance notice of **policyholder participation** in the form of declarations of future bonuses is also an important instrument with which to reduce actuarial risk relating to life insurance.

16.3. Management of health actuarial risk

16.3.1. Risk measurement

Health actuarial risk is calculated by combining the capital requirements for the subcategories 'Similar to Life Techniques health actuarial risk' (risk on health insurance pursued on a similar technical basis to that of life insurance), 'Non-Similar to Life Techniques health actuarial risk' (risk on health insurance pursued on a similar technical basis to that of non-life insurance), and 'health catastrophe risk'.

The methods described in the sections on life actuarial risk and non-life actuarial risk are used to measure risk in the subcategories.

Health actuarial risk also includes significant parts of the group's casualty insurance business as well as its health and occupational disability insurance business.

16.3.2. Risk management in health and casualty insurance

Risk management in health insurance business

In the health insurance business, actuarial risk is managed by means of a **risk-conscious underwriting policy**, the features of which are binding underwriting guidelines, careful selection of risk, and targeted management of benefits and costs. In many of the health insurance rate scales, deductibles are one of the specific mechanisms used to control the extent of claims. Provisions are recognized to ensure that all benefit obligations under insurance contracts can be met. The appointed actuary supervises the appropriateness of the actuarial assumptions used in the calculations.

In accordance with VAG provisions, R+V carries out an annual comparison of its calculations with the insurance benefits it is required to pay. If this comparison of claims for an observation unit within a particular scale of insurance rates reveals a variance that is other than temporary, the relevant **premiums** are adjusted. An independent trustee is consulted to ensure that the actuarial assumptions are sufficiently sound. A safety margin factored into premiums also ensures that obligations can be met if claims are higher than the level provided for in cost calculations.

In the health insurance business, the **decrement tables** include assumptions regarding mortality and the probability of other relevant withdrawal factors. Under the requirements set out in the German Health Insurance Supervision Regulation (KVAV), these assumptions must be specified and regularly reviewed from the perspective of prudent risk assessment. It is for this reason that a new mortality table is developed at regular intervals by the Verband der Privaten Krankenversicherung e.V. (PKV) [Association of German private healthcare insurers] in consultation with BaFin. In accordance with statutory provisions, R+V carries out an annual comparison of its calculations with the most recently published mortality tables.

When determining **lapse probabilities** for the purposes of its calculations, R+V uses both its own observations and the latest figures published by BaFin.

Where premiums were adjusted on January 1, 2016, R+V used the new PKV mortality table valid for 2016 to determine both new business premiums and those **premium adjustments** in existing business.

Unisex insurance rate scales are offered in R+V's **new business**. The cost calculation for these rates is not only based on the existing gender breakdown, but also takes into account the expected pattern of switching by existing policyholders to the new rates. The appropriateness of the composition of the portfolio resulting from the calculations is reviewed by actuaries using comparable calculations.

Risk management in casualty insurance business

The risk situation in the casualty insurance division is characterized by the fact that it is fixed-sum insurance and not indemnity insurance. Consequently, the maximum benefit per insured person is restricted to the sum insured.

A risk-conscious underwriting policy is adopted for casualty insurance. Premiums are reviewed on an ongoing basis to ensure that they remain appropriate. Claims are assessed on a case-by-case basis. Experts and assessors are selected very carefully in order to obtain assessments that are realistic and appropriate.

16.4. Management of non-life actuarial risk

16.4.1. Risk measurement

The capital requirements for **premium and reserve risk** are calculated on the basis of risk factors and volume measures for all branches of insurance in which business is conducted. The volume measures take account of geographical diversification. The risk factors (e.g. the standard deviation as a percentage of the volume measure) describe the degree of threat posed by the risk. The volume measure for the **premium risk** is essentially the net premium income earned in the financial year and in the first and second years after that. The volume measure for the **reserve risk** constitutes the net claims provisions in the form of a best-estimate valuation.

The capital requirement for **catastrophe risk** is calculated as an aggregation of four risk modules. These are natural catastrophe risk (broken down into the following natural hazards: hail, storm, flood, earthquake, and subsidence), the catastrophe risk of non-proportional reinsurance in non-life insurance, risk of man-made catastrophe, and other catastrophe risk in non-life insurance. Catastrophe risk is calculated using the volume measures of sums insured and premiums. Risk mitigation through reinsurance is taken into consideration.

To determine the overall solvency requirement as part of internal risk assessment, empirical distributions are generated for the relevant parameters for parts of the **direct insurance portfolio**, such as the claim amount and the number of claims per sector and claim type (e.g. basic claims, major claims, catastrophe claims). The value-at-risk can then be determined with the required confidence level directly from the underwriting result modeled in this way, recorded as a loss function. The parameterization of the distributions taken into account uses historical portfolio data and their planning data and reflects the entity's actual risk position.

The risk modeling for calculating basic claims relating to the natural hazard earthquake and basic claims and minor cumulative events relating to the natural hazards hail, storm, and flood is based on mathematical/statistical methods. The minimum and maximum claim amounts for minor cumulative events are derived from the group's own claims history. Modeling is based on the group's own claims data.

The risk modeling for major cumulative events relating to the natural hazards hail, storm, flood, and earthquake uses probability-based natural hazard models. To this end, catastrophe claims are used that have been modeled by external providers for each natural hazard and take account of the specific risk profile.

In its **inward reinsurance business**, R+V deploys a simulation tool for stochastic risk modeling of catastrophe risk. To model the natural catastrophe risk on an individual contract basis, event catalogs from external providers containing predefined scenarios based on historical observations are used. The event catalogs cover the material countries and natural hazards of the risk written for the risks in inward reinsurance. Modeling based on the group's own claims history is also used. This involves generating scenarios for the current portfolio on the basis of historical major claims.

In inward reinsurance, modeling based on the group's own claims history is used to determine the overall solvency requirement for the risk of **man-made catastrophe**. This involves generating scenarios for the current portfolio on the basis of the historical major claims.

The overall solvency requirement for **lapse risk** is determined on the basis of a stress scenario involving the lapse of 40 percent of those insurance contracts whose lapse would lead to an increase in the best-estimate valuation for the premium provision.

16.4.2. Risk management in direct non-life insurance business

Premium and reserve risk is managed through targeted risk selection, risk-oriented premiums and products, and profit-oriented underwriting guidelines. In order to maintain a balanced risk profile, R+V ensures it has adequate reinsurance cover for major individual risks. Managers use planning and control tools to ensure they are in a position at an early stage to identify unexpected or adverse portfolio or claim trends and to initiate appropriate corrective action in response to the changes in the risk situation. To make these risks manageable, pricing is based on a precise calculation with the help of mathematical/statistical modeling.

Market monitoring and ongoing checks on the action taken provide further options for managing the business at an early stage, taking into account the prevailing risk appetite.

The measurement of the overall solvency requirement for **natural catastrophe risk** is supplemented by regular analysis of the policy portfolio. This analysis carried out with the aid of tools such as the ZÜRS Geo information system (zoning system for flooding, backwater flooding, and heavy rainfall) investigates risk concentra-

tions and changes in these concentrations over time. The use of geographical diversification and the deployment of underwriting guidelines form the basis for managing risks arising from natural disasters.

To reduce actuarial risk, R+V purchases facultative and obligatory reinsurance cover, formulates risk exclusions, and designs risk-appropriate deductible models. Risk-bearing capacity is regularly reviewed as part of the reinsurance decision-making process. This is used as the basis for reinsurance structures and liability layers.

In order to prevent or limit losses, R+V provides a network of different subsidiaries that offer specialist services to help customers and sales partners with contract, risk prevention, or restructuring issues.

Estimating obligations arising from loss events that have occurred is subject to uncertainty. In compliance with Solvency II requirements, mathematical/statistical methods are used to calculate future payment obligations for the purpose of measuring insurance liabilities. Within insurance liabilities, premium and claims provisions are measured separately. R+V's own experience, actuarial statistics, and additional sources of information are used for the calculations. The methods deployed are based on generally accepted principles of actuarial practice.

16.4.3. Risk management in inward non-life insurance business

R+V counters **premium and reserve risk** by continuously monitoring the market as well as the economic and political situation, by managing risk in accordance with its corporate strategy, and by setting insurance rates appropriate to the risk involved. Risk management is conducted via a clearly structured and earning-driven underwriting policy. The assumption of risk is circumscribed by mandatory underwriting guidelines and limits that restrict potential liability arising from both individual and cumulative claims. R+V takes account of economic capital costs when actuarial risk. Compliance with these requirements is regularly monitored.

The material actuarial risks in the inward reinsurance portfolio are **catastrophe risk**, long tail risk, reserve risk and also far-reaching changes in the trends underlying the main markets. The actual and potential losses arising from the level and frequency of claims under natural disaster insurance are recorded and assessed using industry-standard software and R+V's own additional verification systems. The portfolio is continuously monitored for possible concentrations of natural disaster risk.

The objective in managing natural disaster risk is to ensure that there is a broad balance of risk across all categories and that the risk is diversified geographically around the globe.

Limits are set to support central management and limitation of cumulative risks arising from individual natural hazards. One of the key mechanisms for managing risk is a systematic check on the cumulative authorized limits for natural disaster risks. The monitoring and management of limits may include the reallocation or adjustment of capacities. The modeled exposures remained within the authorized limits.

Action that can be taken to mitigate the risk includes management of deductibles and retrocession taking into account risk-bearing capacity and the effective costs of retrocession. Minimum requirements apply in relation to the credit rating of retrocessionaires. R+V has sufficient own funds and reserves providing the necessary risk-bearing capacity so there is currently no need to purchase further reinsurance (retrocession).

R+V monitors the claims rate trend promptly and continuously, allowing it to initiate preventive measures so that it always has a sufficient level of reserves. The reserves position is monitored in a number of ways, including by means of an expert report, which is prepared once a year.

16.5. Risk factors

In the case of products with long-term guarantees, which constitute the bulk of the **direct life insurance business**, there is a risk of negative variances over the term of the contracts compared with calculation assumptions because of the length of time covered by the contracts. The relevant risk factors include changes

in life expectancy, increasing rates of disability-morbidity, and disproportionately sharp cost increases.

In its **direct non-life insurance and inward non-life reinsurance business**, R+V focuses on the provision of cover for disasters. This includes both natural disasters, such as earthquakes, storms, and floods, and man-made disasters.

These events cannot be predicted. Generally speaking, there is both the risk of particularly significant individual loss events and also the risk of a large number of loss events that are each not necessarily significant in themselves. In any one year, the actual impact from the size and frequency of losses could therefore substantially exceed the forecast impact.

An unfavorable pattern of claims could result in an increase in the insurance benefit payments reported in the income statement, and this in turn could have a negative effect on the DZ BANK Group's operating profit.

16.6. Claims rate trend in non-life insurance

In the **direct non-life insurance business**, the claims rate trend in respect of natural disasters was dominated by the impact from the 3 low-pressure systems Elvira (€61 million), Friederike/Gisela (€33 million), and Neele/Oliane (€52 million), which together accounted for total losses of €146 million. There were also 2 individual loss events caused by fire, resulting in total claims of €66 million. As a result, the claims rate for major and cumulative claims was higher than in previous financial years. By contrast, the underlying cost of claims (excluding major and cumulative claims) was marginally below the 5-year average. Overall, this resulted in an annual claims rate that was slightly higher than average rate for previous years.

Major and cumulative claims in **inward reinsurance** were at an average level in 2016 and were within expectations.

Changes in claims rates and settlements (net of reinsurance) in direct non-life insurance and inward non-life reinsurance business are shown in figure 48.

16.7. Risk position

As at December 31, 2016, the **overall solvency requirement for life actuarial risk** amounted to €702 million (December 31, 2015: €403 million). The increase was predominantly attributable to the change in interest rates. The **upper loss limit** was set at €1,200 million as at the balance sheet date (December 31, 2015: €520 million). The upper loss limit was not exceeded at any time during 2016.

As at December 31, 2016, the **overall solvency requirement for health actuarial risk** was measured at €148 million (December 31, 2015: €162 million), with an **upper loss limit** of €330 million (December 31, 2015: €70 million). Again, the risk capital requirement was below the upper loss limit at all times during the course of 2016.

As at December 31, 2016, the **overall solvency requirement for non-life actuarial risk** amounted to €2,691 million (December 31, 2015: €2,651 million). The slight increase was attributable to the rise in premium and reserve risk resulting from the growth in business volume. The contraction in non-life catastrophe risk was caused by an increase in the level of reinsurance. The **upper loss limit** was set at €3,250 million as at the balance sheet date (December 31, 2015: €2,600 million). It was not exceeded at any time in the year under review.

The overall solvency requirement for the various types of non-life actuarial risk is shown in figure 49.

16.8. Summary and outlook

R+V possesses a number of tools for effectively controlling actuarial risks that have been identified and for identifying new risks at an early stage. The capital it holds, its well-diversified product portfolio, strong distribution channels, and cost-conscious business operations generally enable R+V to manage these risks and benefit from opportunities that arise.

The changes in actuarial risk in direct non-life insurance in 2017 will be shaped by the strategy of achieving long-term profitable growth in all segments of R+V.

FIG. 48 – INSURANCE SECTOR: CLAIMS RATE AND SETTLEMENTS (NET OF REINSURANCE)[1]

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Claims rate (net) as % of premiums earned											
Including major/natural disaster claims	76.1	76.2	75.5	78.2	75.6	77.7	77.3	73.0	72.6	73.7	71.0
Excluding major/natural disaster claims	72.3	74.0	73.8	69.1	72.7	71.4	75.0	73.0	70.6	70.1	69.8
Settlements (net) as % of provision for incoming claims											
Non-life	3.6	1.6	2.1	0.5	0.3	1.9	4.8	4.8	8.4	6.1	7.1

1 Direct non-life insurance business and inward reinsurance.

In its inward reinsurance business, R+V intends to expand its portfolio, which is well diversified in terms of geography and sector, by continuing the earnings-driven underwriting policy it has pursued in previous years.

FIG. 49 – INSURANCE SECTOR: OVERALL SOLVENCY REQUIREMENT FOR NON-LIFE ACTUARIAL RISK

€ million	Dec. 31, 2016	Dec. 31, 2015
Premium and reserve risk	1,667	1,504
Non-life catastrophe risk	1,736	1,839
Lapse risk	48	46
Total (after diversification)	**2,691**	**2,651**

17. Market risk

17.1. Definition and causes

Market risk describes the risk arising from fluctuation in the level or volatility of market prices of assets, liabilities, and financial instruments that have an impact on the value of the assets and liabilities of the entity. It suitably reflects the structural mismatch between assets and liabilities, in particular with respect to their duration.

Market risk is broken down into the following subcategories:

– **Interest-rate risk** describes the sensitivity of the values of assets, liabilities, and financial instruments to changes in the term structure of interest rates or to the volatility of interest rates. The persistently low level of low interest rates has resulted in an increased risk, particularly for portfolios of life-insurance contracts with a high guaranteed return.

– **Spread risk** describes the sensitivity of the values of assets, liabilities, and financial instruments to changes in the level or volatility of credit spreads above the risk-free interest rate term structure. Default risk and migration risk are also examined in this subcategory. The credit spread is the difference in interest rates between a high-risk and a risk-free fixed-income investment. Changes in the credit risk premiums lead to changes in the market value of the corresponding securities.

– **Equity risk** describes the sensitivity of the values of assets, liabilities, and financial instruments to changes in the level or volatility of the market prices of equities. Equity investment risk is also a part of equity risk. Equity risk arises from existing equity exposures as a result of market volatility.

- **Currency risk** describes the sensitivity of the values of assets, liabilities, and financial instruments to changes in the level or volatility of exchange rates. Currency risk arises as a result of exchange rate volatility either from investments held in a foreign currency or the existence of a currency imbalance between insurance liabilities and investments.

- **Real-estate risk** describes the sensitivity of the values of assets, liabilities, and financial instruments to changes in the level or volatility of the market prices of real estate. Real-estate risk can arise as a result of negative changes in the fair value of real estate held directly or indirectly. This may be the result of a deterioration in the specific characteristics of the real estate or a general change in market prices (for example in connection with a real-estate crash).

- **Concentration risk** represents the additional risk for an insurance or reinsurance company stemming either from lack of diversification in the asset portfolio or from a large exposure to the risk of default by a single issuer of securities or a group of related issuers.

According to the Solvency II definition, the bulk of credit risk within market risk is assigned to spread risk. The other parts of credit risk are measured within counterparty default risk and other risk types.

17.2. Risk management

17.2.1. Market risk measurement

The measurement of market risk involves analyzing shock scenarios specified in **Solvency II** requirements, in some cases supplemented by the group's own parameterization.

The capital requirements for **interest-rate risk** are determined on the basis of shock scenarios calculated for an increase in interest rates and a decrease in interest rates. For maturities for which the market is sufficiently liquid, the overall solvency requirement for interest-rate risk is calculated using the group's own stress factors derived from market data.

The capital requirements for **spread risk** are calculated using a factor approach based on the relevant lending volume. The level of the stress factor is determined by the security's rating and the modified duration of the investment. With loan securitizations, a distinction is made between single, double, and multiple securitization structures. Depending on which is applicable, different rating-dependent stress factors are used. R+V uses its own stress factors, based on a portfolio model and with particular regard to concentration risk, to calculate the overall solvency requirement.

The capital requirements for **equity risk** are determined on the basis of stress scenarios calculated for a decrease in market value. The stress amounts depend on the equity type, e.g. whether it is listed on a regulated market in a member state of the European Economic Area or Organisation for Economic Co-operation and Development (OECD). The capital requirement for equity risk is based on the relevant equity exposure. It is determined using modeling and risk quantification based on observable data. The parameters are increased in order to take account of default risk and concentration risk. Default risk describes the risk of loss resulting from issuer insolvency.

Currency risk is calculated using a scenario approach that reflects the impact of a decrease or increase in the exchange rate for a foreign currency. The stress factor for determining the overall solvency requirement is based on the individual currency portfolio of R+V. Lower factors are applied for currencies that are pegged to the euro than those that are not pegged to the euro.

The calculation of **real-estate risk** looks at both property held directly (e.g. land and buildings) and real-estate funds. The stress factor for determining the overall solvency requirement for real-estate risk is a stress scenario adapted from the standard formula and reflects the fact that direct holdings consist overwhelmingly of investments in German real estate and fund holdings consist primarily of European real estate.

The overall solvency requirement for **concentration risk** is not calculated separately because this risk is taken into account as part of the calculations for equity risk, spread risk, and counterparty default risk.

17.2.2. Principles of market risk management

The management of market risk is a significant element in the management of overall risk at R+V. Market risk at R+V is limited in part by the upper loss limits that are set at the level of the DZ BANK Group.

The risk attaching to investments is managed in accordance with the guidelines specified by EIOPA, the stipulations in the VAG, the information provided in regulatory circulars, and internal investment guidelines (for details, see 'Market risk strategy' in section 15.1.). Compliance with the internal provisions in the risk management guidelines for investment risk and with other regulatory investment principles and regulations at R+V is ensured by means of highly skilled investment management, appropriate internal control procedures, a forward-looking investment policy, and other organizational measures. The management of risk encompasses both economic and accounting aspects.

R+V continuously expands and refines the range of instruments used to identify, assess, and analyze the risk attaching to new investments and to monitor risk in the investment portfolio, in order to be able to respond to any changes in the capital markets and to detect, limit, or avoid risk at an early stage.

R+V counters investment risk by observing the principle of achieving the greatest possible security and profitability while ensuring liquidity at all times. By maintaining an appropriate mix and diversification of investments, the investment policy of R+V takes particular account of the objective of risk reduction.

R+V monitors changes in all types of market risk through constant measurement and a process of reporting to the relevant bodies. Risk in all subcategories is quantified in the context of specific economic calculations. Stress tests represent an important early-warning system. In addition to natural diversification via maturity dates, issuers, countries, counterparties and asset classes, limits are also applied in order to mitigate risk.

Regular asset/liability management investigations are carried out at R+V. The necessary capital requirement to maintain solvency is reviewed on an ongoing basis with the support of stress tests and scenario analyses. Specifically, a systematic review is carried out to assess the effects of a long period of low interest rates and volatile capital markets. R+V uses derivatives to manage market risk.

17.2.3. Management of individual market risk categories

In the management of **interest-rate risk**, R+V adheres to the principle of a broad mixture and diversification of investments, combined with balanced risk-taking in selected asset classes and duration management that takes account of the structure of obligations. Furthermore, the use of pre-emptive purchases helps to provide a constant return from investments and to manage changes in interest rates and duration.

In the management of **spread risk**, R+V pays particular attention to high credit ratings for investments, with the overwhelming majority of its fixed-income portfolio being held in investment-grade paper (see figure 55 in section 17.4.2.). A significant proportion of the portfolio is also backed by further collateral. The use of R+V's own credit risk evaluations, which are often more rigorous than the credit ratings available in the market, serves to further minimize risk.

Mortgage lending is also subject to strict internal rules that help to limit credit risk. Analysis has shown that accounting considerations do not require any loan loss allowances to be recognized at portfolio level.

The management of **equity risk** is based on a core-satellite approach in which the core comprises shares in large, stable companies in indices that can be hedged to which satellite equities are added to improve the risk/

return profile. Asymmetric strategies are also used to reduce or increase equity exposure under a rules-based approach.

Currency risk is controlled by systematic foreign-exchange management. Virtually all reinsurance assets and liabilities are denominated in the same currency.

Real-estate risk is mitigated by diversifying holdings across different locations and types of use. Because real-estate risk makes up only a small proportion of aggregate risk and R+V adopts a prudent investment policy, this risk is not material for R+V.

Concentration risk is of minor relevance to R+V and is reduced by maintaining an appropriate mixture and diversification of investments. This is particularly apparent from the granular structure of the issuers in the portfolio.

17.2.4. Distinctive features of managing market risk in personal insurance business

Due to the persistently low level of interest rates, there is a heightened risk that the guaranteed minimum return agreed for certain products when contracts are signed cannot be generated on the capital markets over the long term. This particularly applies to life insurance contracts and casualty insurance contracts with premium refund clauses that guarantee minimum returns. In the case of products with long-term guarantees, there is a risk of negative variances over the term of the contracts compared with calculation assumptions because of the length of time covered by the contracts. The main reasons for variances are the change in the capital market environment and maturity mismatches between investments and insurance contracts. A protracted period of low interest rates increases the market risk arising from investments.

Market risk can be countered by underwriting new business that takes into account the current capital market situation and by taking the following action to boost the portfolio's risk-bearing capacity. It is crucial to ensure that there is enough free capital that can be made available even in adverse capital market scenarios. The necessary capital requirement to maintain solvency is reviewed on an ongoing basis with the aid of stress tests and scenario analyses as part of asset/liability management.

Risk is essentially mitigated by recognizing a supplementary change-in-discount-rate reserve as specified in the Regulation on the Principles Underlying the Calculation of the Premium Reserve (DeckRV) and adding to the discount rate reserves for existing contracts, thereby reducing the average interest liabilities. In 2016, R+V added a total of €626 million to these supplementary reserves in its life insurance business, bringing the overall amount to €2,140 million. In its direct non-life business, it increased the reserves by €9 million to €23 million. R+V expects to make further additions in 2017 and these additions have been included in the budget accounts.

Policyholder participation in the form of future declarations of bonuses is also an important instrument with which to reduce market risk attaching to life insurance.

The breakdown of benefit reserves by discount rate for the main life and casualty insurance portfolios is shown in figure 50.

A summary of the actuarial assumptions for calculating the benefit reserves for the main life and casualty insurance portfolios is presented in note 11 of the notes to the consolidated financial statements. It forms part of the notes on the accounting policies applicable to the 'Benefit reserve' line item on the balance sheet.

The company actuarial discount rate calculated in accordance with the procedure developed by the Deutsche Aktuarvereinigung e.V. (DAV) [German Actuarial Association] is used in determining the health insurance discount rate. This procedure is based on a fundamental professional principle issued by the DAV for determining an appropriate discount rate. As a result of these calculations, the discount rate will be reduced in 2017 for observation units with a premium adjustment effective January 1, 2017. The reason for this step is the persistently low level of interest rates.

FIG. 50 – INSURANCE SECTOR: BENEFIT RESERVES BY DISCOUNT RATE FOR THE MAIN INSURANCE PORTFOLIOS[1]

Discount rate	Proportion of total benefit reserve in 2016[2]		Proportion of total benefit reserve in 2015[2]	
	(€ million)	(%)	(€ million)	(%)
0.00%	4,532	8.2	3,856	7.3
0.25%	607	1.1	550	1.0
0.75%	66	0.1	10	–
1.00%	18	–	23	–
1.25%	1,892	3.4	618	1.2
1.50%	55	0.1	72	0.1
1.75%	4,798	8.7	4,489	8.5
2.00%	258	0.5	142	0.3
2.25%	9,319	16.9	8,835	16.8
2.50%	91	0.2	102	0.2
2.75%	6,888	12.5	7,277	13.8
3.00%	3,690	6.7	4,079	7.7
3.25%	6,716	12.2	6,542	12.4
3.50%	4,325	7.8	4,444	8.4
3.75%	305	0.6	412	0.8
4.00%	7,373	13.4	7,405	14.1

1 The table covers the following insurance products that include an interest-rate guarantee:
– Casualty insurance policies with premium refund
– Casualty insurance policies with premium refund as pension insurance
– Pension insurance policies
– Endowment insurance policies, including capital accumulation, risk and credit insurance policies, pension plans with guaranteed insurance-based benefits
– Capital deposit products.
2 The share of the total benefit reserve attributable to supplementary insurance policies is listed under the relevant basis of calculation for the associated main insurance policy.

17.2.5. Managing risk arising from defined benefit pension obligations

The R+V entities have pension obligations (defined benefit obligations) to their current and former employees. By entering into such direct defined benefit obligations, they assume a number of risks, including risks associated with the measurement of the amounts recognized on the balance sheet, in particular risk arising from a change in the discount rate, risk of longevity, inflation risk, and risk in connection with salary and pension increases. A requirement may arise to adjust the existing provisions for pensions and other post-employment benefits as a result of decisions by the courts, legislation, or changes in the (consolidated) financial reporting. All the plan assets at R+V without exception are assets in reinsured pension schemes and are subject to interest-rate risk. The strategy adopted for the pension assets is predominantly driven by the defined benefit obligations.

17.3. Risk factors

Generating the guaranteed return required in its life insurance business may present R+V with additional challenges if interest rates remain low or turn negative and **credit spreads** remain narrow. Compared with actuarial risk, interest-rate risk plays a fairly minor role in non-life insurance business.

A rise in interest rates or widening of credit spreads on bonds in the market would lead to a drop in fair values. Falls in fair value of this nature could have a temporary impact on operating profit, or a permanent impact if bonds have to be sold. Given that cash flows in connection with insurance liabilities in the area of life insurance can be readily forecast and the fact that R+V's investments are well diversified, the risk that bonds might have to be sold at a loss before their maturity date is reduced.

Default risk arises if there is a deterioration in the financial circumstances of issuers or borrowers, resulting in the risk of partial or complete default on receivables or in ratings-related impairment losses. The credit quality of R+V's investments is generally high with a sound collateralization structure. In the dominant public and financial sectors, they are largely loans and advances in the form of government bonds and German and European Pfandbriefe with collateral backed by statute.

At R+V, equities are used as part of a long-term investment strategy to guarantee that **obligations to policyholders** can be satisfied; generating profits by exploiting short-term fluctuations to sell shares is not its objective. The risk of having to sell equities at an inopportune moment is mitigated by its broadly diversified portfolio of investments.

17.4. Lending volume

17.4.1. Reconciliation of the lending volume

The amount and structure of the lending volume are key factors for the aspects of credit risk reflected in market risk and counterparty default risk. To identify possible risk concentrations, the volume liable to credit risk is broken down by sector, country group, and rating class.

In the Insurance sector, counterparty default risk is of secondary importance compared with market risk and actuarial risk.

Figure 51 shows a reconciliation of the lending volume on which the risk management is based to individual balance sheet items in order to provide a transparent illustration of the link between the consolidated financial statements and risk management. There are discrepancies between the internal management and external (consolidated) financial reporting measurements for some portfolios owing to the focus on the risk content of the items. Other main reasons for the discrepancies between the two sets of figures are differences in the scope of consolidation, differences in the definition of lending volume, and various differences in recognition and measurement methods.

17.4.2. Change in lending volume

As at December 31, 2016, the total lending volume of R+V had increased by 10 percent to €81.7 billion (December 31, 2015: €74.0 billion). Of this increase, €3.3 billion was attributable to the inclusion of the Italian subsidiaries of the Assimoco Group in the regulatory scope of consolidation with effect from January 1, 2016. The remainder of the increase was caused by the growth in insurance business.

The volume of lending in the home finance business stood at €9.5 billion as at December 31, 2016. This was the same as the figure at the end of 2015. Of this amount, 91 percent was accounted for by loans for less than 60 percent of the value of the property, a situation that was unchanged compared with December 31, 2015. The volume of home finance was broken down by finance type as at the reporting date as follows (figures as at December 31, 2015 shown in parentheses):

FIG. 51 – INSURANCE SECTOR: RECONCILIATION OF THE LENDING VOLUME

€ billion

Lending volume for internal management accounts		Reconciliation: Scope of consolidation		Reconciliation: Definition of the lending volume		Reconciliation: Carrying amount and measurement		Lending volume for the consolidated financial statements		
Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Investments held by insurance companies (note 56 to the consolidated financial statements)
								9.0	8.7	of which: mortgage loans
								8.2	8.8	of which: promissory notes and loans
								9.3	10.9	of which: registered bonds
								0.4	0.8	of which: other loans
								8.4	7.3	of which: variable-yield securities
								40.6	36.8	of which: fixed-income securities
								0.4	0.5	of which: derivatives (positive fair values)
								0.2	0.2	of which: deposits with ceding insurers
81.7	74.0	-0.7	3.7	–	–	-4.5	-3.9	76.6	73.6	Total
				Balance as at Dec. 31, 2016				-2.6	-3.2%	
				Balance as at Dec. 31, 2015				-0.4	-0.6%	

Not relevant (shaded cells)

- Consumer home finance: €9.1 billion (€9.0 billion)
- Commercial home finance: €0.2 billion (€0.2 billion)
- Commercial finance: €0.3 billion (€0.4 billion).

In the home finance business, the entire volume disbursed is usually backed by traditional **loan collateral**.

The financial sector and the public sector, which are the dominant **sectors**, together accounted for 72 percent of the total lending volume as at December 31, 2016, as was also the case at the end of 2015. This lending mainly comprised loans and advances in the form of German and European Pfandbriefe with collateral backed by statute. Loans and advances to the public sector and consumer home finance (retail) highlight the safety of this investment.

Figure 52 shows the sectoral breakdown of the lending volume in the Insurance sector.

An analysis of the **geographical breakdown** of lending in figure 53 reveals that Germany and other industrialized countries accounted for the lion's share – 92 percent – of the lending volume as at the reporting date, which was unchanged compared with December 31, 2015. European countries dominated within the broadly diversified exposure in industrialized countries.

The high proportion of obligations in connection with the life insurance business requires investments with longer maturities. This is also reflected in the breakdown of **residual maturities** shown in figure 54. As at December 31, 2016, 81 percent (December 31, 2015: 80 percent) of the total lending volume had a residual maturity of more than 5 years. By contrast, just 4 percent of the total lending volume was due to mature within 1 year as at the reporting date (December 31, 2015: 3 percent). The increase in long residual maturities was mainly the result of investments in bonds.

The **rating structure** of the lending volume in the Insurance sector is shown in figure 55. Of the total lending volume as at December 31, 2016, 80 percent continued to be attributable to investment-grade borrowers (December 31, 2015: 77 percent). This reflects the regulatory requirements and the safety-oriented risk strategy of R+V. The lending volume that is not rated, which made up 18 percent of the total lending volume (December 31, 2015: 19 percent), essentially comprised low-risk consumer home finance for which external ratings were not available.

To rate the creditworthiness of the lending volume, R+V uses external ratings that have received general approval. It also applies its own expert ratings in accordance with the provisions of Credit Rating Agency Regulation III to validate the external credit ratings. R+V has defined the external credit rating as the maximum, even in cases where its own rating is better. The ratings calculated in this way are matched to the DZ BANK credit rating master scale using the methodology shown in figure 23 (section 8.4.1.).

As at the reporting date, the 10 counterparties associated with the largest lending volumes accounted for 23 percent of R+V's total lending volume (December 31, 2015: 21 percent).

FIG. 52 – INSURANCE SECTOR: LENDING VOLUME, BY SECTOR

€ billion	Dec. 31, 2016	Dec. 31, 2015
Financial sector	37.5	35.6
Public sector	21.5	17.4
Corporates	12.9	11.5
Retail	9.1	8.9
Industry conglomerates	0.7	0.6
Other	–	–
Total	**81.7**	**74.0**

FIG. 53 – INSURANCE SECTOR: LENDING VOLUME, BY COUNTRY GROUP

€ billion	Dec. 31, 2016	Dec. 31, 2015
Germany	32.5	32.6
Other industrialized countries	42.4	35.3
Advanced economies	1.1	1.0
Emerging markets	3.6	3.4
Supranational institutions	2.1	1.8
Total	**81.7**	**74.0**

FIG. 54 – INSURANCE SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

€ billion	Dec. 31, 2016	Dec. 31, 2015
≤ 1 year	2.9	2.3
> 1 year to ≤ 5 years	12.9	12.3
> 5 years	65.9	59.4
Total	**81.7**	**74.0**

FIG. 55 – INSURANCE SECTOR: LENDING VOLUME, BY RATING CLASS

€ billion		Dec. 31, 2016	Dec. 31, 2015
Investment grade	1A	23.2	20.2
	1B	5.8	6.3
	1C	–	–
	1D	8.9	7.1
	1E	–	–
	2A	6.1	6.1
	2B	5.2	7.0
	2C	6.3	5.6
	2D	8.5	3.5
	2E	–	–
	3A	1.3	1.4
Non-investment grade	3B	0.5	1.3
	3C	0.3	0.7
	3D	–	–
	3E	0.5	0.1
	4A	0.2	0.2
	4B	0.2	–
	4C	0.2	0.1
	4D	–	–
	4E	–	0.1
Default		0.1	0.1
Not rated		14.8	14.2
Total		**81.7**	**74.0**

17.5. Credit portfolios with increased risk content

The following disclosures form part of the above analyses of the entire credit portfolio. However, a separate analysis of R+V's exposure in credit portfolios with increased risk content has been included because of its significance for the risk position in the Insurance sector.

R+V continuously reviews its credit portfolio with regard to emerging crises. The risks identified are observed, analyzed, and managed with the aid of a regular reporting system and discussions in the operational decision-making committees at R+V. Adjustments are made to the portfolio if necessary.

Investments in **European periphery countries** totaled €7,687 million as at December 31, 2016 (December 31, 2015: €4,286 million), a rise of 79 percent. This increase was mainly caused by including the Italian subsidiaries of the Assimoco Group in R+V's regulatory scope of consolidation with effect from January 1, 2016. Figure 56 shows the country breakdown of the exposure.

As a result of a further improvement in its credit rating, Ireland has not been shown separately in internal risk reporting since the start of the year under review. Consequently, the total lending volume in respect of the eurozone periphery countries as at December 31, 2015 disclosed in this opportunity and risk report differs from the corresponding amount in the 2015 opportunity and risk report.

R+V's investments that are potentially affected by the current **Italian banking crisis** stood at €911 million as at December 31, 2016 (December 31, 2015: €549 million). Of this amount, €396 million was attributable to secured bonds (December 31, 2015: €87 million). This lending volume is included in the exposure shown for the Italian financial sector in figure 56.

The United Kingdom's expected exit from the EU and the political turmoil in Turkey have led to these countries' credit ratings being downgraded. As at December 30, 2016, R+V's investments in the **United Kingdom** and **Turkey** amounted to €4,096 million and €90 million respectively (December 31, 2015: €3,900 million and €106 million respectively).

17.6. Risk position

As at December 31, 2016, the **overall solvency requirement for market risk** amounted to €2,761 million (December 31, 2015: €2,578 million). The **upper loss limit** was €3,540 million (December 31, 2015: €2,950 million). The higher overall solvency requirement is explained by a rise in interest-rate risk, spread risk, and equity risk. Market risk reacted to the change in the level of interest rates; in addition, parameters in the stochastic model were adjusted. The upper loss limit was not exceeded at any time during 2016.

Figure 57 shows the overall solvency requirement for the various types of market risk.

FIG. 56 – INSURANCE SECTOR: EXPOSURE IN EUROZONE PERIPHERY COUNTRIES

€ million	Dec. 31, 2016	Dec. 31, 2015
Portugal	**7**	15
of which: public sector	–	–
of which: non-public sector	7	15
of which: financial sector	1	8
Italy	**5,763**	2,327
of which: public sector	4,257	1,350
of which: non-public sector	1,506	978
of which: financial sector	986	551
Spain	**1,917**	1,945
of which: public sector	1,239	1,347
of which: non-public sector	678	598
of which: financial sector	429	331
Total	**7,687**	4,286
of which: public sector	5,496	2,697
of which: non-public sector	2,190	1,590
of which: financial sector	1,415	889

FIG. 57 – INSURANCE SECTOR: OVERALL SOLVENCY REQUIREMENT FOR MARKET RISK

€ million	Dec. 31, 2016	Dec. 31, 2015
Interest-rate risk	917	715
Spread risk	1,339	1,259
Equity risk	1,320	1,266
Currency risk	196	272
Real-estate risk	139	123
Total (after diversification)	**2,761**	2,578

17.7. Summary and outlook

As in prior years, market risks were manageable in 2016 and did not have any detrimental impact on the risk position or financial performance of the DZ BANK Group.

However, the persistently low level of interest rates, combined with a possible resurgence of the crisis in Europe, does represent a potential risk. This is being countered, particularly with regard to interest-rate risk, by proactive and rigorous asset/liability management and by careful management of risks and investments.

18. Counterparty default risk

18.1. Definition and causes

Counterparty default risk reflects possible losses due to unexpected default or deterioration in the credit standing of counterparties and debtors of insurance and reinsurance companies over the following 12 months. It covers risk-mitigating contracts, such as reinsurance arrangements, securitizations and derivatives, and receivables from intermediaries, as well as any other credit risk that is not otherwise covered by risk measurement.

Counterparty default risk takes account of collateral or other security that is held by or for the insurance or reinsurance company and any associated risks.

At R+V, risks of this nature particularly relate to counterparties in derivatives transactions, reinsurance counterparties, and defaults on receivables from policyholders and insurance brokers.

18.2. Risk management

The capital requirements for counterparty default risk are determined on the basis of the relevant exposure and the expected losses per counterparty.

R+V manages counterparty default risk at individual entity level.

Transactions involving derivatives are subject to explicit internal guidelines, particularly those regarding volume and counterparty limits. A comprehensive, real-time reporting system enables the various risks to be monitored regularly and presented transparently. Only economic hedges are used and they are not reported on a net basis in the consolidated financial statements.

R+V uses the views expressed by the international rating agencies in conjunction with its own credit ratings to help it to assess counterparty and issuer risk. Compliance with the limits for major counterparties is reviewed on an ongoing basis, with regular checks on limit utilization and compliance with investment guidelines.

Effective default management mitigates the risks arising from defaults on receivables relating to direct insurance operations with policyholders and insurance brokers. The risk of default on receivables is also addressed by recognizing appropriate general loan loss allowances that are deemed to be adequate on the basis of past experience. The average ratio of defaults to gross premiums written over the past 3 years was 0.1 percent, which was unchanged on the figure as at December 31, 2015.

The default risk for receivables arising from inward and ceded reinsurance business is limited by constantly monitoring credit ratings and making use of other sources of information in the market. As was the case at the end of 2015, virtually all receivables arising from ceded reinsurance, which amounted to €30 million as at December 31, 2016 (December 31, 2015: €45 million), were due from entities with a rating of A or higher. In 2016, receivables arising from reinsurance did not represent a material risk due to the excellent credit quality of the reinsurers. There were no material defaults in 2016 or in previous years.

Receivables more than 90 days past due as at the balance sheet date amounted to €34 million as at December 31, 2016 (December 31, 2015: €31 million).

18.3. Risk position

As at December 31, 2016, the **overall solvency requirement for counterparty default risk** amounted to €73 million (December 31, 2015: €67 million) with an **upper loss limit** of €110 million (December 31, 2015: €50 million). The upper loss limit was not exceeded at any point during 2016.

19. Operational risk

19.1. Definition and causes

Operational risk is defined as the risk of loss arising from inadequate or failed internal processes, personnel, or systems, or from external events. It includes legal risk. Legal risk could arise, in particular, from changes in the legal environment (legislation and decisions by the courts), changes in official interpretations, and changes in the business environment.

19.2. Risk management

The **risk capital requirement** for operational risk in the Insurance sector is determined in accordance with the standard formula in Solvency II. The risk calculation uses a factor approach, taking account of premiums, provisions and, in the case of unit-linked business, costs.

R+V uses scenario-based risk self-assessments and risk indicators to manage and control operational risk. In the **risk self-assessments**, operational risk is assessed in terms of the probability of occurrence and the level of loss. Qualitative assessments can be used in exceptional cases.

Risk indicators help the Insurance sector to identify risk trends and concentrations at an early stage and to detect weaknesses in business processes. A system of warning lights is used to indicate risk situations based on specified threshold values. Risk indicators are collected systematically and regularly.

To support the management of operational risk, all R+V's business processes are structured in accordance with the requirements of the framework guidelines for employee authority and power of attorney in R+V companies. Divisions not covered by these guidelines are subject to other policy documents, including policies on new business and underwriting.

The internal control system is a key instrument used by R+V to limit operational risk. Rules and controls in each specialist division and reviews of the use and effectiveness of the internal control system carried out by Group Internal Audit avert the risk of errors and fraud.

Payments are largely automated. Powers of attorney and authorizations stored in user profiles, as well as automated submissions for approval based on a random generator, provide additional security. Manual payments are always approved by a second member of staff.

To ensure that it is operational at all times, R+V has a fully integrated business continuity management

system with a central coordination function. A committee of the crisis managers responsible for IT, premises, and human resources provides specialist support, ensures that emergency business continuity management activities are coordinated within the R+V subgroup, and reports to the Risk Committee on any major findings and any business continuity exercises that have been carried out.

Business continuity management ensures that R+V's operating activities can be maintained in the event of a crisis. Contingency planning also includes time-critical business processes and the resources needed to maintain them.

19.3. Risk factors

19.3.1. HR risk

The future success of R+V is dependent upon capable managers and employees with the necessary skills and qualifications. There is fierce competition for managerial and administrative staff in the labor market, driven by high demand and insufficient numbers of suitable individuals. Unless the necessary number of suitable managerial and administrative staff can be attracted within the required timeframe, and/or existing managers and employees can be retained, there will be a heightened risk that tasks will not be performed or will not be performed satisfactorily as a result of inadequate expertise in terms of either quality or quantity.

R+V provides long-term professional development and enhanced talent-management activities to ensure that staff members undergo the continuous development and training that will also make it possible to meet future staffing requirements from within the organization. The tools it uses for this purpose include a system for assessing high-potential employees, systematic succession planning, and skills upgrading programs.

In the interest of long-term staff retention, R+V runs programs to establish and enhance its appeal as a place to work, such as corporate health management, support for achieving a work-life balance, and regular staff surveys.

R+V counters operational risk in sales and distribution by providing continuous professional development courses for field sales staff. It applies the code of conduct for sales and distribution of the Gesamtverband der Deutschen Versicherungswirtschaft e.V. (GDV) [German Insurance Association]. This code focuses on a relationship between customers, insurance companies, and brokers that is defined by fairness and trust. The requirements set out in the code of conduct are reflected in the principles, policies, and processes of each company.

19.3.2. IT risk

Malfunctions or breakdowns in data processing systems or in the programs used on these systems, including attacks from external sources – such as hackers or malware –, could have an adverse impact on the ability to efficiently maintain the processes necessary to carry out operating activities, protect saved data, ensure sufficient control, or continue to develop products and services. Furthermore, such malfunctions or breakdowns could lead to temporary or permanent loss of data, or cause additional costs because the original capability would need to be restored and/or preventive measures introduced to provide protection against similar events in the future.

Quality assurance in IT is based on well-established processes that follow best practice. A meeting is held every working day to discuss current topics and assign people to work on them. In addition, appropriate measures relating to adherence to service level agreements (e.g. system availability and system response times) are decided upon at monthly meetings attended by the IT divisional managers.

Comprehensive physical and logical precautionary measures guarantee the security of data and applications and ensure that day-to-day operations are maintained. A particular risk would be a partial or total breakdown in data processing systems.

R+V counters this risk by using two segregated data processing centers in which the data and systems are mirrored, special access security, fire control systems, and an uninterruptible power supply supported by

emergency power generators. Regular exercises are carried out to test a defined restart procedure to be used in disaster situations with the aim of checking the efficacy of this procedure. Data is backed up and held within highly secure environments in various buildings. Furthermore, data is mirrored to a tape library at a remote, off-site location. This means that data will still be available, even if all of the data processing centers in Wiesbaden are completely destroyed.

As part of contingency and crisis management systems, R+V has initiated a range of measures to cope with business interruptions. However, the possibility cannot be ruled out that disruption to processes and workflows could be sustained over several days. Moreover, sensitive internal and external interfaces could be jeopardized by long-term business interruptions.

19.3.3. Legal risk

The matters mentioned in section 14.5.5. under 'Provisions recognized on the balance sheet' for the Bank sector essentially relate equally to the Insurance sector.

Legal disputes arising from the processing of insurance claims or benefit payments are included in the insurance liabilities, and therefore do not form part of operational risk. In the year under review, no significant operational risks from non-underwriting legal disputes arose at R+V.

19.3.4. Tax risk

The matters mentioned in section 14.5.6. under 'Tax risk' for the Bank sector essentially relate equally to the Insurance sector.

19.4. Risk position

As at December 31, 2016, the **overall solvency requirement for operational risk** amounted to €512 million (December 31, 2015: €478 million). The **upper loss limit** applicable at the balance sheet date was set at €640 million (December 31, 2015: €470 million). This limit was not exceeded at any time during 2016.

20. Non-controlling interests in insurance companies and entities in other financial sectors

R+V includes in its measurement of risk a long-term equity investment in a Spanish insurance company, in which the investment is a non-controlling interest. The proportionate risk capital and proportionate own funds for the company concerned are added into R+V's calculations in accordance with Solvency II. At R+V, the non-controlling interests in insurance companies and the entities in other financial sectors mainly consist of pension funds and occupational pension schemes.

Risk is quantified for the pension funds and occupational pension schemes in accordance with the requirements currently specified by the insurance supervisor. This means applying the capital requirements in Solvency I, which are essentially calculated as a factor of the volume measures of benefit reserves and capital at risk.

R+V Pensionskasse AG is exposed to risks comparable with those faced by the life insurance entities in the R+V subgroup. In particular, the relevant activities within risk management apply as described in the sections on life actuarial risk, market risk, counterparty default risk, and operational risk.

The risk situation in a pension fund is determined to a significant degree by the nature of the pension plans offered. In pension plans offered by R+V involving defined contributions with a minimum benefit, it must be ensured that at least the sum of the contributions paid into the plan (net of any contributions covering biometric risk assumed by R+V) is available on the agreed pension start date.

R+V also offers pension plans that include guaranteed insurance-based occupational incapacity cover as well as pension benefits and benefits for surviving dependants. Market risk and all the risk types covered by

actuarial risk are relevant as far as occupational pension provision is concerned. Longevity risk is also important in relation to pensions because of the guaranteed benefits involved. Here too, the relevant activities within risk management apply as described in the sections on life actuarial risk, market risk, counterparty default risk, and operational risk. The ongoing pension plan contributions and the benefit reserve include sufficient amounts to cover the costs of managing pension fund contracts.

In the pension plans involving a benefit commitment without any insurance-based guarantees, R+V does not assume responsibility for any of the pension fund risk or investment risk because the benefits promised by the pension fund are subject to the proviso that the employer will also make up any difference required. This also applies to the period in which pensions are drawn. If the employer fails to make up the difference required, R+V's commitment is reduced to insurance-based guaranteed benefits based on the amount of capital still available.

As at December 31, 2016, the overall solvency requirement for non-controlling interests in insurance companies and entities in other financial sectors stood at €101 million (December 31, 2015: €100 million). The **upper loss limit** was €120 million (December 31, 2015: €80 million). This limit was not exceeded at any time during 2016.

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Income statement for the period January 1 to December 31, 2016

€ million	(Note)	2016	2015
Net interest income	(34)	2,660	2,870
Interest income and current income and expense		6,811	6,667[1]
Interest expense		-4,151	-3,797
Allowances for losses on loans and advances	(35)	-569	-153
Net fee and commission income	(36)	1,698	1,632
Fee and commission income		3,236	3,159
Fee and commission expenses		-1,538	-1,527[1]
Gains and losses on trading activities	(37)	780	369
Gains and losses on investments	(38)	127	59
Other gains and losses on valuation of financial instruments	(39)	51	300
Premiums earned	(40)	14,658	14,418
Gains and losses on investments held by insurance companies and other insurance company gains and losses	(41)	3,815	3,080
Insurance benefit payments	(42)	-15,400	-14,664
Insurance business operating expenses	(43)	-2,313	-2,158
Administrative expenses	(44)	-3,600	-3,252[1]
Other net operating income	(45)	34	-48
Net income from the business combination with WGZ BANK	(89)	256	
Profit before taxes		2,197	2,453
Income taxes	(46)	-591	-657
Net profit		**1,606**	**1,796**
Attributable to:			
Shareholders of DZ BANK		1,468	1,416
Non-controlling interests		138	380

1 Amount restated.

APPROPRIATION OF PROFITS

€ million	2016	2015
Net profit	1,606	1,796
Non-controlling interests	-138	-380
Appropriation to retained earnings	-1,142	-1,189
Unappropriated earnings	**326**	**227**

Statement of comprehensive income for the period January 1 to December 31, 2016

€ million	(Note)	2016	2015
Net profit		1,606	1,796
Other comprehensive income		185	115
Items that may be reclassified to the income statement		**306**	9
Gains and losses on available-for-sale financial assets	(47)	329	-116
Gains and losses on cash flow hedges	(47)	-5	14
Exchange differences on currency translation of foreign operations	(47)	17	45
Gains and losses on hedges of net investments in foreign operations	(47)	-1	-24
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method		-14	17
Income taxes	(48)	-20	73
Items that will not be reclassified to the income statement		**-121**	106
Gains and losses arising from remeasurement of defined benefit plans		-176	151
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method		–	-1
Income taxes	(48)	55	-44
Total comprehensive income		**1,791**	**1,911**
Attributable to:			
Shareholders of DZ BANK		1,595	1,546
Non-controlling interests		196	365

Balance sheet as at December 31, 2016

ASSETS

€ million	(Note)	Dec. 31, 2016	Dec. 31, 2015
Cash and cash equivalents	(14, 49)	8,515	6,542
Loans and advances to banks	(15, 50)	107,253	80,735
Loans and advances to customers	(15, 51)	176,532	126,850
Allowances for losses on loans and advances	(16, 52)	-2,394	-2,073
Derivatives used for hedging (positive fair values)	(17, 53)	1,549	416
Financial assets held for trading	(18, 54)	49,279	49,520
Investments	(19, 55)	70,180	54,305
Investments held by insurance companies	(56, 60)	90,373	84,744
Property, plant and equipment, and investment property	(20, 57, 60)	1,752	1,710
Income tax assets	(21, 58)	1,280	902
Other assets	(22, 59, 60)	4,970	4,270
Non-current assets and disposal groups classified as held for sale	(23, 61)	182	166
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		-24	254
Total assets		**509,447**	**408,341**

EQUITY AND LIABILITIES

€ million	(Note)	Dec. 31, 2016	Dec. 31, 2015
Deposits from banks	(24, 62)	129,280	97,227
Deposits from customers	(24, 63)	124,425	96,186
Debt certificates issued including bonds	(25, 64)	78,238	54,951
Derivatives used for hedging (negative fair values)	(17, 65)	3,874	1,641
Financial liabilities held for trading	(18, 66)	50,204	45,377
Provisions	(26, 67)	4,041	3,081
Insurance liabilities	(11, 68)	84,125	78,929
Income tax liabilities	(21, 58)	780	775
Other liabilities	(69)	6,662	6,039
Subordinated capital	(27, 70)	4,723	4,142
Liabilities included in disposal groups classified as held for sale	(23, 61)	25	7
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		180	257
Equity	(71)	22,890	19,729
Shareholders' equity		20,064	15,007
Subscribed capital		4,657	3,646
Capital reserve		4,904	2,101
Retained earnings		7,822	7,016
Revaluation reserve		1,448	1,228
Cash flow hedge reserve		-11	-7
Currency translation reserve		70	46
Additional equity components		848	750
Unappropriated earnings		326	227
Non-controlling interests		2,826	4,722
Total equity and liabilities		**509,447**	**408,341**

Statement of changes in equity

€ million	Sub-scribed capital	Capital reserve	Equity earned by the group	Revalua-tion reserve	Cash flow hedge reserve	Currency transla-tion reserve	Addi-tional equity compo-nents	**Share-holders' equity**	Non control-ling interests	**Total equity**
Equity as at Jan. 1, 2015	3,646	2,101	5,952	1,200	-16	24	–	12,907	5,338	18,245
Net profit	–	–	1,416	–	–	–	–	1,416	380	1,796
Other comprehensive income/loss	–	–	91	8	9	22	–	130	-15	115
Total comprehensive income/loss	–	–	**1,507**	**8**	**9**	**22**	–	**1,546**	**365**	**1,911**
Capital increase/ capital repaid	–	–	–	–	–	–	750	750	-726	24
Changes in scope of consolidation	–	–	3	–	–	–	–	3	1	4
Acquisition/disposal of non-controlling interests	–	–	-9	20	–	–	–	11	-104	-93
Dividends paid	–	–	-210	–	–	–	–	-210	-152	-362
Equity as at Dec. 31, 2015	3,646	2,101	7,243	1,228	-7	46	750	15,007	4,722	19,729
Net profit	–	–	1,468	–	–	–	–	1,468	138	1,606
Other comprehensive income/loss	–	–	-101	218	-4	14	–	127	58	185
Total comprehensive income/loss	–	–	**1,367**	**218**	**-4**	**14**	–	**1,595**	**196**	**1,791**
Capital increase	1,011	2,803	–	–	–	–	–	3,814	31	3,845
Changes in scope of consolidation	–	–	-3	1	–	-1	98	95	-21	74
Acquisition/disposal of non-controlling interests	–	–	-217	1	–	11	–	-205	-1,959	-2,164
Dividends paid	–	–	-224	–	–	–	–	-224	-143	-367
Distribution of dividend on additional equity components	–	–	-18	–	–	–	–	-18	–	-18
Equity as at Dec. 31, 2016	**4,657**	**4,904**	**8,148**	**1,448**	**-11**	**70**	**848**	**20,064**	**2,826**	**22,890**

The composition of equity is explained in note 71.

Statement of cash flows

€ million	2016	2015
Net profit	**1,606**	**1,796**
Non-cash items included in net profit and reconciliation to cash flows from operating activities		
Depreciation, amortization, impairment losses, reversals of impairment losses on assets, and other non-cash changes in financial assets and liabilities	-1,333	-992
Non-cash changes in provisions	909	212
Changes in insurance liabilities	5,489	7,262
Other non-cash income and expenses	948	106
Gains and losses on the disposal of assets and liabilities	122	895
Other adjustments (net)	-5,806	-3,349[1]
Subtotal	1,935	5,930
Cash changes in assets and liabilities arising from operating activities		
Loans and advances to banks	-1,323	-1,664
Loans and advances to customers	-7,043	-5,097
Other assets from operating activities	-653	1,091
Derivatives used for hedging (positive and negative fair values)	1,447	-943
Financial assets and financial liabilities held for trading	4,177	-1,449
Deposits from banks	-9,862	8,096
Deposits from customers	6,251	307
Debt certificates issued including bonds	2,087	-468
Other liabilities from operating activities	-33	-3,503
Interest, dividends, and operating lease payments received	7,497	7,555[1]
Interest paid	-4,339	-4,071
Income taxes paid	-392	-280
Cash flows from operating activities	**-251**	**5,504**
Proceeds from the sale of investments	11,090	9,629
Proceeds from the sale of investments held by insurance companies	21,627	19,288
Proceeds from the sale of property, plant and equipment, and investment property (excluding assets subject to operating leases)	14	8
Proceeds from the sale of intangible non-current assets	14	7
Payments for the acquisition of investments	-6,680	-6,942
Payments for the acquisition of investments held by insurance companies	-25,921	-24,067
Payments for the acquisition of property, plant and equipment, and investment property (excluding assets subject to operating leases)	-83	-60
Payments for the acquisition of intangible non-current assets	-173	-179
Changes in scope of consolidation	236	-13
of which: Proceeds from the sale of investments in consolidated subsidiaries net of cash divested	2	–
Payments for the acquisition of investments in consolidated subsidiaries net of cash acquired	–	-14
Cash flows from investing activities	**124**	**-2,329**

€ million	2016	2015
Proceeds from capital increases by shareholders of DZ BANK	4,730	–
Proceeds from capital increases by non-controlling interests	31	24
Proceeds from additional equity components	–	750
Dividends paid to shareholders of DZ BANK	-224	-210
Dividends paid to non-controlling interests	-143	-152
Distribution of dividend on additional equity components	-18	–
Other payments to shareholders of DZ BANK	-916	–
Other payments to non-controlling interests	–	-750
Net change in cash and cash equivalents from other financing activities (including subordinated capital)	-1,360	672
Cash flows from financing activities	**2,100**	**334**

1 Amount restated.

€ million	2016	2015
Cash and cash equivalents as at January 1	6,542	3,033
Cash flows from operating activities	-251	5,504
Cash flows from investing activities	124	-2,329
Cash flows from financing activities	2,100	334
Cash and cash equivalents as at December 31	**8,515**	**6,542**

The statement of cash flows shows the changes in cash and cash equivalents during the financial year. Cash and cash equivalents consist of cash on hand, balances with central banks and other government institutions, treasury bills, and non-interest-bearing treasury notes. The cash and cash equivalents do not include any financial investments with maturities of more than 3 months at the date of acquisition. Changes in cash and cash equivalents are broken down into operating, investing, and financing activities.

Cash flows from operating activities comprise cash flows mainly arising in connection with the revenue-producing activities of the group and other activities that cannot be classified as investing or financing activities. Cash flows related to the acquisition and disposal of non-current assets are allocated to investing activities. Cash flows from financing activities include cash flows arising from transactions with equity owners and from other borrowing to finance business activities.

The first-time consolidation of subsidiaries generated a cash inflow of €236 million. The deconsolidation of subsidiaries resulted in a cash outflow of €2 million. In 2015, there had been no impact on cash and cash equivalents from the first-time consolidation or deconsolidation of subsidiaries.

Notes

A General disclosures

» 01
Basis of preparation

Pursuant to *Regulation (EC) 1606/2002 of the European Parliament and of the Council of July 19, 2002*, the consolidated financial statements of DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK) for the 2016 financial year have been prepared in accordance with the provisions of the International Financial Reporting Standards (IFRS), as adopted by the European Union (EU).

The provisions specified in section 315a (1) of the German Commercial Code (HGB) for companies whose securities are admitted to trading on a regulated market in the EU have also been applied in the consolidated financial statements of DZ BANK. In addition, further standards adopted by Deutsches Rechnungslegungs Standards Committee e.V. [German Accounting Standards Committee] have generally been taken into account where such standards have been published in the German Federal Gazette by the Bundesministerium der Justiz und für Verbraucherschutz [Federal Ministry of Justice and Consumer Protection] pursuant to section 342 (2) HGB.

The DZ BANK Group's financial year is the same as the calendar year. In the interest of clarity, some items on the income statement, the statement of comprehensive income, and the balance sheet have been aggregated and are explained by additional disclosures in the notes. Unless stated otherwise, all amounts are shown in millions of euros (€ million). All figures are rounded to the nearest whole number. This may result in very small discrepancies in the calculation of totals and percentages.

The consolidated financial statements of DZ BANK have been released for publication by the Board of Managing Directors following approval by the Supervisory Board on March 29, 2017.

Changes in accounting policies

» 02
Accounting policies and estimates

The financial statements of the entities consolidated in the DZ BANK Group have been prepared using uniform accounting policies.

First-time application in 2016 of changes in IFRS

The following amended standards and specified improvements to IFRS have been applied for the first time in DZ BANK's consolidated financial statements for the 2016 financial year:
- *Defined Benefit Plans: Employee Contributions* (Amendments to IAS 19),
- *Accounting for Acquisitions of Interests in Joint Operations* (Amendments to IFRS 11 Joint Arrangements),
- *Disclosure Initiative* (Amendments to IAS 1),

- *Clarification of Acceptable Methods of Depreciation and Amortisation* (Amendments to IAS 16 and IAS 38),
- *Investment Entities: Applying the Consolidation Exception* (Amendments to IFRS 10, IFRS 12 and IAS 28),
- *Annual Improvements to IFRSs 2010–2012 Cycle*,
- *Annual Improvements to IFRSs 2012–2014 Cycle*.

Defined Benefit Plans: Employee Contributions (Amendments to IAS 19) introduces an option for mandatory employee contributions relating to the accounting treatment of defined benefit plans. If such contributions are linked to the service period but do not depend on the number of years of service, an entity may use these contributions to reduce the service cost in the period in which the service in question was rendered instead of apportioning them over the service period. The amendments are to be applied for the first time to financial years beginning on or after February 1, 2015.

Accounting for Acquisitions of Interests in Joint Operations (Amendments to IFRS 11 Joint Arrangements) clarifies that the acquirer of an interest in a joint operation that constitutes a business as defined by IFRS 3 *Business Combinations* must apply the relevant principles of accounting for business combinations set forth in IFRS 3. It also clarifies that, if additional interests in an existing joint operation are acquired and joint control is retained, the interest already held is not remeasured. The amendments must be applied to financial years beginning on or after January 1, 2016.

The *Disclosure Initiative* (Amendments to IAS 1) clarifies that the concept of materiality applies to all parts of IFRS financial statements, including the notes. Immaterial information should not be provided, even if other standards explicitly stipulate their disclosure. It also introduces rules on presenting subtotals on the balance sheet, in the income statement, and in other comprehensive income. There is also clarification on presentation in the statement of comprehensive income of the share of other comprehensive income/loss attributable to long-term equity investments that are accounted for using the equity method. These amendments must be applied to financial years beginning on or after January 1, 2016.

Clarification of Acceptable Methods of Depreciation and Amortisation (Amendments to IAS 16 and IAS 38) clarifies that it is not permitted to use a revenue-related method for depreciating property, plant and equipment. With regard both to property, plant and equipment and to intangible assets, it also clarifies that a decrease in the unit selling prices of goods and services may be indicative of an asset's commercial obsolescence and thus of a reduction in the future economic benefits embodied in the assets. The amendments must be applied for the first time to financial years beginning on or after January 1, 2016.

Investment Entities: Applying the Consolidation Exception (Amendments to IFRS 10, IFRS 12 and IAS 28) clarifies that the exemption from the obligation to prepare consolidated financial statements pursuant to IFRS 10.4(a) also applies to parent companies that are themselves subsidiaries of investment entities. It also makes clear that an investment entity must measure at fair value all subsidiaries that themselves satisfy the criteria for the definition of an investment entity. This also applies if the subsidiaries provide investment-related services. In a further point of clarification, a non-investment entity that consolidates an investment entity as an associate or joint venture using the equity method is permitted to retain the fair value

measurement of subsidiaries applied by the associate or joint venture. These amendments must be applied to financial years beginning on or after January 1, 2016.

In the *Annual Improvements to IFRSs 2010–2012 Cycle*, to be applied for the first time to financial years beginning on or after February 1, 2015, and *2012–2014 Cycle*, to be applied for the first time to financial years beginning on or after January 1, 2016, the International Accounting Standards Board (IASB) provides clarification of, and makes minor amendments to, various existing standards.

The aforementioned amendments and improvements to IFRS have no material impact on DZ BANK's consolidated financial statements because they do not give rise to any significant changes.

Changes in IFRS endorsed by the EU but not yet adopted

The DZ BANK Group has decided against voluntary early adoption of the following new financial reporting standards that have been endorsed by the EU:

- IFRS 9 *Financial Instruments*,
- IFRS 15 *Revenue from Contracts with Customers*.

The provisions of IFRS 9 *Financial Instruments* will supersede the content of IAS 39 *Financial Instruments: Recognition and Measurement*. IFRS 9 includes requirements relating to the following areas, which have been fundamentally revised: classification and measurement of financial instruments, the impairment model for financial assets, and hedge accounting.

As a result of the classification and measurement rules in IFRS 9, financial assets need to be reclassified. In the case of debt instruments, both the business models of the portfolios and the characteristics of the contracted cash flows for the individual financial assets must be taken into account for the purposes of the reclassification. The outcome of the analysis is that financial assets can be classified as measured 'at fair value through profit or loss', 'at fair value through other comprehensive income', or 'at amortized cost'. If individual financial assets are classified as measured at fair value through other comprehensive income or measured at amortized cost, but accounting mismatches then arise, the standard also allows the reporting entity the option of designating the financial assets concerned as at fair value through profit or loss (fair value option). The DZ BANK Group plans to use the fair value option. In the case of equity instruments, it is mandatory to assign these instruments to the category 'measured at fair value through profit or loss' if the instruments concerned are held for trading. For equity instruments not held for trading that would normally have been measured at fair value through profit or loss, reporting entities have the option of recognizing the changes in the fair values of these equity instruments irrevocably in other comprehensive income in subsequent measurement (fair value through OCI option). The DZ BANK Group plans to make general use of the fair value through OCI option.

Unlike IAS 39, IFRS 9 specifies that, as regards financial liabilities measured at fair value through profit or loss, any changes in such liabilities resulting from a change in credit risk

must be recognized in other comprehensive income. The other requirements relating to financial liabilities have been largely carried over from IAS 39 unchanged.

The new impairment model requirements for financial instruments result in a fundamental change in the recognition of impairment losses because losses that are expected to occur now have to be recognized, rather than simply losses that have been incurred. The amount at which expected losses must be recognized depends on whether the credit risk attaching to the financial assets has increased significantly or not since initial recognition. If there has been a significant increase, all expected losses over the entire lifetime of the asset concerned must be recognized from this point. Otherwise, the only losses expected over the lifetime of the instrument that need to be recognized are those that result from possible loss events within the next 12 months. The DZ BANK Group generally identifies whether there has been a significant increase in credit risk by comparing the current probability of default over the maturity of the instrument (as determined at the reporting date) with the probability of default originally expected for the same period. This test has been extended to look at qualitative criteria that increase credit risk unless these criteria have already been incorporated into the probability of default. In the case of securities, the DZ BANK Group will make use of the exemption provided for in the standard whereby the requirement to test for a significant increase in credit risk can be disregarded for instruments subject to low credit risk. The definition of low credit risk is consistent with the globally accepted definition of low credit risk (e.g. investment grade).

IFRS 9's new hedge accounting model helps to improve presentation of internal risk management and entails numerous disclosure requirements. The particular risk management strategy and risk management objectives must be documented at the inception of the hedging relationship, as is currently the case. But in the future, the ratio between the hedged item and the hedging instrument must also, as a rule, adhere to the stipulations in the risk management strategy. If this ratio changes during a hedging relationship but the risk management objective remains the same, the quantity of the hedged item and the quantity of the hedging instrument in the hedging relationship must be adjusted without the latter being discontinued. Under IFRS 9, it will no longer be possible to discontinue a hedging relationship without reason at any time. The requirements relating to evidence of hedge effectiveness will also change. Under IFRS 9, retrospective evidence and the effectiveness threshold have been eliminated. Evidence of countervailing changes in fair value owing to the economic relationship between the hedged item and the hedging instrument can be provided on an entirely qualitative basis in the future without being bound by quantitative thresholds.

The DZ BANK Group has been carrying out 3 simulation analyses to assess the impact from the new provisions under IFRS 9. The first two simulation analyses were completed for the reference dates of December 31, 2015 and June 30, 2016 respectively. These analyses identified that the quantitative effects from the implementation of IFRS 9 will depend to a large extent on market trends up to the date of initial application. Furthermore, the interpretation of some individual IFRS 9 provisions has still not been resolved with the result that it is not yet possible at present to come to any definitive conclusion about the quantitative impact

on equity. However, it can be assumed at the moment that the main implications will arise from the new requirements relating to measurement categories.

The provisions of IFRS 9 must be applied to financial years beginning on or after January 1, 2018. They are generally required to be adopted retrospectively, although there are exemptions regarding the restatement of comparative prior-year figures. The DZ BANK Group intends to make use of these exemptions.

The provisions and definitions in IFRS 15 *Revenue from Contracts with Customers* will supersede the content of both IAS 18 *Revenue* and IAS 11 *Construction Contracts*. Under IFRS 15, revenue must be recognized when control of the agreed goods or services passes to the customer and the customer can benefit from these goods or services. In the future, the question of how much revenue is to be recognized and at what point in time, or over what period of time, will be answered in 5 steps. Firstly, the contract with the customer and the separate performance obligations in the contract must be identified. Next, the transaction price for the customer contract must be determined and allocated to the individual performance obligations. Variable elements of the transaction price must be estimated using the expected value method or the most likely amount approach and incorporated into the transaction price in accordance with the requirements governing the inclusion of variable consideration. Finally, the new model requires that revenue be recognized for each performance obligation in an amount equaling the proportion of the transaction price allocated to the obligation as soon as the agreed performance obligation is satisfied and/or control passes to the customer. Specified criteria must be used to distinguish between a performance obligation being satisfied at a point in time or over time. The new standard does not distinguish between different types of orders and goods/services but instead provides uniform criteria for determining whether a performance obligation is satisfied at a point in time or over time. Furthermore, IFRS 15 requires additional qualitative and quantitative disclosures regarding the nature, amount, and timing of revenue, and regarding cash flows, together with the related uncertainties. The new provisions under IFRS 15 do not have any impact on the recognition of income reported in connection with financial instruments in accordance with IFRS 9 or IAS 39.

The amendments must be applied to financial years beginning on or after January 1, 2018. IFRS 15 must be adopted using either a fully retrospective approach or a modified retrospective approach. The DZ BANK Group is not planning any early application of the standard.

The DZ BANK Group will adopt IFRS 15 using the modified retrospective application method as specified in IFRS 15.C3(b) by recognizing the cumulative effect of initially applying the standard at the date of initial application. In this method, IFRS 15 will be applied to new contracts and to existing contracts that have not yet been completed on the date of initial application. Existing contracts must be measured as if the provisions of IFRS 15 had always been applied to these contracts.

The DZ BANK Group carried out a preliminary assessment of IFRS 15 during the course of 2016; this assessment could change following further detailed analyses. All group companies

have started to analyze their contracts from the perspective of IFRS 15. Following the initial evaluations, the identified items have been judged to be either insignificant or not affected by the new rules. At present, the implementation of IFRS 15 is not expected to have any material impact on the financial statements. It will only be possible to quantify the effects reliably when the current detailed analyses have been completed.

Changes in IFRS that have not been endorsed by the EU

The following new accounting standards, amended or clarified accounting standards, IFRIC interpretations, and IFRS improvements, which have been issued by the IASB, have not yet been endorsed by the EU:
- IFRS 14 *Regulatory Deferral Accounts* (this version will not be incorporated into EU law),
- IFRS 16 *Leases*,
- *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture* (Amendments to IFRS 10 and IAS 28) (incorporation into EU law has been postponed indefinitely),
- *Recognition of Deferred Tax Assets for Unrealised Losses* (Amendments to IAS 12),
- *Disclosure Initiative* (Amendments to IAS 7),
- Clarifications to IFRS 15 *Revenue from Contracts with Customers*,
- *Classification and Measurement of Share-based Payment Transactions* (Amendments to IFRS 2),
- *Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts* (Amendments to IFRS 4),
- *Transfers of Investment Property* (Amendments to IAS 40),
- IFRIC 22 *Foreign Currency Transactions and Advance Consideration*,
- *Annual Improvements to IFRSs 2014–2016 Cycle*.

The provisions of IFRS 16 *Leases* will supersede the content of IAS 17 *Leases*. The main changes introduced by IFRS 16 relate to accounting by lessees. In the future, lessees will have to recognize on the balance sheet right-of-use assets for all leases and corresponding lease liabilities for the contracted payment obligations. Exemptions will be permitted for leases involving low-value assets and short-term leases. For lessees and lessors, the disclosures required in the notes to the financial statements under IFRS 16 will be considerably more extensive than under IAS 17. The new provisions under IFRS 16 will affect DVB and VR LEASING as lessors and all group companies that are lessees with leased or rented assets. The group companies are examining the impact on DZ BANK's consolidated financial statements. The mandatory initial application date is January 1, 2019, although earlier adoption is permitted (provided IFRS 15 is also applied). However, the DZ BANK Group is not planning any early adoption.

The IASB published *Recognition of Deferred Tax Assets for Unrealised Losses* (Amendments to IAS 12) on January 19, 2016. The amendments are designed to address various issues relating to the accounting treatment of deferred tax assets for unrealized losses on debt instruments that are measured at fair value through other comprehensive income. These amendments must be applied to financial years beginning on or after January 1, 2017.

In January 2016, the IASB published amendments to IAS 7 under its disclosure initiative aimed at enabling users of financial statements to better evaluate both cash and non-cash changes in liabilities arising from financing activities. Liabilities arising from financing activities are defined as liabilities for which cash flows are classified in the statement of cash flows as cash flows from financing activities. The new disclosure requirements also relate to changes in financial assets if they meet the same definition. There will be no material impact on DZ BANK's consolidated financial statements from these new stipulations. The amendments must be applied to reporting periods beginning on or after January 1, 2017.

The clarifications to IFRS 15 published in April 2016 address 3 identified topics (identifying performance obligations, principal versus agent considerations, and licensing of intellectual property) and provide some transitional relief for contracts that have been entered into before the beginning of the earliest presented period or have been amended before this period. The clarifications must be applied for the first time to financial years beginning on or after January 1, 2018.

Classification and Measurement of Share-based Payment Transactions (Amendments to IFRS 2) focuses on individual issues in connection with the accounting treatment of share-based payment transactions that are cash-settled. The most significant change or addition is that IFRS 2 now contains provisions that affect the calculation of the fair value of the obligations resulting from share-based payments. Application of these amendments is mandatory for financial years beginning on or after January 1, 2018.

In September 2016, the IASB published *Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts* (Amendments to IFRS 4). The objective of these amendments is to reduce the impact from the different effective dates of IFRS 9 and the new insurance contracts standard that will replace IFRS 4, primarily in entities with extensive insurance activities. The amendments provide insurers with a choice of 2 options (overlay approach and deferral approach), which can be used provided that certain criteria are satisfied. Under the current arrangements, it is not possible for the DZ BANK Group to apply the deferral approach. The new provisions must be applied to reporting periods beginning on or after January 1, 2018.

The impact from the other aforementioned amended or clarified financial reporting standards, improvements to IFRSs, and new IFRIC interpretation on DZ BANK's consolidated financial statements is currently being examined.

The initial application dates for amendments issued by IFRS are subject to the proviso that the amendments must first be incorporated into EU law.

Changes in presentation

In the consolidated financial statements for 2016, the contributions collected for the European bank levy are presented under administrative expenses in view of their insignificance and in accordance with industry practice. Consequently, the bank levy of €54 million recognized in the 'contributions to the resolution fund' line item has been reclassified to administrative expenses in the income statement for 2015.

Restatements

Transaction cost components of loans and advances to customers, which are categorized as loans and receivables under IAS 39, have been restated in accordance with the provisions of IAS 8.41 et seq. Sales commissions were remeasured in connection with the measurement, using the effective interest method, of these loans and advances including the transaction cost components. In the past, these commissions were treated as fee and commission expense and not as deductions from interest income. There is no change to net profit as a result of these restated amounts.

The restatement has been carried out retrospectively. Consequently, the comparative figures for 2015 have been restated in the consolidated financial statements for 2016. The changes have been highlighted with a footnote to the effect that the amount has been restated.

Income statement for the period January 1 to December 31, 2015

€ million	2015 before restatement	Amount of restatement	**2015 after restatement**
Net interest income	2,988	-118	**2,870**
Interest income and current income and expense	6,785	-118	**6,667**
Interest expense	-3,797	–	**-3,797**
(…)			
Net fee and commission income	1,514	118	**1,632**
Fee and commission income	3,159	–	**3,159**
Fee and commission expenses	-1,645	118	**-1,527**
(…)			
Administrative expenses	-3,198	-54	**-3,252**
(…)			
Profit before contributions to the resolution fund and before taxes	2,507	-54	**2,453**
Contributions to the resolution fund	-54	54	**–**
Profit before taxes	2,453	–	**2,453**
Income taxes	-657	–	**-657**
Net profit	**1,796**	–	**1,796**

Statement of cash flows for the period January 1 to December 31, 2015

€ million	2015 before restatement	Amount of restatement	2015 after restatement
Net profit	1,796	–	1,796
Non-cash items included in net profit and reconciliation to cash flows from operating activities			
Depreciation, amortization, impairment losses, reversals of impairment losses on assets, and other non-cash changes in financial assets and liabilities	-992	–	-992
Non-cash changes in provisions	212	–	212
Changes in insurance liabilities	7,262	–	7,262
Other non-cash income and expenses	106	–	106
Gains and losses on the disposal of assets and liabilities	895	–	895
Other adjustments (net)	-3,467	118	-3,349
Subtotal	5,812	118	5,930
Cash changes in assets and liabilities arising from operating activities			
Loans and advances to banks	-1,664	–	-1,664
Loans and advances to customers	-5,097	–	-5,097
Other assets from operating activities	1,091	–	1,091
Derivatives used for hedging (positive and negative fair values)	-943	–	-943
Financial assets and financial liabilities held for trading	-1,449	–	-1,449
Deposits from banks	8,096	–	8,096
Deposits from customers	307	–	307
Debt certificates issued including bonds	-468	–	-468
Other liabilities from operating activities	-3,503	–	-3,503
Interest, dividends, and operating lease payments received	7,673	-118	7,555
Interest paid	-4,071	–	-4,071
Income taxes paid	-280	–	-280
Cash flows from operating activities	**5,504**	**–**	**5,504**
Proceeds from the sale of investments	9,629	–	9,629
Proceeds from the sale of investments held by insurance companies	19,288	–	19,288
Proceeds from the sale of property, plant and equipment, and investment property (excluding assets subject to operating leases)	8	–	8
Proceeds from the sale of intangible non-current assets	7	–	7
Payments for the acquisition of investments	-6,942	–	-6,942
Payments for the acquisition of investments held by insurance companies	-24,067	–	-24,067
Payments for the acquisition of property, plant and equipment, and investment property (excluding assets subject to operating leases)	-60	–	-60
Payments for the acquisition of intangible non-current assets	-179	–	-179
Changes in scope of consolidation	-13	–	-13
of which: Payments for the acquisition of investments in consolidated subsidiaries net of cash acquired	-14	–	-14
Cash flows from investing activities	**-2,329**	**–**	**-2,329**
Proceeds from capital increases by non-controlling interests	24	–	24
Proceeds from additional equity components	750	–	750
Dividends paid to shareholders of DZ BANK	-210	–	-210
Dividends paid to non-controlling interests	-152	–	-152
Other payments to non-controlling interests	-750	–	-750
Net change in cash and cash equivalents from other financing activities (including subordinated capital)	672	–	672
Cash flows from financing activities	**334**	**–**	**334**

€ million	2015 before restatement	Amount of restatement	2015 after restatement
Cash and cash equivalents as at January 1	3,033	–	3,033
Cash flows from operating activities	5,504	–	5,504
Cash flows from investing activities	-2,329	–	-2,329
Cash flows from financing activities	334	–	334
Cash and cash equivalents as at December 31	**6,542**	–	**6,542**

There was no impact on the balance sheet as at December 31, 2015.

The relevant comparative disclosures in the notes to the financial statements have also been amended as a result of the retrospective restatements.

Sources of estimation uncertainty

It is necessary to make assumptions and estimates in accordance with the relevant financial reporting standards in order to determine the carrying amounts of assets, liabilities, income, and expenses recognized in these consolidated financial statements. These assumptions and estimates are based on historical experience, planning, and expectations or forecasts regarding future events.

Assumptions and estimates are used primarily in determining the fair value of financial assets and financial liabilities and in identifying any impairment of financial assets. Estimates also have a material impact on determining the impairment of goodwill or intangible assets acquired as part of business combinations. Furthermore, assumptions and estimates affect the measurement of insurance liabilities, provisions for employee benefits, provisions for share-based payment transactions, provisions relating to building society operations, and other provisions as well as the recognition and measurement of income tax assets and income tax liabilities.

Fair values of financial assets and financial liabilities

If there are no prices available for certain financial instruments from active markets, the fair values of such financial assets and financial liabilities have to be determined on the basis of estimates, resulting in some uncertainty. Uncertainties associated with estimates arise primarily if fair values are determined using valuation techniques involving significant valuation parameters that are not observable in the market. This affects both financial instruments measured at fair value and financial instruments measured at amortized cost whose fair values are disclosed in the notes. The measurement parameter assumptions and measurement methods used to determine fair values are described in the financial instruments disclosures in notes 73 and 74.

Impairment of financial assets

When an impairment test (as described in note 5) is carried out for financial assets in the categories of ‘loans and receivables’ and ‘available-for-sale financial assets’ or for finance

lease receivables, it is necessary to determine estimated future cash flows from interest payments and the repayment of principal as well as from any recovery of collateral. This requires estimates and assumptions regarding the amount and timing of future cash flows, in turn giving rise to some uncertainty. The factors influencing impairment that are defined on a discretionary basis include economic conditions, the financial performance of the counterparty, and the value of the collateral held. When an impairment test for portfolios is carried out, parameters such as probability of default, which are calculated with the help of statistical models, are used in the estimates and assumptions.

Goodwill and intangible assets

The recognition of goodwill is largely based on estimated future income, synergies, and non-recognizable intangible assets generated by business combinations or acquired as part of business combinations. The recoverability of the carrying amount is verified by means of budget accounts that are largely based on estimates. Identifiable intangible assets acquired as part of business combinations are recognized on the basis of their future economic benefits. These benefits are assessed by management using reasonable, well-founded assumptions. The estimates applied in the case of business combinations are described in note 89.

Insurance liabilities

The measurement of insurance liabilities involves the exercise of discretion, estimates, and assumptions, especially in relation to mortality, rates of return on investment, cancellations, and costs. Actuarial calculation methods, statistical estimates, blanket estimates, and measurements based on past experience are used. The basic approaches used in the measurement of insurance liabilities are described in the insurance business disclosures in note 11.

Provisions for employee benefits, provisions for share-based payment transactions, and other provisions

Uncertainty associated with estimates in connection with provisions for employee benefits arises primarily from the measurement of defined benefit obligations, on which actuarial assumptions have a material effect. Actuarial assumptions are based on a large number of long-term, forward-looking factors, such as salary increases, annuity trends, and average life expectancy.

In the case of provisions for share-based payment transactions, estimation uncertainty arises from the way in which fair value is determined. This fair value is based on assumptions regarding the payout amount, which in turn depends on the performance of the variables specified in the underlying agreements.

Building society simulations (collective simulations) are used to forecast building society customers' future behavior in order to measure the provisions relating to building society operations. Uncertainty in connection with the measurement of these provisions is linked to

assumptions to be made about future customer behavior, which take account of various scenarios and measures. The main inputs for the collective simulations are presented in note 26.

Actual cash outflows in the future related to items for which other provisions have been recognized may differ from the forecast utilization of the provisions.

The basis for measurement and the assumptions and estimates underlying the calculation of provisions are described in note 26.

Income tax assets and liabilities

The deferred tax assets and liabilities described in note 58 are calculated on the basis of estimates of future taxable income in taxable entities. In particular, these estimates have an effect on any assessment of the extent to which it will be possible to make use of deferred tax assets in the future. In addition, the calculation of current tax assets and liabilities for the purposes of preparing financial statements involves estimates of details relevant to income tax.

Changes in accounting estimates

Within the provisions relating to building society operations in accordance with IAS 37, a collective approach is used to measure those provisions recognized to cover interest rate bonuses under old rate scales. In 2016, values from the latest collective simulation, together with estimates provided by experts, led to the recognition of an increased provision of €180 million.

» 03 Scope of consolidation

In addition to DZ BANK as the parent, the consolidated financial statements for the year ended December 31, 2016 include 28 subsidiaries (2015: 27) and 6 subgroups (2015: 5) comprising a total of 442 subsidiaries (2015: 534). An investee is included in the scope of consolidation as a subsidiary from the date on which DZ BANK obtains control over it. DZ BANK controls an investee when DZ BANK directly or indirectly has power over the investee, is therefore exposed to significant variable returns from its involvement with the investee, and has the ability to affect the variable returns from the investee through this power. In some cases, discretion is required to be exercised when deciding whether DZ BANK controls an investee. All the relevant facts and circumstances are considered when making this decision. This is particularly applicable to principal/agent relationships, which require an assessment of whether DZ BANK or other parties with decision-making rights are acting as principal or as an agent. With regard to principal/agent relationships, a considerable amount of discretion has to be exercised in order to assess the appropriateness of contractually agreed remuneration and of the level of the variable returns received.

As part of the business combination of WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank, Düsseldorf, (WGZ BANK AG) with DZ BANK, the scope of consolidation was extended to include WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK), WGZ BANK IRELAND plc, Dublin, (since August 12, 2016: DZ BANK IRELAND plc), PHOENIX Beteiligungsgesellschaft mbH, Düsseldorf, and IMPETUS Bietergesellschaft mbH, Düsseldorf.

In addition, Europäische Genossenschaftsbank S.A., Strassen, Luxembourg, was merged into DZ PRIVATBANK S.A., Strassen, Luxembourg, and DZ Beteiligungsgesellschaft mbH Nr. 3, Frankfurt, was merged into KBIH Beteiligungsgesellschaft für Industrie und Handel mbH, Frankfurt, (KBIH) in the year under review. KBIH has been included in the scope of consolidation since the merger date.

DZ PRIVATBANK Singapore Ltd., Singapore, Singapore, was also deconsolidated because of its minor significance for the financial position and financial performance of the DZ BANK Group.

Further changes in the scope of consolidation resulted from business combinations and are presented in note 89. There were no other material changes.

The consolidated financial statements include 22 joint arrangements in the form of joint ventures with at least one other entity outside the group (2015: 24) and 37 associates (2015: 31) over which DZ BANK has significant influence. These entities are accounted for using the equity method. There are currently no joint arrangements classified as joint operations. DZ BANK has joint control over an arrangement when there is a contractual agreement in place that requires decisions about the arrangement's relevant activities to be reached with the unanimous consent of all the parties sharing control. DZ BANK has a significant influence over an investee if it can participate in the financial and operating policy decisions of the investee without having control or joint control over it. This is assumed to be the case where between 20 and 50 percent of the voting shares are held.

In the reporting year, the associate Equens SE, Utrecht, Netherlands, (Equens) merged with the other shareholders to become equensWorldline SE, Utrecht, Netherlands, (equensWorldline). Consequently, this associate ceased to be accounted for using the equity method.

The shareholdings of the DZ BANK Group are listed in full in note 101.

» 04 Procedures of consolidation

Financial information in the consolidated financial statements contains data from the parent company, which incorporates data from its consolidated subsidiaries. The parent company and the consolidated subsidiaries are presented as a single economic entity.

The subsidiaries of the DZ BANK Group are the directly or indirectly controlled entities. An entity is deemed to be controlled by the group if the group is exposed to variable returns from its relationship with the entity and can affect those returns through its power over the entity.

Unless otherwise contractually agreed, control exists over an entity if the group holds more than half of the direct or indirect voting rights. The assessment of whether control exists also takes account of potential voting rights, provided they are considered substantial.

The group also considers itself to have control over an entity in cases where it does not hold the majority of the voting rights but does have the ability to unilaterally direct the relevant activities of the entity concerned.

The DZ BANK Group reviews which subsidiaries are to be consolidated at least once every six months.

When preparing the consolidated financial statements, uniform accounting policies are used for like transactions.

The consolidated subsidiaries have generally prepared their financial statements on the basis of a financial year ended December 31, 2016. There is one subsidiary (2015: 1 subsidiary) included in the consolidated financial statements with a different reporting date for its annual financial statements. With 42 (2015: 25) exceptions, the separate financial statements of the entities accounted for using the equity method are prepared to the same balance sheet date as that of the parent company. There is no resulting material impact in respect of the subsidiaries and associates concerned, and therefore no interim financial statements have been prepared.

Intragroup assets and liabilities, as well as intragroup income and expenses, are eliminated in full. Intragroup profits or losses resulting from transactions within the group are also eliminated in full.

When a subsidiary is consolidated, the carrying amount of the investment in the subsidiary is offset against the proportion of equity attributable to the subsidiary. Any share of a subsidiary's equity not attributable to the parent company is reported under equity as non-controlling interests.

Goodwill resulting from offsetting the acquisition cost of a subsidiary against the equity remeasured at fair value on the acquisition date is recognized as goodwill when the acquisition method is applied. It is recognized under other assets. Goodwill is tested for impairment at least once a year. Any negative goodwill is recognized in profit or loss on the acquisition date.

If the group loses control over a subsidiary, the assets and liabilities of this former subsidiary are derecognized when control is lost. The carrying amount of all the investments in the former subsidiary that is no longer subject to control is derecognized and the fair value of the consideration received is recognized. The profit or loss arising in connection with the loss of control is also recognized.

Investments in joint ventures and associates are accounted for using the equity method and reported on the balance sheet under investments or investments held by insurance companies.

Under the equity method, the group's investments in associates and joint ventures are initially recognized at cost. Subsequently, the carrying amount is increased (or decreased) to recognize the group's share of the profit/loss or other changes to the net assets of the associate or joint venture after the acquisition.

If the group loses its significant influence over an associate or joint venture, the gain or loss arising from the disposal of the long-term equity investment accounted for under the equity method is recognized.

Categories of financial instruments

» 05
Financial instruments

Financial instruments at fair value through profit or loss

Financial instruments in this category are recognized at fair value through profit or loss. This category is broken down into the following subcategories:

Financial instruments held for trading

The 'financial instruments held for trading' subcategory covers financial assets and financial liabilities that are acquired or incurred for the purpose of selling or repurchasing them in the near term, that are part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking, or that are derivatives, except for derivatives that are designated and effective hedging instruments.

Contingent considerations in a business combination

This subcategory covers contingent considerations that the acquirer has classified as financial assets or financial liabilities in the context of a business combination.

Financial instruments designated as at fair value through profit or loss; fair value option

Financial assets and financial liabilities may be designated to the 'financial instruments designated as at fair value through profit or loss' subcategory by exercising the fair value option, provided that the application of this option eliminates or significantly reduces measurement or recognition inconsistencies (accounting mismatches), the financial assets and liabilities are managed as a portfolio on a fair value basis or they include one or more embedded derivatives required to be separated from the host contract.

Held-to-maturity investments

The 'held-to-maturity investments' category consists of non-derivative financial assets with fixed or determinable payments and fixed maturity that an entity has the positive intention and ability to hold to maturity. These investments are measured at amortized cost. The premiums

and discounts are allocated over the expected life of the instrument using the effective interest method. The DZ BANK Group used the 'held-to-maturity investments' category for the first time in 2016.

Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Loans and receivables are measured at amortized cost. The premiums and discounts are allocated over the expected life of the instrument using the effective interest method.

Available-for-sale financial assets

'Available-for-sale financial assets' are financial assets that cannot be classified in any other category. They are measured at fair value. Any changes in fair value between 2 balance sheet dates are recognized in other comprehensive income. The changes in fair value reported on the balance sheet are included in the revaluation reserve as part of equity. When financial assets in this category are sold, gains and losses recognized in the revaluation reserve are reclassified to the income statement. Equity instruments in this category are measured at cost if their fair value cannot be reliably determined.

Financial liabilities measured at amortized cost

This category includes all financial liabilities within the scope of IAS 39 that are measured at amortized cost.

In accordance with IAS 32, shares in partnerships are normally classified as debt instruments. Given their subordinated status compared with the liabilities of the partnerships concerned, non-controlling interests in this case are reported as subordinated capital. Profit attributable to non-controlling interests is recognized under other liabilities, provided that the resulting liability is not of a subordinated nature. Non-controlling interests in partnerships are classified as 'share capital repayable on demand' and are assigned to the 'financial liabilities measured at amortized cost' category.

This category also includes liabilities under compensation payment obligations owed to non-controlling interests in consolidated subsidiaries. These liabilities arise if DZ BANK or some other entity controlled by DZ BANK has concluded a profit transfer agreement with a subsidiary in accordance with section 291 (1) of the German Stock Corporation Act (AktG) under which there are non-controlling interests. Liabilities under compensation payment obligations are recognized at the amount of the discounted obligation.

In addition, this category includes liabilities from capitalization transactions that are not designated as unit-linked insurance products. There is no significant transfer of insurance risk in these transactions and they do not therefore satisfy the criteria for an insurance contract under IFRS 4. As a consequence, such transactions need to be treated as financial instruments in accordance with IAS 39.

Other financial instruments

Derivatives used for hedging

The designation of derivatives in hedges is governed by the provisions of IAS 39. The recognition and measurement of derivatives used for hedging is described in note 17.

Liabilities from financial guarantee contracts

Liabilities from financial guarantee contracts measured in accordance with IAS 39 must be recognized as a liability at fair value by the issuer of the guarantee at the date of issue. The fair value is normally equivalent to the present value of the consideration received for issuing the financial guarantee contract. In any subsequent measurement, the obligation must be measured at the higher of the provision amount determined in accordance with IAS 37 and the amount initially recognized less any cumulative amortization. In the presentation of financial guarantee contracts, the guarantee commission receivables due from the beneficiary to the DZ BANK Group as the issuer of the guarantee are offset against guarantee obligations (net method).

Receivables and payables under finance leases

Receivables and payables under finance leases fall within the scope of IAS 17 and are explained in note 12.

Financial assets and financial liabilities specific to insurance business

In addition to financial instruments that fall within the scope of IAS 39, financial assets and financial liabilities arising from the insurance business are recognized and measured in accordance with the provisions of the HGB and other German accounting provisions applicable to insurance companies, as required by IFRS 4.

Deposits with ceding insurers are recognized at their nominal amounts. Receivables arising out of direct insurance operations and receivables arising out of reinsurance operations are recognized at their nominal amounts net of payments made. Impairment losses on receivables arising out of direct insurance operations and on receivables arising out of reinsurance operations are recognized directly in the carrying amounts. Assets related to unit-linked contracts are measured at fair value through profit or loss on the basis of the underlying investments.

Deposits received from reinsurers, payables arising out of direct insurance operations and payables arising out of reinsurance operations are recognized at their notional amounts.

Deposits with ceding insurers as well as assets related to unit-linked contracts are reported on the balance sheet under investments held by insurance companies. Deposits received from reinsurers, receivables and payables arising out of direct insurance operations, and receivables and payables arising out of reinsurance operations are recognized under other assets or other liabilities.

Application of the fair value option

Under the provisions of IAS 39, the fair value option can be exercised in 3 different scenarios. The DZ BANK Group applies the fair value option in all 3 scenarios.

The fair value option is applied to eliminate or significantly reduce accounting mismatches that arise if non-derivative financial instruments and related derivatives used to hedge such instruments are measured differently. Derivatives are measured at fair value through profit or loss, whereas non-derivative financial instruments are generally measured at amortized cost or changes in fair value are recognized in other comprehensive income. If the relevant hedge accounting criteria are not met, this gives rise to accounting mismatches that can be significantly reduced by applying the fair value option. The fair value option is used in the context of financial assets to prevent accounting mismatches that could arise in connection with loans and advances to banks and customers and bearer bonds. In the case of financial liabilities, the fair value option is exercised to avoid accounting mismatches for loan liabilities to banks and customers, issued registered or bearer Pfandbriefe, other bonds and commercial paper, and for registered or bearer subordinated liabilities. Some of the promissory notes and bonds are structured financial instruments containing derivatives (in the form of caps, floors, collars, or call options) for which bifurcation is not required. The derivative components of these instruments are subject to economic hedging that does not meet the criteria for the application of hedge accounting.

The risk and the performance arising from certain own-account investments held by the DZ BANK Group are evaluated and reported on the basis of their fair values. Application of the fair value option to these own-account investments helps harmonize both the financial management and the presentation of the DZ BANK Group's financial position and financial performance. These own-account investments comprise units in money market funds, fixed-income funds, equity funds, real estate funds, and other investment products with significant diversification of risk. The investments concerned are primarily in funds from the Union Investment Group.

The fair value option is also applied to structured financial assets and financial liabilities containing embedded derivatives requiring bifurcation, provided that the embedded derivatives cannot be measured separately and the financial assets and financial liabilities are not classified as held for trading. The issued financial instruments in this case are primarily guarantee certificates, discount certificates, profit-participation certificates, variable-rate bonds, inflation-linked notes, collateralized loan obligations, and credit-linked notes.

Initial recognition and derecognition of financial assets and financial liabilities

Derivatives are initially recognized on the trade date. Regular way purchases and sales of non-derivative financial assets are generally recognized and derecognized using settlement date accounting. In the case of consolidated investment funds and the issue of certain securities, the financial instruments are recognized on the trade date. Changes in fair value between the trade date and settlement date are recognized in accordance with the category of the financial instrument.

All financial instruments are measured at fair value on initial recognition. In the case of financial assets or financial liabilities not measured at fair value through profit or loss, initial recognition includes transaction costs directly attributable to the acquisition of the asset or issue of the liability concerned.

Differences between transaction prices and fair values determined using valuation techniques largely based on observable market data are recognized in profit or loss on initial recognition. If the fair value is derived from transaction prices at the time of acquisition and this value is then used as a basis for any subsequent measurement, any changes in fair value are only recognized in profit or loss if they can be attributed to a change in observable market data. Any differences not recognized at the time of initial recognition are allocated over the maturity of the financial instruments concerned and recognized in profit or loss accordingly.

Financial assets are derecognized if the contractual rights to the cash flows from the financial assets have expired or these rights have been transferred to third parties, and substantially no risks or rewards of ownership in the financial assets remain. If the criteria for derecognizing financial assets are not satisfied, the transfer to third parties is recognized as a secured loan. Financial liabilities are derecognized when the contractual obligations have been settled, extinguished or have expired.

Impairment losses and reversals of impairment losses on financial assets

Financial assets not measured as at fair value through profit or loss must be tested at each balance sheet date to establish whether there is any objective evidence that these assets are impaired.

In the case of debt instruments, important objective evidence of impairment includes financial difficulties on the part of the issuer or debtor, delay or default on interest payments or repayments of principal, failure to comply with ancillary contractually agreed arrangements or the contractually agreed provision of collateral, a significant downgrading in credit rating or issue of a default rating. In the case of securitization exposures, impairment testing requires an assessment of the assets underlying the securitization.

Significant objective evidence of impairment in the case of equity instruments includes a lasting deterioration in financial performance, sustained losses or consumption of equity, substantial changes with adverse consequences for the issuer's technological, market, economic or legal environment, and/or a considerable or enduring reduction in fair value associated with such changes.

There are indications that financial assets may be impaired if the fair value falls by more than 20 percent of average cost or if the fair value remains below average cost for more than 6 months.

As regards securities, the disappearance of an active market for a financial asset owing to financial difficulties on the part of the issuer may constitute evidence of impairment.

Loans and receivables, finance lease receivables

If there is objective evidence of impairment in the case of financial assets in the category 'loans and receivables' or in the case of finance lease receivables, the impairment loss is calculated as the difference between the carrying amount and the present value of estimated future cash flows. Estimated future cash flows include payments of interest, repayments of principal, and cash flows from the recovery of collateral. Specific allowances in the amount of the determined impairment loss requirement are recognized for the financial assets concerned. These allowances are recognized separately for individual financial assets or as a specific loan loss allowance evaluated on a group basis.

Financial assets with similar features for which impairment losses are not recognized on an individual basis are grouped into portfolios and tested collectively for impairment. Impairment losses are calculated on the basis of historical default rates for comparable portfolios. If any impairment is identified, a portfolio loan loss allowance is recognized.

Changes in the present value of estimated future cash flows between 2 balance sheet dates resulting from unwinding the discount in accordance with IAS 39.AG93 are recognized as interest income.

If an impairment test shows that a previously recognized impairment loss no longer exists, the impairment loss must be reversed. The resulting carrying amount must not be greater than the amortized cost of the asset or the amount determined in accordance with the accounting requirements for finance lease receivables that would have been reported if the impairment loss had not been recognized.

Impairment losses on loans and advances to banks and customers in the category ‘loans and receivables’ and on finance lease receivables are recognized in the DZ BANK Group by using allowance accounts. As long as a receivables default is deemed to be probable, an impairment loss is recognized as an allowance for losses on loans and advances. The allowance is derecognized against the financial asset if the default is almost certain or definitively occurs. Significant indications of such a situation include residual unsettled receivables even after collateral has been recovered, identification of impaired collateral, insolvency, permanent lack of assets on the part of the debtor, or if the whereabouts of the debtor are unknown. Impairment losses are recognized directly if no allowances for losses on loans and advances were recognized for the receivables concerned in prior years or insufficient allowances were recognized. Any recoveries on loans and advances for which impairment losses have already been directly recognized, are recognized immediately in profit or loss.

Available-for-sale financial assets

If there is a negative revaluation reserve as at the balance sheet date for individual financial assets in the ‘available-for-sale financial assets’ category, an impairment test is carried out to establish whether there is any objective evidence, as detailed above, that the assets concerned are impaired. In this case the cumulative negative amount in the revaluation reserve must be reclassified to profit or loss. Impairment losses related to equity instruments measured at cost are deducted directly from the carrying amounts of the financial assets concerned and recognized in profit or loss.

In the case of debt instruments, if the reasons for a previously recognized impairment loss no longer apply and this can be attributed to an event that occurred after the impairment was identified, any such impairment loss must be reversed. The reversal of impairment losses in respect of equity instruments measured at fair value in the ‘available-for-sale financial assets’ category is not permitted. Any subsequent increases in fair value are recognized in other comprehensive income. Impairment losses may not be reversed for equity instruments measured at cost.

Embedded derivatives

Embedded derivatives that are combined with a non-derivative financial instrument (host contract) in a hybrid (compound) instrument must be separated from the host contract and accounted for separately if the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and the hybrid (compound) instrument is not measured at fair value through profit or loss. If these conditions are not met, the embedded derivative may not be separated from the host contract. If an embedded derivative has to be separated, the individual components of the compound instrument are recognized and measured in accordance with the rules for the original financial instruments.

In the DZ BANK Group, non-derivative financial instruments with embedded derivatives are largely classified as financial instruments at fair value through profit or loss if bifurcation would otherwise be required.

Classes of financial instruments

For the purposes of the disclosures on the importance of financial instruments to the financial position and financial performance of the DZ BANK Group, financial instruments falling within the scope of IFRS 7 are classified using the 7 classes of financial instruments described below.

Classes of financial assets

Financial assets measured at fair value

The class of financial assets measured at fair value comprises the following categories defined by IAS 39:

- financial instruments at fair value through profit or loss with the subcategories
  - financial instruments held for trading
  - contingent considerations in a business combination
  - financial instruments designated as at fair value through profit or loss
- available-for-sale financial assets.

This class does not include financial assets under the category 'available-for-sale financial assets' whose fair value cannot be reliably determined and are therefore measured at cost. These financial assets are classified as financial assets measured at amortized cost.

In addition to the financial assets in the categories specified above, this class of financial instruments includes derivatives used for hedging (positive fair values), which are also measured at fair value.

Financial assets measured at amortized cost

The 'financial assets measured at amortized cost' class includes financial assets in the categories 'held-to-maturity investments', 'loans and receivables' and 'available-for-sale financial assets' for which a fair value cannot be reliably determined.

Finance leases

In the DZ BANK Group, the class 'finance leases' comprises solely finance lease receivables.

Classes of financial liabilities

Financial liabilities measured at fair value

Financial liabilities in the category 'financial instruments at fair value through profit or loss' with the subcategories 'financial instruments held for trading' and 'financial instruments

designated as at fair value through profit or loss', along with derivatives used for hedging (negative fair values), together make up the class 'financial liabilities measured at fair value' in the DZ BANK Group.

Financial liabilities measured at amortized cost

The class known as 'financial liabilities measured at amortized cost' is identical to the category of financial liabilities of the same name.

Finance leases

In the DZ BANK Group, the class 'finance leases' comprises solely finance lease liabilities.

Financial guarantee contracts and loan commitments

Liabilities under financial guarantee contracts and provisions for loan commitments within the scope of IAS 37 are aggregated in the class 'financial guarantee contracts and loan commitments'.

General information on hedge accounting

» 06
Hedge accounting

As an integral part of its risk management strategy, the DZ BANK Group hedges against risks arising in connection with financial instruments. Hedging methods include the use of derivatives.

If the hedging of risk in connection with financial instruments gives rise to accounting mismatches between the hedged item and the derivative used for the hedge, the DZ BANK Group designates the hedging transaction as a hedge in accordance with the hedge accounting requirements of IAS 39 in order to eliminate or reduce such mismatches.

Fair value hedges

A fair value hedge is intended to ensure that changes in the fair value of the hedged item are offset by countervailing changes in the fair value of the hedging instrument. Changes in the fair value of the hedged item attributable to the hedged risk and changes in the fair value of the hedging instrument are recognized in profit or loss. Risks may be hedged by designating hedges either on an individual or on a portfolio basis.

Hedged items categorized as 'loans and receivables', 'financial liabilities measured at amortized cost', or receivables under finance leases are measured in accordance with the general measurement principles for these financial instruments. The values are adjusted for the change in fair value attributable to the hedged risk. Hedged items categorized as 'available-for-sale

financial assets' are measured at fair value, although only changes not attributable to the hedged changes in fair value are recognized in other comprehensive income. Interest income and interest expense arising from hedged items or hedging instruments are recognized under net interest income.

If the fair value is hedged against interest-rate risks on a portfolio basis, the cumulative changes in fair value attributable to the hedged risk are reported on the balance sheet under fair value changes of the hedged items in portfolio hedges of interest-rate risk, either under assets or liabilities depending on whether the portfolio comprises financial assets or financial liabilities.

In fully effective hedges, the changes in fair value (attributable to the hedged risk) recognized in profit or loss over the lifetime of the hedge match exactly. Any changes in fair value recognized in the carrying amount of the hedged items are amortized through profit or loss by the time the hedge has been terminated.

Cash flow hedges

The purpose of cash flow hedges is to ensure that changes in uncertain future cash flows from hedged items are offset by changes in cash flows from hedging instruments.

Hedging instruments are measured at fair value. Changes in fair value attributable to the effective portion of the hedge are recognized in other comprehensive income. Changes in fair value attributable to the ineffective portion of the hedge are recognized in profit or loss. Hedged items are recognized and measured in accordance with the general principles for the relevant measurement category. At the end of a hedging relationship, any changes in fair value recognized in other comprehensive income must be reclassified to profit or loss on the date on which the hedged items or transactions are also recognized in profit or loss.

Hedges of net investments in foreign operations

The purpose of hedges of net investments in foreign operations is to offset exchange differences resulting from net investments denominated in foreign currency.

Hedges of net investments in foreign operations are accounted for in the same way as cash flow hedges.

» 07 Currency translation

All monetary assets and liabilities, together with unsettled spot transactions, are translated at the closing rate into the relevant functional currency of the entities in the DZ BANK Group. Cash in foreign currency is translated using the buying rate for cash on the balance sheet date.

The translation of non-monetary assets and liabilities depends on the way in which these assets and liabilities are measured. If non-monetary assets are measured at amortized cost, they are translated using the historical exchange rate. Non-monetary assets measured at fair value are translated at the closing rate. Income, expenses, gains, and losses are translated on the date they are recognized either in profit or loss or in other comprehensive income.

If the functional currency of subsidiaries consolidated in the DZ BANK Group is different from the group's reporting currency (euros), all assets and liabilities are translated at the closing rate. Equity is translated at the historical rate. Income and expenses are also translated at the closing rate, provided that there is no material effect compared with the use of average rates. Any differences arising from currency translation are reported in the currency translation reserve. In most cases, the functional currency of the entities included in the consolidated financial statements is the euro, i.e. the group reporting currency.

» 08 Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and reported as a net amount on the balance sheet if the group currently has a legally enforceable right to set off the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

The legal right of set-off cannot be contingent on a future event and must be exercisable in the normal course of business, in the event of default, and in the event of insolvency or bankruptcy of the entity or any of the counterparties.

» 09 Sale and repurchase agreements, securities lending

Sale and repurchase agreements (repos) are transactions in which the parties agree the sale and subsequent repurchase of securities at a fixed price and time. The risks and rewards of ownership of the sold securities remain in full with the original seller, provided that the buyer is under an obligation to sell back the securities. If the DZ BANK Group enters into repos as the original seller, the securities sold continue to be recognized on the balance sheet because the derecognition criteria in IAS 39 are not satisfied. A liability corresponding to the amount of the purchase price received is recognized. If the group enters into reverse repos as a buyer, the securities purchased must not be recognized on the balance sheet. A receivable corresponding to the amount of the purchase price paid is recognized.

Securities lent as part of securities lending transactions remain on the balance sheet. Where collateral is received in this regard, and this collateral is in cash, a liability is recognized. Borrowed securities do not meet the recognition criteria set out in IAS 39 and must therefore not be recognized on the balance sheet. Any cash collateral furnished in connection with borrowed securities is reported as a receivable.

Sale and repurchase agreements and securities lending transactions result in transfers in which the transferred assets remain on the balance sheet in their entirety. The DZ BANK Group is not involved in any transfers in which the transferred assets are recognized according to the extent of continuing involvement or transfers of financial assets with a continuing involvement that are fully derecognized.

» 10
Collateral

Receivables are recognized for assets pledged as collateral in the form of cash deposits. Other assets pledged as collateral continue to be reported on the balance sheet unchanged. Where collateral is received, and this collateral is in cash, a liability for a corresponding amount is recognized. Other financial or non-financial assets received as collateral are not recognized on the balance sheet unless the assets are obtained in connection with the recovery of collateral or a purchase of real estate that was previously held as collateral.

» 11
Insurance business

General information on the accounting treatment of insurance business

The DZ BANK Group's insurance business comprises insurance contracts, capitalization transactions, and service contracts. It also includes financial guarantee contracts with insured parties.

Insurance contracts govern the transfer of significant insurance risk from the insured party to the insurer and the payment of compensation if a future contingent event materializes and adversely impacts the insured party. Insurance contracts are recognized in accordance with the requirements of IFRS 4. Capitalization transactions comprise, in particular, fund-linked or index-linked life insurance contracts without policyholder participation, pension fund contracts based on defined benefit plans, and contracts to protect preretirement part-time employment models. Capitalization transactions are classified as financial instruments within the scope of IAS 39. Service contracts comprise, in particular, separable and transferable administrative components of insurance and capitalization contracts. Such service contracts are subject to the revenue recognition requirements specified in IAS 18. Any financial guarantee contracts in connection with insurance business are recognized in accordance with the accounting requirements applicable to insurance contracts.

The insurance business of the DZ BANK Group is reported under specific insurance items on the income statement and balance sheet. Material components of the specific insurance items are described below.

Financial assets and financial liabilities

Financial assets and financial liabilities held or acquired as part of insurance business are accounted for in accordance with the accounting policies for financial instruments described in note 5. These financial assets and financial liabilities are reported under investments held by insurance companies, other assets held by insurance companies, and other liabilities of insurance companies. Any impairment losses related to financial assets reported under investments held by insurance companies or other assets held by insurance companies are applied directly to the carrying amount.

Other liabilities of insurance companies include the benefit obligations under capitalization transactions for which no material insurance risk is assumed when the policy is concluded. They are reported under liabilities from capitalization transactions. The underlying financial instruments in these transactions are reported as part of assets related to unit-linked contracts under investments held by insurance companies.

Investment property

The investment property included in the investments held by insurance companies is measured at amortized cost in accordance with the cost model. Non-interest-bearing, low-interest or forgivable loans are recognized in the same way as government grants. The amount of financial assistance or any government grant is deducted when the carrying amount of the asset is identified and is then recognized in profit or loss over the period covered by the assistance or grant by means of a reduced depreciation charge.

Recoverable amounts are determined for real estate so that this information can be used in impairment tests and provided in the disclosures required in the notes to the financial statements in accordance with the provisions of IFRS 13. For this purpose, standard valuation methods are generally used that are based on the requirements of the German Real Estate Valuation Regulation (ImmoWertV), the German Real Estate Valuation Guidelines (WertR 2006), and the German Building Code (BauGB). Accordingly, the current value of real estate is determined by using the sales comparison approach, income approach, or cost approach and taking into account the provisions of any relevant contracts.

Any expenditure that increases value and extends the useful life of real estate or results in a significant improvement in the fabric of a building is capitalized. Maintenance and repair costs are expensed as incurred.

Insurance liabilities

Insurance companies are permitted to continue applying existing accounting policies to certain insurance-specific items during a transition period. Insurance liabilities are therefore recognized and measured in accordance with HGB and other German accounting provisions applicable to insurance companies. Insurance liabilities are shown before the deduction of the share of reinsurers, which is reported as an asset.

Provision for unearned premiums

The provision for unearned premiums represents premiums that have already been collected but that relate to future periods.

The provision for unearned premiums from direct non-life insurance operations is calculated from the gross premiums using the 360-day system. Calculation of non-transferable income components is based on the letter from the Bundesministerium der Finanzen (BMF) [German Federal Ministry of Finance], dated April 30, 1974. According to this letter, 85 percent of the fees, commissions, and payments to representatives, as well as some administrative personnel expenses, in non-life insurance may not be transferred.

Unearned premiums from life insurance are calculated taking into account the starting date and maturity date of each individual policy after deduction of non-transferable premium components. As far as life insurance is concerned, imputed collection expenses equivalent to up to 4 percent of premiums may not be transferred.

The provision for unearned premiums in health insurance predominantly relates to international travel healthcare insurance business.

The proportion of the provision for unearned premiums relating to ceded insurance business is calculated as specified in the individual reinsurance contracts.

Benefit reserve

The purpose of the benefit reserve is to ensure that guaranteed entitlements to future insurance benefits can be satisfied on a permanent basis. Guaranteed entitlements for insured persons in respect of life insurance and casualty insurance with premium refund as well as the provision for increasing age in health insurance are reported under the benefit reserve.

The benefit reserve for life insurance and casualty insurance with premium refund is generally calculated in Germany on the basis of individual policies taking into account starting dates in accordance with approved business plans and the principles declared to the relevant regulatory authorities. The prospective method is used for life insurance (except for unit-linked insurance products and account management arrangements) and for casualty insurance (with the exception of premium-based policies that started prior to 1982). The retrospective method is used for other types of insurance. Negative benefit reserves on an individual policy basis are generally recognized with an amount of zero.

The assumptions used in calculations are determined in accordance with current recommendations issued by the Deutsche Aktuarvereinigung e.V., Cologne, (DAV) [German Actuarial Association] and the regulator and in accordance with other national statutory provisions and regulations. As a rule, calculation of the benefit reserve is based on interest rates of between 0.0 percent and 4.0 percent, as was the case in the previous year. These interest rates are generally determined by the legally prescribed maximum discount rates. The calculation assumptions apply from the date on which the policy is written until the policy expires.

For policies entered into before or in 2014, calculation of the benefit reserve is generally based on the Zillmer method. Following the introduction of the German Life Insurance Reform Act (LVRG), zillmerizing has not been applied to most new business entered into from 2015 onward. In particular, zillmerizing is not applied to subsidized pension insurance policies under the German Personal Pension Plan Act (AVmG) or to pension insurance policies under reinsured pension plans.

The benefit reserve implicitly includes administrative expenses for contracts with ongoing payment of premiums. A provision for administrative costs has been recognized to cover premium-free years under insurance policies, fully paid-up insurance, and some legacy insurance commitments.

In health insurance, benefit reserves are computed prospectively on an individual policy basis using the technical parameters for calculating rates. Negative benefit reserves and positive benefit reserves are netted. The parameters for the computation of the reserves involve, in particular, assumptions regarding rates of return on investment, mortality, cancellations, and costs. The discount rate for health insurance is regularly checked in accordance with

the procedure developed by the DAV for calculating the company actuarial discount rate. In connection with the adjustment of premiums with effect from January 1, 2016, it was necessary to reduce the discount rate used in the existing portfolio with separate male and female rates. The discount rate for the unisex insurance scales remains unchanged. The group uses mortality tables issued by the Verband der privaten Krankenversicherung (PKV) [Association of German private healthcare insurers], entity-specific probability rates for policy cancellations, and profiles of benefit drawdown. These assumptions are regularly reviewed in accordance with actuarial principles and updated, where appropriate.

When the benefit reserves are prospectively calculated, the parameters used are generally retained throughout the term of the policy. If the actuarial analyses conducted once a year reveal that the level of cover offered is inadequate in terms of either biometric parameters or discount rate, appropriate adjustments are made. The biometric parameters used in such computations are based primarily on the mortality and invalidity tables published by the DAV.

Since 2011, supplementary change-in-discount-rate reserves have been recognized for policies with a discount rate in excess of the reference rate. For new policies, this requirement results from the provisions of the German Regulation on the Principles Underlying the Calculation of the Premium Reserve (DeckRV). A supplementary change-in-discount-rate reserve is recognized for policies with a discount rate in excess of the reference rate specified in the DeckRV. With the approval of BaFin, the supplementary change-in-discount-rate reserve is increased for existing policies. Entity-specific probabilities for cancellation and lump-sum payments were used for the first time in 2016.

Provision for claims outstanding

The provision for claims outstanding represents benefit obligations arising from claims in which it is not yet possible to reliably determine the amount and/or the timing of the payment. The provision is recognized for claims that have already been reported and also for insured events that have occurred but have not yet been reported. It includes both internal and external expenses as well as the cost of settling claims.

The provision for claims outstanding in direct non-life insurance business is determined on a case-by-case basis for all known claims. Recourse claims, excess proceeds, and claims under loss sharing agreements are netted. Based on claims reports in previous years, an additional claims provision is recognized for claims that occur or are caused before the balance sheet date but have not yet been reported by this date. Statistical estimates are used in this measurement. The provision for claims outstanding is not discounted, except in the case of the pension benefits reserve. The provisions for claims settlement expenses, which are also included in this item, have been calculated in accordance with the requirements set out in the coordinated regulations issued by the German federal states on February 2, 1973 and in accordance with formula 48 (German Insurance Association [GDV] formula) as specified in a letter dated March 20, 1973. Under these arrangements, internal costs likely to be incurred in connection with the settlement of future claims are projected using an overall rate applied to the present level of expenses.

The provision for claims outstanding as regards life insurance and pension funds is determined on a case-by-case basis. The provision is recognized for claims that have already been incurred and reported by the balance sheet date, but have not yet been settled. Furthermore, it contains a general claims provision corresponding to the amount of capital at risk based on updated

empirical values for claims that have occurred but have not yet been reported and for entitlements arising from the benefit obligation resulting from the BGH's judgments dated May 7, 2014 (IV ZR 76/11) and December 17, 2014 (IV Z 260/11).

A provision for settlement expenses is recognized in an amount equivalent to 1 percent of the claims provision to cover claims incurred and reported by the balance sheet date (excluding maturing policies) and also IBNR losses.

In health insurance, the provision for claims outstanding is determined on the basis of the costs paid out in the financial year in connection with claims during the year. The calculation is based on claims experience over the previous 3 financial years. Recourse claims are deducted from the provision for claims outstanding, as are reimbursements due under the German Act on the Reform of the Pharmaceuticals Market (AMNOG). The recognized provision includes the costs of settling claims, calculated in accordance with tax rules. The reinsurers' share of the provision is determined in accordance with reinsurance agreements. Where appropriate, provisions for claims outstanding are recognized on a case-by-case basis for claims relevant to reinsurance.

Provision for premium refunds

The provision for premium refunds represents obligations not yet due for settlement on the balance sheet date relating to premium refunds to insured parties. It includes amounts allocated to policyholders under statutory or contractual arrangements for bonuses and rebates. In addition, the provision for premium refunds includes provisions resulting from time-restricted cumulative recognition and measurement differences between items in the financial statements prepared in accordance with IFRS and those prepared in accordance with HGB. In the case of measurement differences recognized in other comprehensive income, such as unrealized gains and losses on available-for-sale financial assets, corresponding expenses for deferred premium refunds are recognized in other comprehensive income; otherwise, changes in the provision are recognized in profit or loss.

The expenses for deferred premium refunds in the non-life insurance business are recognized in an amount equivalent to 90 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

The provision for premium refunds related to life insurance policies and pension funds is recognized to cover the entitlement of policyholders to profit-related premium refunds. Funds earmarked in this way are therefore made available for future allocation of bonuses to policyholders on an individual policy basis. Within the overall provision for premium refunds, a distinction is made between provisions attributable to bonuses already declared but not yet allocated (including participation in valuation reserves in accordance with HGB), the funding used to finance future terminal bonuses, and the free provision for premium refunds. Under section 140 of the German Act on the Supervision of Insurance Undertakings (VAG), that element of the provision for premium refunds not attributable to bonuses already declared but not yet allocated may be used to avert an imminent crisis and may therefore be seen as mitigating risk. Expenses for deferred premium refunds are recognized in an amount equivalent to 90 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

The provision for premium refunds related to health insurance includes amounts allocated to policyholders under statutory or contractual arrangements for bonuses and rebates. Expenses for deferred premium refunds are recognized in an amount equivalent to 80 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

Other insurance liabilities

Other insurance liabilities relating to non-life insurance include obligations arising from membership of the Verein Verkehrsopferhilfe e.V. (VOH) [road casualty support organization], Berlin, in line with the object of this organization and the provision for unearned premiums under dormant vehicle insurance policies, the provision being determined on an individual policy basis. The cancellation provision is calculated on the basis of past experience, whereas operational planning is used as the basis for measuring the premium deficiency provision.

Other insurance liabilities for life insurance are computed on the basis of individual policies from premiums that are already due but have yet to be paid and have not yet been included in the life insurance insurance liabilities to the extent that the investment risk is borne by the policyholders.

Other insurance liabilities for health insurance contain a cancellation provision. The cancellation provision was recognized to take account of expected losses and was calculated on the basis of empirical values relating to the premature loss, not previously accounted for, of the negative portions of the provision for increasing age in health insurance.

Reinsurance business

In the case of reinsurance business, the insurance liabilities are recognized in accordance with the requirements specified by the ceding insurers. If no such details are available as at the balance sheet date, the provision for the financial year is estimated. The critical factors in estimating the provision are the contractual terms and conditions and the pattern of this business to date. In a few instances, loss provision details provided by ceding insurers are deemed to be too low in the experience of DZ BANK; in such cases, appropriate increases are applied, the increases having been determined in accordance with prudent business practice, past experience, and actuarial calculation methods.

Reserve for unit-linked insurance contracts

The reserve for unit-linked insurance contracts is an item largely corresponding to assets related to unit-linked contracts. This item is used to report policyholders' entitlements to their individual investment fund units where the related investments arise out of contracts to be reported in accordance with IFRS 4. The reserve is measured at fair value on the basis of the underlying investments. Gains and losses on the fund assets result in corresponding changes on the equity and liabilities side of the balance sheet.

Adequacy test for insurance liabilities

Insurance liabilities must be regularly reviewed and subjected to an adequacy test. The adequacy test determines, on the basis of a comparison with estimated future cash flows, whether the carrying amount of insurance liabilities needs to be increased.

To review the insurance liabilities in the health insurance companies, a regular comparison is made between the present values of estimated future insurance benefits and costs, on the one hand, and the present values of estimated future premium payments on the other. In the event of any deficits, the insurance company has the option of adjusting premiums.

» 12 Leases

A lease is classified as a finance lease if substantially all the risks and rewards incidental to the ownership of an asset are transferred to the lessee. If the risks and rewards remain substantially with the lessor, the lease is an operating lease.

DZ BANK Group as lessor

If a lease is classified as a finance lease, a receivable due from the lessee must be recognized. The receivable is measured at an amount equal to the net investment in the lease at the inception of the lease. Lease payments are apportioned into a payment of interest and repayment of principal. The interest portion based on the lessor's internal discount rate for a constant periodic rate of return is recognized as interest income, whereas the repayment of principal reduces the carrying amount of the receivable.

If a lease is classified as an operating lease, the DZ BANK Group retains beneficial ownership of the leased asset. These leased assets are reported as assets. The leased assets are measured at cost less depreciation and any impairment losses. Unless another systematic basis is more representative of the pattern of income over time, lease income is recognized in profit or loss on a straight-line basis over the term of the lease and is included in the current income from operating leases reported under net interest income. Gains on disposal, reversals of impairment losses, depreciation, losses on disposal, and impairment losses relating to the underlying leased assets are also included in the current income from operating leases.

DZ BANK Group as lessee

If a lease is classified as a finance lease, the DZ BANK Group is the beneficial owner of the leased asset. The leased asset must therefore be recognized as an asset on the group's

balance sheet. On initial recognition, the leased asset is recognized at the lower of fair value and the present value of the minimum lease payments, and a liability of an equivalent amount is also recognized. The lease payments made must be broken down into an interest portion and a repayment portion.

Lease payments under operating leases are recognized on a straight-line basis over the term of the leases concerned and reported as administrative expenses.

Interest and dividends received

» 13
Income

In the DZ BANK Group, interest income is accrued and recognized in the relevant period using the effective interest method.

The cash flows used to calculate the effective interest rate take into account contractual agreements in connection with the financial assets and financial liabilities concerned.

Premiums and discounts are allocated over the expected life of financial instruments using the effective interest method. Any additional costs incurred that are directly connected with the acquisition or sale of a financial asset or financial liability, and thus can be directly assigned to the transaction, are factored into the calculation of the effective interest rate. Such costs include sales charges directly associated with the origination of home savings contracts and commitment fees for loans. If an impairment loss has been recognized for a financial asset, interest income is no longer accrued on the basis of the contractual terms and conditions for the financial instrument concerned; instead, interest income is determined and recognized on the basis of the present value of the impaired asset using the unwinding mechanism as specified by IAS 39.AG93.

Dividends are recognized as soon as a legal entitlement to the payment of such a dividend is established.

Interest income and interest expense arising in connection with derivatives that were not entered into for trading purposes or are used to hedge financial instruments designated as at fair value through profit or loss are reported under net interest income. Interest income and interest expense on overnight money and fixed-term deposits arranged between different organizational units for economic management purposes and timing effects from currency swaps used for economic management of net interest income are recognized under net interest income and under gains and losses on trading activities, depending on their economic classification.

Fees and commissions

Income from fees and commissions is recognized when the underlying services have been performed, it is probable that the economic benefits will flow to the group, and the amount of the income can be reliably measured. Such income is therefore recognized in profit or loss over the period in which the underlying service is performed or immediately after the service has been performed.

Fees and commissions earned over the period in which a service is performed include certain types of fees for administration and safe custody as part of the securities business and asset management, and fees in connection with the furnishing of financial guarantees. In the case of performance-related management fees, income is recognized when the contractually agreed performance criteria have been satisfied.

Insurance business

For each insurance contract, gross premiums written are calculated pro rata temporis for an exact number of days based on the actual start date of the insurance. These premiums comprise all amounts that become due in the financial year in connection with insurance premiums, premium installments, and one-off premiums for direct insurance and reinsurance business. Premiums for unit-linked life insurance, except capitalization transactions without policyholder participation, are also recognized as gross premiums written.

The components of premiums covering administration fees are reported pro rata temporis as income in the income statement. In the case of index-linked policies and service contracts, additional administration charges, fees, and commissions are deferred in accordance with IAS 18 and apportioned over the relevant periods for the duration of the policy or contract concerned in line with the service performed.

» 14 Cash and cash equivalents

Cash and cash equivalents are cash on hand, balances with central banks and other government institutions, treasury bills, and non-interest-bearing treasury notes.

Cash on hand comprises euros and foreign currencies. Cash in euros is measured at nominal value; foreign currency cash is translated at the buying rate. Balances with central banks and other government institutions, treasury bills, and non-interest-bearing treasury notes are classified as 'loans and receivables' and measured at amortized cost. Interest income on cash and cash equivalents is recognized as interest income from lending and money market business.

» 15 Loans and advances to banks and customers

All receivables attributable to registered debtors not classified as 'financial instruments held for trading' are recognized as loans and advances to banks and customers. In addition to fixed-term receivables and receivables payable on demand in connection with lending, lease, and money market business, loans and advances to banks and to customers include promissory notes and registered bonds.

Loans and advances to banks and customers are measured at amortized cost using the effective interest method. In fair value hedges, the carrying amounts of hedged receivables are adjusted for the change in fair value attributable to the hedged risk. The resulting hedge adjustments are recognized within other gains and losses on valuation of financial instruments under gains and losses arising on hedging transactions. To avoid or significantly reduce accounting mismatches, certain loans and advances are designated as at fair value through profit or loss.

Finance lease receivables are recognized and measured in accordance with the requirements for the accounting treatment of leases.

Interest income on loans and advances to banks and customers is recognized as interest income from lending and money market business. This also includes gains and losses on the sale of such loans and advances classified as 'loans and receivables' and the amortization of hedge adjustments to carrying amounts due to fair value hedges. Gains and losses on the valuation of loans and advances designated as at fair value through profit or loss are also shown under the same item as part of other gains and losses on valuation of financial instruments.

» 16 Allowances for losses on loans and advances

Allowances for losses on loans and advances are reported as a separate line item on the assets side of the balance sheet. Additions to allowances for losses on loans and advances, and any reversals of such allowances, are recognized under allowances for losses on loans and advances on the income statement.

The recognition of allowances for losses on loans and advances in the DZ BANK Group also includes changes in the provisions for loan commitments, other provisions for loans and advances, and liabilities from financial guarantee contracts. Any additions or reversals under these items are also recognized in profit or loss under allowances for losses on loans and advances.

» 17 Derivatives used for hedging (positive and negative fair values)

The carrying amounts of derivatives designated as hedging instruments in effective and documented hedging relationships are reported under either derivatives used for hedging (positive fair values) or derivatives used for hedging (negative fair values).

These derivatives are measured at fair value. Changes in the fair value of hedging instruments in fair value hedges between 2 balance sheet dates are recognized in the income statement as an element of other gains and losses on valuation of financial instruments under gains and losses from hedge accounting.

If the derivative hedging instruments are being used as cash flow hedges or hedges of net investments in foreign operations, changes in fair value attributable to the effective portion of the hedges must be recognized in other comprehensive income. These changes are shown in the cash flow hedge reserve or in the currency translation reserve as part of equity. Changes in fair value attributable to the ineffective portion of hedges are included in other gains and losses on valuation of financial instruments under gains and losses from hedge accounting.

» 18 Financial assets and financial liabilities held for trading

Financial assets and financial liabilities held for trading comprise solely financial assets and financial liabilities that fall within the measurement category 'financial instruments held for trading'.

Derivatives with positive fair values are classified as financial assets held for trading if they were entered into for trading purposes or, despite being intended to be used as hedges, do not meet the requirements for an accounting treatment as hedging instruments. Financial assets held for trading also include bonds and other fixed-income securities, shares and other variable-yield securities, and receivables held for trading purposes.

Financial liabilities held for trading include short positions, bonds and other debt certificates issued, and liabilities held for trading purposes. The procedure for classifying derivatives with negative fair values as financial liabilities held for trading is the same as that used for financial assets held for trading.

Financial instruments reported as financial assets or financial liabilities held for trading are always measured at fair value through profit or loss. Gains and losses on valuation, interest income and expense, and dividends arising from financial assets and financial liabilities held for trading are recognized under gains and losses on trading activities, provided that there is an actual intent to trade the instruments concerned.

Gains and losses on valuation of derivatives that are entered into for hedging purposes, but are not recognized as hedging transactions, are recognized under other gains and losses on valuation of financial instruments as gains and losses on derivatives used for purposes other than trading. If, to avoid accounting mismatches, hedged items are classified as 'financial instruments designated as at fair value through profit or loss', valuation gains and losses on the related derivatives concluded for hedging purposes are recognized under gains and losses on financial instruments designated as at fair value through profit or loss. Interest income and interest expense arising in connection with derivatives that were not entered into for trading purposes or are used to hedge financial instruments designated as at fair value through profit or loss are reported under net interest income.

» 19 Investments

The following are recognized as investments: bearer bonds and other fixed-income securities, shares and other variable-yield securities, and other bearer or registered shareholdings in entities in which the DZ BANK Group has no significant influence, provided that these securities or shares are not held for trading purposes. Investments also include investments in subsidiaries, joint ventures, and associates.

Investments are initially recognized at fair value. Shares and other shareholdings and investments in subsidiaries, joint ventures, and associates that are accounted for using the equity

method or for which a fair value cannot be reliably determined are initially recognized at cost. These investments are subsequently measured in accordance with the principles applicable to the relevant measurement category. In the case of investments in joint ventures and associates, the equity method is used for subsequent measurement.

Impairment losses on investments are determined on the basis of the IAS 39 requirements applicable to the relevant category of financial assets or on the basis of accounting standards relevant to the financial assets concerned. Impairment losses are applied directly to the carrying amount of the investment.

Interest and any investment premiums or discounts amortized over the maturity of the investment using the effective interest method are recognized under net interest income. Dividends derived from equity instruments are recognized as current income under net interest income. Gains or losses on investments accounted for using the equity method are also reported under net interest income. Impairment losses, reversals of impairment losses, and gains and losses realized on the sale of investments not measured at fair value through profit or loss are reported under gains and losses on investments.

» 20 Property, plant and equipment, and investment property

Property, plant and equipment, and investment property comprises land and buildings as well as office furniture and equipment with an estimated useful life of more than one year used by the entities in the DZ BANK Group. This item also includes assets subject to operating leases. Investment property is real estate held for the purposes of generating rental income or capital appreciation.

Property, plant and equipment, and investment property is measured at cost less cumulative depreciation and cumulative impairment losses in subsequent financial years. Depreciation is largely recognized on a straight-line basis over the useful life of the asset. In most cases, external valuations are used to measure recoverability.

If facts or circumstances give rise to indications that assets might be impaired, the recoverable amount is determined. An impairment loss is recognized if the recoverable amount is lower than the asset's carrying amount. The recoverable amount is the higher of fair value less costs to sell and value in use.

Borrowing costs directly assignable to property, plant and equipment, and investment property are capitalized as part of the asset cost, provided that the asset concerned is a qualifying asset.

Depreciation on property, plant and equipment and investment property is recognized as an administrative expense. Impairment losses and reversals of impairment losses are reported under other net operating income.

» 21 Income tax assets and liabilities

Current and deferred tax assets are shown under the income tax assets balance sheet item; current and deferred tax liabilities are reported under income tax liabilities. Current income tax assets and liabilities are recognized in the amount of any expected refund or future payment.

Deferred tax assets and liabilities are recognized for temporary differences between the carrying amounts recognized in the financial statements in accordance with IFRS and those in the financial statements for tax purposes. Deferred tax assets are also recognized in respect of as yet unused tax loss carryforwards, provided that utilization of these loss carryforwards is sufficiently probable. Deferred tax assets are measured using the national and entity-specific tax rates expected to apply at the time of realization. A uniform tax rate is applied in the case of group companies forming a tax group with DZ BANK.

Deferred tax assets and liabilities are not discounted. Where temporary differences arise in relation to items recognized in other comprehensive income, the resulting deferred tax assets and liabilities are also recognized in other comprehensive income. Current and deferred tax income and expense to be recognized through profit or loss are reported under income taxes in the income statement.

» 22 Other assets

Other assets include a number of items, including intangible assets. Intangible assets are recognized at cost. In the subsequent measurement of software, acquired customer relationships, and other intangible assets with a finite useful life, carrying amounts are reduced by cumulative amortization and cumulative impairment losses. Goodwill and other intangible assets with an indefinite useful life are not amortized but are subject to an impairment test at least once during the financial year.

» 23 Non-current assets and disposal groups classified as held for sale

The carrying amount of non-current assets or disposal groups for which a sale is planned is recovered principally through a sale transaction rather than through their continuing use. These assets and disposal groups therefore need to be classified as held for sale if the criteria set out below are satisfied.

To be classified as held for sale, the assets or disposal groups must be available for immediate sale in their present condition subject only to terms that are usual and customary for sales of such assets or disposal groups, and it must be highly probable that a sale will take place. A sale is deemed to be highly probable if there is a commitment to a plan to sell the asset or disposal group, an active program to locate a buyer and complete the plan has been initiated, the asset or disposal group is being actively marketed for sale at a price that is reasonable in relation to the current fair value, and a sale is expected to be completed within one year of the date on which the asset or disposal group is classified as held for sale.

Assets classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell. The assets are no longer depreciated from the date on which they are classified as held for sale.

Assets and disposal groups classified as held for sale are shown separately on the balance sheet under non-current assets and disposal groups classified as held for sale and liabilities included in disposal groups classified as held for sale. Gains and losses arising on measurement as well as gains and losses on the sale of these assets or disposal groups that do not belong to a discontinued operation are recognized in the income statement under other net operating income. If the assets or disposal groups belong to discontinued operations, all gains and losses arising from these assets and disposal groups must be shown separately as 'profit/loss from discontinued operations, net of tax'.

» 24 Deposits from banks and customers

All liabilities attributable to registered creditors not classified as 'financial instruments held for trading' are recognized as deposits from banks and customers. In addition to fixed-maturity liabilities and liabilities repayable on demand arising from the deposit, home savings and loan, and money market businesses, these liabilities also include, in particular, registered bonds and promissory notes issued.

Deposits from banks and customers are measured at amortized cost using the effective interest method. Where deposits from banks and customers are designated as a hedged item in an effective fair value hedge, the carrying amount is adjusted for any change in the fair value attributable to the hedged risk. If, to avoid or significantly reduce accounting mismatches, the fair value option is applied for deposits from banks and customers, the liabilities are measured at fair value as at the balance sheet date.

Interest expense on deposits from banks and customers is recognized separately under net interest income. Interest expense also includes gains and losses on early redemptions and the amortization of hedge adjustments to carrying amounts due to fair value hedges. Hedge adjustments to the carrying amount due to fair value hedges are reported within other gains and losses on valuation of financial instruments under gains and losses arising on hedging transactions. If liabilities are designated as at fair value through profit or loss, the gains and losses on valuation are recognized under the same item as part of other gains and losses on valuation of financial instruments.

» 25 Debt certificates issued including bonds

Debt certificates issued including bonds cover 'Pfandbriefe', other bonds, and commercial paper for which transferable bearer certificates have been issued.

Debt certificates issued including bonds and gains and losses thereon are measured and recognized in the same way as deposits from banks and customers.

Provisions for employee benefits

» 26
Provisions

Pension plans agreed with the employees of the entities in the DZ BANK Group are based on various types of pension schemes that depend on the legal, economic, and tax situation in each country and include both defined contribution plans and defined benefit plans.

Where a commitment is made to defined contribution plans, fixed contributions are paid to external pension providers. The amount of the contributions and the income earned from the pension assets determine the amount of future pension benefits. The risks arising from the obligation to pay such benefits in the future lie with the pension provider. No provisions are recognized for these indirect pension commitments. The contributions paid are recognized as pension and other post-employment benefit expenses under administrative expenses.

Under a defined benefit plan, the employer promises a specific benefit and bears all the risks arising from this promise. Defined benefit obligations are measured on the basis of the projected unit credit method. The measurement depends on various actuarial assumptions. These include, in particular, assumptions about long-term salary and pension trends and average life expectancy. Assumptions about salary and pension trends are based on past trends and take into account expectations regarding future changes in the labor market. Generally accepted biometric tables (2005G mortality tables published by Professor Dr. Klaus Heubeck) are used to estimate average life expectancy. The discount rate used to discount future payment obligations is an appropriate market interest rate for investment-grade fixed-income corporate bonds with a maturity equivalent to that of the defined benefit obligations. The discount rate depends on the obligation structure (duration) and is determined using a portfolio of high-quality corporate bonds that must satisfy certain criteria in terms of quality and volume (outstanding face value). One of the notable quality criteria is an average AA rating from Moody's Investors Service, New York, Standard & Poor's, New York, Fitch Ratings, New York/London, and DBRS, Toronto. Bonds with existing call options in the form of embedded derivatives are not included in this process.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions regarding the defined benefit obligations, and gains and losses arising from the remeasurement of plan assets and reimbursement rights are recognized in other comprehensive income in the reporting period in which they occur.

The plan assets for the DZ BANK Group's defined benefit plans consist to a significant extent of the plan assets of DZ BANK.

In addition to the provisions for defined benefit pension plans, the provisions for employee benefits include provisions for other long-term employee benefits, provisions for termination benefits, and provisions for short-term employee benefits. Provisions for other long-term employee benefits are recognized, in particular, to cover semi-retirement (Altersteilzeit) and long-service bonuses. Provisions for early retirement are included under the provisions for termination benefits.

Provisions for share-based payment transactions

The entities in the DZ BANK Group have entered into various agreements covering variable remuneration components to be paid to members of the Board of Managing Directors and certain other executives. The amount and timing of such remuneration depends on a number of factors, not least the performance of the entity concerned. These agreements are classified as cash-settled share-based payment transactions.

Provisions for share-based payment transactions are recognized (at fair value) if it is sufficiently probable that the remuneration will be paid out in the future. The timing of initial recognition is therefore before the grant date and before any payout in subsequent years. This results in discrepancies compared with the nominal amounts disclosed in note 95 for share-based payments granted but not yet paid out.

Provisions for share-based payment transactions are also subsequently measured at fair value. Any changes in fair value are recognized in profit or loss.

Other provisions

Provisions are liabilities in which the amounts or due dates are uncertain. Provisions are recognized for present obligations arising out of past events, in which it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and the amount of the obligation can be reliably estimated.

The provisions are recognized and measured using the best estimate of the present value of their anticipated utilization. This estimate takes account of future events as well as the risks and uncertainties relating to the issue concerned.

Provisions for loan commitments and other provisions for losses on loans and advances factor in the usual sector-specific level of uncertainty. The underlying assumptions and estimates used include figures based on past experience as well as expectations and forecasts relating to future trends and developments.

Provisions relating to building society operations are recognized to cover the payment of any bonuses that may have been agreed in the terms and conditions of home savings contracts. These bonuses may take the form of a reimbursement of some of the sales charges or interest bonuses on deposits. The bonuses constitute independent payment obligations and must be measured and recognized in accordance with IAS 37. In order to measure these obligations, building society simulations (collective simulations) are used to forecast building society customers' future behavior. Uncertainty in connection with the measurement of these provisions arises from assumptions that need to be made about future customer behavior, which take account of various scenarios and action taken. Material inputs for the collective simulations are the rate of mortgage loans not drawn down and the pattern of customer cancellations.

Provisions are recognized for risks arising from ongoing legal disputes and cover the possible resulting losses. Such provisions are recognized when the reasons indicating that a legal dispute will result in a payment obligation for an entity in the DZ BANK Group are stronger than those indicating the opposite. Any concentration risk owing to similarities between individual cases is taken into consideration.

The amount in which provisions are recognized for risks arising from ongoing legal disputes is based on the information available at the time and is subject to assumptions and discretion in how a dispute is assessed. For example, this may be because the entity in the DZ BANK Group does not yet have at its disposal all the information required to make a final assessment of the legal dispute, particularly during the early stages of proceedings. Moreover, predictions made by entities in the DZ BANK Group in relation to changes to legal circumstances, changes to official interpretations, or – in the case of court cases – to procedural orders, decisions by the courts, or the arguments expected to be put forward by the opponent in the case may later turn out to be unfounded.

The expense incurred by the unwinding of the discount on provisions is recognized as interest expense under net interest income.

» 27 Subordinated capital

Subordinated capital comprises all registered or bearer debt instruments that, in the event of insolvency or liquidation, are repaid only after settlement of all unsubordinated liabilities but before distribution to shareholders of any proceeds from the insolvency or liquidation.

Subordinated liabilities largely comprise subordinated bearer bonds and promissory notes. Profit-sharing rights outstanding comprise registered and bearer profit-participation certificates in issue. Regulatory Tier 1 capital that does not meet IFRS equity criteria is recognized as other hybrid capital. The share capital repayable on demand comprises the non-controlling interests in partnerships controlled by entities in the DZ BANK Group. These non-controlling interests must be classified as subordinated.

Subordinated capital and gains and losses on this capital are measured and recognized in the same way as deposits from banks and customers.

» 28 Contingent liabilities

Contingent liabilities are possible obligations arising from past events. The existence of these obligations will only be confirmed by future events outside the control of the entities in the DZ BANK Group. Present obligations arising out of past events but not recognized as provisions because of the improbability of an outflow of resources embodying economic benefits or because the amount cannot be measured with sufficient reliability also constitute contingent liabilities.

The amount of contingent liabilities is disclosed in the notes unless the probability of an outflow of resources embodying economic benefits is remote.

Contingent liabilities are measured at the best estimate of possible future outflows of resources embodying economic benefits.

Contingent liabilities in respect of litigation risk are reported when the reasons indicating that there is no current obligation are stronger than those indicating the opposite, but there is still a likelihood that a legal dispute will result in a payment obligation for an entity in the DZ BANK Group. Risks arising from legal disputes are assessed according to how likely they are to occur.

B Disclosure of interests in other entities

Proportion of the DZ BANK Group's activities and cash flow attributable to non-controlling interests

» 29
Investments in subsidiaries

In the DZ BANK Group, material non-controlling interests in the capital and net income exist in the following subsidiaries:

€ million	Dec. 31, 2016	Dec. 31, 2015
R+V Versicherung subgroup	1,016	1,691
Bausparkasse Schwäbisch Hall subgroup	221	948
DZ BANK Capital Funding Trust II	497	491
DZ BANK Capital Funding Trust III	349	339
DZ BANK Capital Funding Trust I	299	297
DZ BANK Perpetual Funding Issuer (Jersey) Limited	240	240
DZ PRIVATBANK	86	270
Union Asset Management Holding subgroup	25	283
Other	93	163
Total	**2,826**	**4,722**

R+V Versicherung

The R+V Group is a subgroup of the DZ BANK Group that, with its individual companies, offers all types of insurance in all of the non-life, life, and health insurance sectors. It also takes on inward reinsurance business in the international market.

R+V Versicherung AG, Wiesbaden, (R+V) is the parent company of the R+V subgroup. R+V is headquartered in Wiesbaden. DZ BANK directly holds 92.1 percent of the shares in R+V (December 31, 2015: 77.0 percent). The share of voting rights equals the shareholding. Non-controlling interests account for 7.9 percent of the voting rights and shares (December 31, 2015: 23.0 percent). Within this figure, local cooperative banks hold 6.1 percent (December 31, 2015: 6.1 percent). The other 1.8 percent (December 31, 2015: 1.9 percent) is held by other entities in the cooperative sector. As at December 31, 2015, 15.0 percent of shares had been held by WGZ BANK; these shares were transferred to DZ BANK as part of the business combination.

The net income for the year attributable to non-controlling interests was €76 million (2015: €136 million); this includes the net income for the year attributable to the non-controlling interests within the R+V subgroup of €42 million (2015: €38 million). The carrying amount of the non-controlling interests within the DZ BANK Group was €1,016 million (December 31, 2015: €1,691 million), of which €552 million was attributable to the non-controlling interests within the R+V subgroup (December 31, 2015: €517 million). DZ BANK has concluded a profit-transfer agreement with R+V. This guarantees an annual cash

settlement of €9.95 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of R+V until the end of the 2016 financial year. Guaranteed dividends of €11 million were paid to outside shareholders of R+V in 2016 (2015: €31 million). In the R+V subgroup, dividends of €8 million were paid to non-controlling interests (2015: €7 million).

Aggregated financial information for the R+V subgroup:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	97,286	90,280
Liabilities	90,864	84,467

€ million	2016	2015
Premiums earned	14,658	14,418
Net profit	351	363
Other comprehensive income/loss	270	-129
Total comprehensive income	621	234

Bausparkasse Schwäbisch Hall

Bausparkasse Schwäbisch Hall AG – Bausparkasse der Volksbanken und Raiffeisenbanken, Schwäbisch Hall (BSH) is the parent company of the BSH subgroup. BSH is headquartered in Schwäbisch Hall. DZ BANK directly holds 96.9 percent of the shares in BSH (December 31, 2015: 81.9 percent). The share of voting rights equals the shareholding. Non-controlling interests account for 3.1 percent of the voting rights and shares (December 31, 2015: 18.1 percent). Most of these non-controlling interests are held by local cooperative banks, which own 3.1 percent (December 31, 2015: 3.1 percent). As at December 31, 2015, 15.0 percent of shares had been held by WGZ BANK; these shares were transferred to DZ BANK as part of the business combination.

The net income for the year attributable to non-controlling interests was €13 million (2015: €60 million); this includes the net income for the year attributable to the non-controlling interests within the BSH subgroup of €10 million (2015: €11 million). The carrying amount of the non-controlling interests within the DZ BANK Group was €221 million (December 31, 2015: €948 million), of which €88 million was attributable to non-controlling interests within the BSH subgroup (December 31, 2015: €79 million). DZ BANK has concluded a profit-transfer agreement with BSH. This guarantees a cash settlement of €6.97 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of BSH until the end of the 2020 financial year. Up to the end of the 2015 financial year, another profit transfer agreement was in force, guaranteeing a cash settlement of €14.67 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of BSH. Guaranteed dividends of €1 million were paid to outside shareholders of BSH in 2016 (2015: €16 million). In the BSH subgroup, dividends of €4 million were paid to non-controlling interests (2015: €4 million).

Aggregated financial information for the BSH subgroup:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	65,852	61,217
Liabilities	60,930	56,345

€ million	2016	2015
Interest income and fee and commission income	1,735	1,819
Net profit	94	196
Other comprehensive income/loss	-41	8
Total comprehensive income	53	204
Cash flow	41	-38

DZ BANK Capital Funding Trust I, II and III, DZ BANK Perpetual Funding Issuer (Jersey) Limited, and DZ BANK Perpetual Funding Private Issuer (Jersey) Limited

DZ BANK has established companies in Delaware, USA and Jersey, Channel Islands in order to increase own funds in accordance with section 10a of the German Banking Act (KWG). The business activities of these companies are limited to the issuance of open-ended equity instruments without redemption incentives. These equity instruments that have been issued are held by non-voting non-controlling interests in the DZ BANK Group. The companies in question are:

– DZ BANK Capital Funding Trust I, Wilmington, Delaware,
– DZ BANK Capital Funding Trust II, Wilmington, Delaware,
– DZ BANK Capital Funding Trust III, Wilmington, Delaware,
– DZ BANK Perpetual Funding Issuer (Jersey) Limited, St. Helier, Jersey.

DZ BANK Perpetual Funding Private Issuer (Jersey) Limited, St. Helier, Jersey, was deconsolidated on December 31, 2015.

The companies were established at their current registered office. The Delaware companies are headquartered in New York, USA. The Channel Islands companies are headquartered in Frankfurt am Main. Virtually 100 percent of the issued share capital of each of the companies is attributable to non-voting non-controlling interests, while the voting rights in the companies are attached to only a small proportion of the shares. As a result, virtually all of the profits and losses of the companies are attributable to the non-controlling interests.

The companies' net income for the year is shown in the following table:

€ million	2016	2015
DZ BANK Capital Funding Trust I	7	8
DZ BANK Capital Funding Trust II	7	8
DZ BANK Capital Funding Trust III	4	5
DZ BANK Perpetual Funding Issuer (Jersey) Limited	2	11
DZ BANK Perpetual Funding Private Issuer (Jersey) Limited	–	30

Distributions of dividends to the non-controlling interests generally take the form of a variable or fixed-rate coupon whose actual payment is not subject to a contractual obligation.

The dividends paid to the non-controlling interests in the financial year are shown in the following table:

€ million	2016	2015
DZ BANK Capital Funding Trust I	7	8
DZ BANK Capital Funding Trust II	7	8
DZ BANK Capital Funding Trust III	4	5
DZ BANK Perpetual Funding Issuer (Jersey) Limited	2	11
DZ BANK Perpetual Funding Private Issuer (Jersey) Limited	–	30

Aggregated financial information for the DZ BANK Capital Funding Trust companies and the DZ BANK Perpetual Funding Issuer companies:

€ million	Dec. 31, 2016	Dec. 31, 2015
Non-current assets	1,410	1,410
Liabilities	–	–

€ million	2016	2015
Interest income and fee and commission income	20	62
Net profit	20	62
Total comprehensive income	20	62

DZ PRIVATBANK

DZ PRIVATBANK S.A., Strassen, Luxembourg, (DZ PRIVATBANK S.A.), headquartered in Luxembourg, together with its wholly owned subsidiaries DZ PRIVATBANK (Schweiz) AG, Zurich, Switzerland, IPConcept (Luxemburg) S.A., Strassen, Luxembourg, IPConcept (Schweiz) AG, Zurich, Switzerland, and DZ PRIVATBANK Singapore Ltd., Singapore, Singapore, is the cooperative center of excellence for the private banking business of the local cooperative banks in Germany. Europäische Genossenschaftsbank S.A., Strassen, Luxembourg, was also a wholly owned subsidiary until its merger into DZ PRIVATBANK S.A. on July 25, 2016. DZ PRIVATBANK Singapore was deconsolidated on December 31, 2016.

DZ BANK directly holds 90.6 percent (December 31, 2015: 70.5 percent) of the shares in DZ PRIVATBANK S.A. The share of voting rights equals the shareholding. The other shares are held by local cooperative banks and cooperative investors. As at December 31, 2015, 19.0 percent of the shares had also been held by WGZ BANK; these shares were transferred to DZ BANK as part of the business combination.

There was no net income for the year attributable to the non-controlling interests, as had also been the case in 2015. The carrying amount of the non-controlling interests was €86 million (December 31, 2015: €270 million). The dividend distributed to the non-controlling interests came to €3 million in 2016 (2015: €13 million).

Aggregated financial information for the DZ PRIVATBANK subgroup:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	17,669	17,496
Liabilities	16,655	16,480

€ million	2016	2015
Interest income and fee and commission income	554	577
Net profit	4	34
Other comprehensive income	5	12
Total comprehensive income	9	46
Cash flow	1,626	1,829

Union Asset Management Holding

Union Asset Management Holding AG, Frankfurt am Main, (UMH) is the parent company of the UMH subgroup. UMH is headquartered in Frankfurt am Main. Other major locations are Hamburg and Luxembourg. DZ BANK's aggregated shareholding of the shares in UMH is 96.5 percent (December 31, 2015: 78.8 percent). The share of voting rights equals the aggregated shareholding. Non-controlling interests account for 3.5 percent of the shares (December 31, 2015: 21.2 percent). Most of this 3.5 percent (December 31, 2015: 3.5 percent) is held by local cooperative banks. As at December 31, 2015, 17.7 percent of the shares had been held by WGZ BANK; these shares were transferred to DZ BANK as part of the business combination. The proportion held indirectly by DZ BANK is 95.7 percent (December 31, 2015: 73.7 percent).

The carrying amount of the non-controlling interests within the DZ BANK Group was €25 million (December 31, 2015: €283 million) and related to the multiplicative share of the capital of UMH. Of this amount, €15 million was attributable to non-controlling interests within the UMH subgroup (December 31, 2015: €14 million). The net income for the year attributable to non-controlling interests was €20 million (2015: €103 million); this includes the net income for the year attributable to the non-controlling interests within the UMH subgroup of €6 million (2015: €7 million). The dividend distributed to the non-controlling interests totaled €98 million in 2016 (2015: €68 million). €5 million of this amount was paid as dividends to non-controlling interests in the UMH subgroup (2015: €4 million).

Aggregated financial information for the UMH subgroup:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	2,038	2,072
Liabilities	925	896

€ million	2016	2015
Interest income and fee and commission income	1,982	1,968
Net profit	334	375
Other comprehensive income/loss	-12	22
Total comprehensive income	322	397

Nature and extent of significant restrictions

National regulatory requirements, contractual provisions, and provisions of company law restrict the DZ BANK Group's ability to transfer assets within the group. Where these restrictions can be specifically assigned to individual line items on the balance sheet, the carrying amounts of the assets and liabilities subject to restrictions on the balance sheet date are shown in the following table:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	**78,322**	**74,732**
Loans and advances to customers	3,345	4,174
Investments	308	–
Investments held by insurance companies	74,665	70,552
Other assets	4	6
Liabilities	**126,234**	**119,148**
Deposits from banks	1,903	1,690
Deposits from customers	53,771	50,926
Provisions	915	653
Insurance liabilities	69,645	65,879

Nature of the risks associated with interests in consolidated structured entities

Risks arising from interests in consolidated structured entities largely result from loans to fully consolidated funds, some of which are extended in the form of junior loans.

Nature, extent, and financial effects of interests in joint arrangements

» 30
Interests in joint arrangements and associates

Českomoravská stavební spořitelna

Českomoravská stavební spořitelna, a.s., Prague, Czech Republic, (ČMSS) is a joint venture between BSH and the Czech Republic's largest bank, Československá obchodní banka, a.s., Prague, Czech Republic, (ČSOB). ČMSS is headquartered in Prague, Czech Republic. It is one of Europe's largest building societies. ČMSS is a leading provider of home savings and home finance products in the Czech Republic. BSH's shareholding was 45.0 percent on the balance sheet date, as it had been at December 31, 2015. The other 55.0 percent is held by ČSOB (December 31, 2015: 55.0 percent). In the DZ BANK Group, the interests in ČMSS are accounted for using the equity method. ČMSS paid a dividend of €18 million to BSH in 2016 (2015: €19 million).

Aggregated financial information for ČMSS:

€ million	Dec. 31, 2016	Dec. 31, 2015
Current assets	1,022	993
of which: cash and cash equivalents	572	563
Non-current assets	4,508	4,672
Current liabilities	1,144	1,321
of which: financial liabilities	1,077	1,224
Non-current liabilities	4,036	3,994
of which: financial liabilities	4,020	3,980

€ million	2016	2015
Interest income	182	203
Interest expense	-87	-104
Fee and commission income	32	32
Fee and commission expenses	-12	-12
Administrative expenses	-51	-45
Income taxes	-11	-10
Profit from continuing operations, net of tax	45	43
Other comprehensive income/loss	-3	6
Total comprehensive income	42	49

Reconciliation from the aggregated financial information to the carrying amount of the interests in ČMSS:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	350	350
Share of net assets	158	157
Carrying amount under the equity method	158	157

Prvá stavebná sporiteľňa

Prvá stavebná sporiteľňa a.s., Bratislava, Slovakia, (PSS) is a joint venture between BSH and its partners Raiffeisen Bausparkasse Gesellschaft m.b.H., Vienna, Austria, Slovenská sporiteľňa, Bratislava, Slovakia, and Erste Group Bank AG, Vienna, Austria. PSS is headquartered in Bratislava, Slovakia. PSS is the market leader for building society operations in Slovakia. BSH's shareholding in PSS was 32.5 percent on the balance sheet date, as it had been at December 31, 2015. In the DZ BANK Group, the interests in PSS are accounted for using the equity method. PSS paid a dividend of €7 million to BSH in 2016 (2015: €7 million).

Aggregated financial information for PSS:

€ million	Dec. 31, 2016	Dec. 31, 2015
Current assets	658	491
of which: cash and cash equivalents	23	19
Non-current assets	2,211	2,250
Current liabilities	807	627
of which: financial liabilities	785	601
Non-current liabilities	1,802	1,852
of which: financial liabilities	1,788	1,832

€ million	2016	2015
Interest income	114	118
Interest expense	-53	-53
Fee and commission income	17	19
Fee and commission expenses	-2	-1
Administrative expenses	-34	-37
Income taxes	-8	-8
Profit from continuing operations, net of tax	20	23
Other comprehensive income/loss	–	3
Total comprehensive income	20	26

Reconciliation from the aggregated financial information to the carrying amount of the interests in PSS:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	260	262
Share of net assets	84	85
Carrying amount under the equity method	84	85

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse)

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse), Tianjin, China, (SGB) is a joint venture between BSH and China Construction Bank Corporation, Beijing, China. SGB is headquartered in Tianjin, China. Its business activities are concentrated in the regions of Tianjin (population of approx. 13 million) and Chongqing (population of approx. 30 million). BSH's shareholding in this Chinese building society was 24.9 percent on the balance sheet date, as it had been at December 31, 2015. In the DZ BANK Group, the interests in SGB are accounted for using the equity method. The equity method is applied to SGB on the basis of financial statements prepared in accordance with Chinese Accounting Standards. SGB did not pay a dividend in 2016, as had been the case in the previous year.

Aggregated financial information for SGB:

€ million	Dec. 31, 2016	Dec. 31, 2015
Current assets	629	772
of which: cash and cash equivalents	452	439
Non-current assets	3,254	3,159
Current liabilities	2,700	2,945
of which: financial liabilities	2,660	2,902
Non-current liabilities	793	610
of which: financial liabilities	793	610

€ million	2016	2015
Interest income	146	199
Interest expense	-76	-108
Fee and commission income	21	23
Fee and commission expenses	-11	-13
Administrative expenses	-38	-39
Income taxes	-9	-9
Profit from continuing operations, net of tax	27	27
Other comprehensive income/loss	-14	22
Total comprehensive income	13	49

Reconciliation from the aggregated financial information to the carrying amount of the interests in SGB:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	**390**	**376**
Share of net assets	**97**	**94**
Cumulative impairment losses on the carrying amount of the investment	-42	-13
Carrying amount under the equity method	**55**	**81**

Deutsche WertpapierService Bank

Deutsche WertpapierService Bank AG, Frankfurt am Main, (dwpbank) is a joint venture of DZ BANK and is included in the DZ BANK Group's financial statements using the equity method. dwpbank is headquartered in Frankfurt am Main. Its capital is divided into 20,000,000 voting registered shares with transfer restrictions. DZ BANK holds a 50.0 percent stake in dwpbank, as it did in the previous year. The equity method is applied to dwpbank on the basis of financial statements prepared in accordance with HGB.

The shares in dwpbank are not traded in an active market. dwpbank paid a dividend of €6 million to DZ BANK in 2016 (2015: €1 million).

Aggregated financial information for dwpbank:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	569	471
Liabilities	389	289
of which: financial liabilities	194	113

dwpbank only has a small amount of cash and cash equivalents.

€ million	2016	2015
Interest income	4	4
Interest expense	-1	-1
Fee and commission income	762	802
Fee and commission expenses	-540	-570
Administrative expenses	-208	-207
Income taxes	-4	-6
Profit from continuing operations, net of tax	9	11
Total comprehensive income	9	11

Reconciliation from the aggregated financial information to the carrying amount of the interests in dwpbank:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	**180**	182
Share of net assets	**90**	91
Capitalization of goodwill	29	29
Carrying amount under the equity method	**119**	120

VB-Leasing International

VB-Leasing International Holding GmbH, Vienna, Austria, (VBLI) is a joint venture of the VR LEASING subgroup and is included in the DZ BANK Group's financial statements using the equity method. VBLI is headquartered in Vienna, Austria. The company focuses on holding equipment leasing companies in central and eastern Europe. The VR LEASING subgroup's shareholding in VBLI was 50.0 percent on the balance sheet date, as it had been at December 31, 2015. VBLI did not pay a dividend to the VR LEASING subgroup in 2016 (2015: €65 million).

Aggregated financial information for VBLI:

€ million	Dec. 31, 2016	Dec. 31, 2015
Current assets	51	189
Non-current assets	192	276
Current liabilities	51	313
of which: financial liabilities	42	301
Non-current liabilities	80	46
of which: financial liabilities	80	46

€ million	2016	2015
Interest income	21	33
Interest expense	-4	-9
Fee and commission income	–	1
Fee and commission expenses	–	–
Administrative expenses	-11	-20
Income taxes	-2	-7
Profit from continuing operations, net of tax	6	2
Other comprehensive income/loss	–	-7
Total comprehensive income/loss	6	-5

Reconciliation from the aggregated financial information to the carrying amount of the interests in VBLI:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	**112**	106
Share of net assets	**56**	53
Cumulative impairment losses on the carrying amount of the investment	-43	-44
Carrying amount under the equity method	**13**	9

Other joint ventures

The carrying amount of the equity-accounted joint ventures that, individually, are not material totaled €131 million on the balance sheet date (December 31, 2015: €138 million).

Aggregated financial information for equity-accounted joint ventures that, individually, are not material:

€ million	2016	2015
Share of profit from continuing operations, net of tax	2	4
Share of other comprehensive income/loss	3	–
Share of total comprehensive income	5	4

Nature, extent, and financial effects of investments in associates

Equens

As it had been at December 31, 2015, DZ BANK was the largest shareholder in Equens SE, Utrecht, Netherlands, (Equens) up to September 30, 2016 with a stake of 31.1 percent. This investment was included in the consolidated financial statements of DZ BANK using the equity method until this date. On September 30, 2016, Equens merged with other payments processing service providers to become equensWorldline SE, Utrecht, Netherlands, (equensWorldline). equensWorldline is the largest provider of payments processing services in Europe and is headquartered in Utrecht, Netherlands. DZ BANK held 11.9 percent of the shares in equensWorldline on the balance sheet date, as a result of which the investment was no longer accounted for using the equity method. The investment in equensWorldline was measured at fair value on the balance sheet date and reported within investments under shares and other variable-yield securities. The carrying amount of the investment when using the equity method had been €126 million as at December 31, 2015.

Cassa Centrale Banca

Cassa Centrale Banca – Credito Cooperativo del Nord Est S.p.A., Trento, Italy, (CC Banca) is a cooperative central institution for more than 300 specialized service providers within the cooperative sector in Italy. It is headquartered in Trento, Italy. CC Banca assists the UMH subgroup and the R+V subgroup with their Italian activities. The investment also supports pan-European collaboration in the cooperative sector. DZ BANK holds 25.0 percent of the shares in CC Banca (as it had in the previous year) and has 26.5 percent of the voting rights. The shares in CC Banca are not quoted in an active market. In the DZ BANK Group, the interests are accounted for using the equity method. CC Banca paid a dividend of €1 million to DZ BANK in 2016 (2015: €2 million).

Aggregated financial information for CC Banca:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	4,028	5,524
of which: cash and cash equivalents	36	33
Liabilities	3,772	5,272
of which: financial liabilities	3,558	5,084

€ million	2016	2015
Interest income	32	47
Interest expense	-12	-24
Fee and commission income	85	78
Fee and commission expenses	-44	-41
Administrative expenses	-54	-51
Income taxes	-7	-7
Profit from continuing operations, net of tax	18	15
Total comprehensive income	18	15

Reconciliation from the aggregated financial information to the carrying amount of the interests in CC Banca:

€ million	Dec. 31, 2016	Dec. 31, 2015
Total net assets	**256**	**252**
Share of net assets	**64**	**63**
Capitalization of goodwill	4	4
Cumulative impairment losses on the carrying amount of the investment	-37	-37
Carrying amount under the equity method	**31**	**30**

Other associates

The carrying amount of the equity-accounted associates that, individually, are not material totaled €318 million on the balance sheet date (December 31, 2015: €254 million).

Aggregated financial information for equity-accounted associates that, individually, are not material:

€ million	2016	2015
Share of profit/loss from continuing operations, net of tax	–	6
Share of other comprehensive income/loss	–	-5
Share of total comprehensive income/loss	–	1

» 31 Interests in unconsolidated structured entities

Structured entities are entities that have been designed so that voting rights or similar rights are not the dominant factor in deciding who controls the entity. The DZ BANK Group distinguishes between the following types of interests in unconsolidated structured entities, based on their design and the related risks:

- interests in investment funds issued by the DZ BANK Group,
- interests in investment funds not issued by the DZ BANK Group,
- interests in securitization vehicles,
- interests in asset-leasing vehicles.

Interests in investment funds issued by the DZ BANK Group

The interests in the investment funds issued by the DZ BANK Group largely comprise investment funds issued by entities in the Union Investment Group in accordance with the contractual form model without voting rights and, to a lesser extent, those that are structured as a company with a separate legal personality. The number of unit/share types and volume of investment funds issued and managed by the UMH subgroup can be broken down as follows:

	Dec. 31, 2016		Dec. 31, 2015	
€ million	Volume	Number	Volume	Number
Mutual funds	153,018	416	136,216	430
of which: guarantee funds	5,845	59	7,847	71
Special funds	88,584	389	80,550	362
of which: guarantee funds	–	–	–	–
Total	**241,602**	**805**	**216,766**	**792**
of which: guarantee funds	5,845	59	7,847	71

Furthermore, DVB Bank SE, Frankfurt am Main, (DVB) makes subordinated loans available to fully consolidated funds for the purpose of transport finance. In turn, these funds make subordinated loans or direct equity investments available to unconsolidated entities.

The maximum exposure of the investment funds issued and managed by the DZ BANK Group is shown in the following tables as a gross value, excluding deduction of available collateral:

AS AT DECEMBER 31, 2016

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Assets	1,380	–	3,773	–	**5,153**
Loans and advances to customers	2	–	208	–	210
Investments	1,158	–	298	–	1,456
Investments held by insurance companies	96	–	3,240	–	3,336
Other assets	104	–	8	–	112
Non-current assets and disposal groups classified as held for sale	20	–	19	–	39
Liabilities	10	10	–	–	**10**
Derivatives used for hedging (negative fair values)	10	10	–	–	10
Net exposure recognized on the balance sheet	1,370	-10	3,773	–	5,143
Contingent liabilities	–	–	–	–	**–**
Financial guarantee contracts, loan commitments and other obligations	5,485	5,485	–	–	**5,485**
Financial guarantee contracts	–	–	–	–	–
Loan commitments	–	–	–	–	–
Other obligations	5,485	5,485	–	–	5,485
Actual maximum exposure	6,855	5,475	3,773	–	**10,628**

AS AT DECEMBER 31, 2015

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Assets	1,242	–	1,729	–	**2,971**
Loans and advances to customers	3	–	166	–	169
Investments	1,031	–	257	–	1,288
Investments held by insurance companies	90	–	1,297	–	1,387
Other assets	102	–	9	–	111
Non-current assets and disposal groups classified as held for sale	16	–	–	–	16
Liabilities	3	3	–	–	**3**
Derivatives used for hedging (negative fair values)	3	3	–	–	3
Net exposure recognized on the balance sheet	1,239	-3	1,729	–	2,968
Contingent liabilities	–	–	–	–	**–**
Financial guarantee contracts, loan commitments and other obligations	7,359	7,359	4	–	**7,363**
Financial guarantee contracts	–	–	–	–	–
Loan commitments	–	–	–	–	–
Other obligations	7,359	7,359	4	–	7,363
Actual maximum exposure	**8,598**	**7,356**	**1,733**	**–**	**10,331**

Regarding the disclosure of the maximum exposure, it must be noted that the 'Other obligations' line item in the table above includes market price guarantees in the amount of the nominal amounts of the guarantee commitments for guarantee funds of €5,495 million (December 31, 2015: €7,361 million), less negative fair values of €10 million (December 31, 2015: €3 million) recognized as a liability for the put options embedded in these products. In the figures as at December 31, 2015, this item also included €4 million from outstanding subscription obligations in respect of a special real estate fund. The maximum exposure for market price guarantees for the guarantee funds does not represent the economic risk of this product type because the economic risk also has to reflect these guarantee funds' net assets on the balance sheet date and the management model used with these products to safeguard the minimum payment commitments. The benefit under a market price guarantee is triggered if the fair value of the affected units does not reach the specified guaranteed level on particular dates. As at the balance sheet date, the UMH subgroup managed guarantee funds with a volume of €5,845 million (December 31, 2015: €7,847 million) (net asset value) and whose minimum payment commitments had a nominal amount of €5,495 million (December 31, 2015: €7,361 million). The put options embedded in the guarantee funds were measured at €10 million on the balance sheet date (December 31, 2015: €3 million) and are reported as derivatives (negative fair values) under equity and liabilities on the balance sheet.

The interests in investment funds issued and managed by the DZ BANK Group resulted in losses of €22 million in the reporting year (2015: losses of €15 million). Distributions in 2016 relating to each investment fund were offset in the calculation of the losses suffered in respect of each fund. In the year under review, there were no losses that only impacted on other comprehensive income/loss (2015: losses of €5 million). An amount of €15 million (2015: €3 million) was added to allowances for losses on loans and advances.

The revenue generated from investment funds issued by the DZ BANK Group was as follows:

2016

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	**Total**
Interest income and current income and expense	8	–	12	–	20
Fee and commission income	1,501	61	115	–	1,616
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	35	–	35
Other gains and losses on valuation of financial instruments	-2	-7	1	–	-1
Total	**1,507**	**54**	**163**	**–**	**1,670**

2015

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	**Total**
Interest income and current income and expense	13	–	10	–	23
Fee and commission income	1,504	80	99	–	1,603
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	20	–	20
Other gains and losses on valuation of financial instruments	-9	-3	-1	–	-10
Total	**1,508**	**77**	**128**	**–**	**1,636**

Interests in investment funds not issued by the DZ BANK Group

The interests in the investment funds not issued by the DZ BANK Group above all comprise investment funds managed by entities in the Union Investment Group within the scope of their own decision-making powers that have been issued by entities outside the DZ BANK Group and parts of such investment funds. Their total volume amounted to €32,059 million (December 31, 2015: €27,269 million). The DZ BANK Group also extends loans to investment funds in order to generate interest income.

In addition, there were investment funds issued by entities outside the group in connection with unit-linked life insurance amounting to €7,031 million (December 31, 2015: €7,351 million) that, however, do not result in a maximum exposure.

The maximum exposure arising from the investment funds not issued by the DZ BANK Group is shown as a gross value, excluding deduction of available collateral. The following assets and liabilities have been recognized on the DZ BANK Group's balance sheet in connection with interests in investment funds not issued by the DZ BANK Group:

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	**2,433**	2,026
Loans and advances to customers	2,433	2,026
Liabilities	**–**	–
Net exposure recognized on the balance sheet	2,433	2,026
Contingent liabilities	**–**	–
Financial guarantee contracts, loan commitments and other obligations	**78**	69
Financial guarantee contracts	–	–
Loan commitments	78	69
Other obligations	–	–
Maximum exposure	**2,511**	2,095

The revenue generated from interests in investment funds not issued by the DZ BANK Group was as follows:

€ million	2016	2015
Interest income	44	47
Fee and commission income	67	61
Total	**111**	108

Interests in securitization vehicles

The interests in securitization vehicles are interests in vehicles where the DZ BANK Group's involvement goes beyond that of an investor. The assets and liabilities listed below have been recognized on the DZ BANK Group's balance sheet in connection with these interests. There is also an additional exposure from contingent liabilities and from financial guarantee contracts, loan commitments, and other obligations, which are shown at their nominal amounts. They only include financial guarantee contracts, loan commitments, and other obligations for which no liability or contingent liability has been recognized. The maximum exposure is determined as a gross value, excluding deduction of available collateral.

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	**1,134**	904
Loans and advances to customers	997	801
Financial assets held for trading	43	54
Investments	94	49
Liabilities	**8**	1
Net exposure recognized on the balance sheet	1,126	903
Contingent liabilities	**–**	–
Financial guarantee contracts, loan commitments and other obligations	**3,254**	2,556
Financial guarantee contracts	–	–
Loan commitments	3,254	2,556
Other obligations	–	–
Maximum exposure	**4,380**	3,459

The revenue generated from interests in securitization vehicles was as follows:

€ million	2016	2015
Interest income	6	7
Fee and commission income	55	63
Gains and losses on trading activities and gains and losses on investments	3	14
Total	**64**	**84**

The material interests in securitization vehicles comprise the two multi-seller asset-backed commercial paper (ABCP) programs: CORAL and AUTOBAHN.

DZ BANK acts as sponsor and program agent for both programs. It is also the program administrator for AUTOBAHN. As sponsor, DZ BANK was involved in setting up the structured entities and provides various services for them. Under the CORAL program, customers of the bank sell assets to separate special-purpose entities. The assets purchased essentially consist of trade receivables, loans, and lease receivables. Under the AUTOBAHN program, assets of North American customers are sold to specially established special-purpose entities and funded through the issuing company by means of ABCP issues.

The special-purpose entities are unconsolidated structured entities. Owing to the cellular structure of the transactions, there are no investee companies to be assessed. DZ BANK does not have control over the individual silos because it acts as agent and not as principal.

The purchase of the assets is funded using liquidity lines and by issuing money market-linked ABCPs. DZ BANK is a liquidity agent for the program, which involves making liquidity facilities available.

In 2016, DZ BANK did not provide either of the programs with any non-contractual support. Moreover, it currently has no intention to provide financial or other support. Because the ABCP programs are fully supported programs, DZ BANK bears all the default risk. DZ BANK did not incur any losses in the year under review.

Interests in asset-leasing vehicles

The interests in asset-leasing vehicles comprise shares in limited partnerships and voting shares, other than the shares in limited partnerships, in partnerships established by VR LEASING for the purpose of real estate leasing (asset-leasing vehicles), in which the asset, and the funding occasionally provided by the DZ BANK Group, are placed.

The assets and liabilities listed below have been recognized on the DZ BANK Group's balance sheet in connection with the interests in real estate asset-leasing vehicles. There is also an additional exposure from contingent liabilities and from financial guarantee contracts, loan commitments, and other obligations, which are shown at their nominal amounts. They only include financial guarantee contracts, loan commitments, and other obligations for which no liability or contingent liability has been recognized. The actual maximum exposure is determined as a gross value, excluding deduction of any collateral available.

€ million	Dec. 31, 2016	Dec. 31, 2015
Assets	**4**	4
Loans and advances to customers	3	4
Investments	1	–
Liabilities	**18**	5
Deposits from customers	18	5
Net exposure recognized on the balance sheet	-14	-1
Contingent liabilities	**–**	–
Financial guarantee contracts, loan commitments and other obligations	**2**	2
Financial guarantee contracts	2	2
Loan commitments	–	–
Other obligations	–	–
Maximum exposure	**-12**	1

The interest income and current income and expense generated from interests in asset-leasing vehicles totaled €4 million (2015: €5 million).

There are guarantees to asset-leasing vehicles of €1 million (December 31, 2015: €1 million).

» 32 Sponsoring arrangements for unconsolidated structured entities

The DZ BANK Group sponsors an unconsolidated structured entity within the meaning of IFRS 12 if it was involved in establishing the structured entity or if the structured entity is linked by name to DZ BANK or a subsidiary within the DZ BANK Group and there are no interests, within the meaning of IFRS 12, in the structured entity. Based on this definition, there are currently no sponsoring arrangements for unconsolidated structured entities in the DZ BANK Group.

C Disclosures relating to the income statement and the statement of comprehensive income

Information on operating segments

» 33
Segment information

2016

€ million	DZ BANK	BSH	DG HYP
Net interest income	1,199	655	303
Allowances for losses on loans and advances	-132	-8	60
Net fee and commission income	346	-85	41
Gains and losses on trading activities	746	–	–
Gains and losses on investments	104	19	18
Other gains and losses on valuation of financial instruments	23	–	-73
Premiums earned	–	–	–
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	–
Insurance benefit payments	–	–	–
Insurance business operating expenses	–	–	–
Administrative expenses	-1,346	-453	-127
Other net operating income	9	30	15
Net income from the business combination with WGZ BANK	-247	–	–
Profit/loss before taxes	**702**	**158**	**237**
Cost/income ratio (%)	55.5	73.2	41.8
Regulatory RORAC (%)	10.7	16.6	21.2
Average own funds/solvency requirement	4,490	951	1,127
Total assets/total equity and liabilities as at Dec. 31, 2016	275,054	65,852	43,629

2015

€ million	DZ BANK	BSH	DG HYP
Net interest income[1]	1,192	918	308
Allowances for losses on loans and advances	44	-48	78
Net fee and commission income[1]	289	-111	30
Gains and losses on trading activities	332	–	-19
Gains and losses on investments	89	–	-60
Other gains and losses on valuation of financial instruments	31	3	221
Premiums earned	–	–	–
Gains and losses on investments held by insurance companies and other insurance company gains and losses	–	–	–
Insurance benefit payments	–	–	–
Insurance business operating expenses	–	–	–
Administrative expenses[1]	-1,109	-445	-122
Other net operating income	1	24	11
Profit/loss before taxes	**869**	**341**	**447**
Cost/income ratio (%)	57.3	53.4	24.8
Regulatory RORAC (%)	14.0	41.0	39.2
Average own funds/solvency requirement	4,188	833	1,150
Total assets/total equity and liabilities as at Dec. 31, 2015	216,452	61,217	46,926

1 Amount restated.

	DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING	WL BANK	Other/ Consolidation	Total
	220	140	–	414	12	147	70	-500	2,660
	-381	–	–	-80	–	-14	-9	-5	-569
	119	116	–	7	1,207	24	-10	-67	1,698
	5	9	–	–	–	–	–	20	780
	-12	1	–	–	-1	1	1	-4	127
	-25	4	–	–	-14	–	100	36	51
	–	–	14,658	–	–	–	–	–	14,658
	–	–	3,885	–	–	–	–	-70	3,815
	–	–	-15,400	–	–	–	–	–	-15,400
	–	–	-2,454	–	–	–	–	141	-2,313
	-190	-228	–	-207	-764	-157	-35	-93	-3,600
	-14	-39	-8	9	28	6	1	-3	34
	–	–	–	–	–	–	–	503	256
	-278	**3**	**681**	**143**	**468**	**7**	**118**	**-42**	**2,197**
	64.8	98.7	–	48.1	62.0	88.2	21.6	–	58.9
	-46.6	0.9	15.3	36.2	>100.0	2.2	75.1	–	16.5
	609	312	4,462	405	311	320	320	–	13,307
	27,658	17,669	97,286	7,284	2,038	4,463	43,761	-75,247	509,447

	DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING		Other/ Consolidation	Total
	188	147	–	408	17	162		-470	2,870
	-142	–	–	-81	–	2		-6	-153
	103	112	–	7	1,227	26		-51	1,632
	13	22	–	–	–	–		21	369
	35	–	–	–	-7	12		-10	59
	75	9	–	–	-15	-2		-22	300
	–	–	14,418	–	–	–		–	14,418
	–	–	3,132	–	–	–		-52	3,080
	–	–	-14,664	–	–	–		–	-14,664
	–	–	-2,287	–	–	–		129	-2,158
	-189	-219	–	-203	-703	-170		-92	-3,252
	-49	-33	26	1	37	-49		-17	-48
	34	**38**	**625**	**132**	**556**	**-19**		**-570**	**2,453**
	51.8	85.2	–	48.8	55.8	>100.0		–	55.5
	14.0	11.8	23.9	34.1	>100.0	0.1		–	23.0
	537	321	2,638	401	265	329		–	10,662
	26,549	17,496	90,280	6,866	2,072	4,909		-64,426	408,341

General information on operating segments
The information on operating segments has been prepared using the management approach in accordance with IFRS 8. Under this standard, external reporting must include segment information that is used internally for the management of the entity and for the purposes of quantitative reporting to the chief operating decision-makers. The DZ BANK Group's information on operating segments has therefore been prepared on the basis of the internal management reporting system.

Definition of operating segments
Segmentation is based on the integrated risk and capital management system, and the management units are shown separately. They consist of DZ BANK, Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, (DG HYP), TeamBank AG Nürnberg, Nuremberg, (TeamBank), DZ PRIVATBANK, and the BSH, DVB, R+V, UMH, and VR LEASING subgroups. WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK) has been added to the management units for financial statements after June 30, 2016. All other companies in the DZ BANK Group, which are not required to provide regular quantitative reports to the chief operating decision-makers, and the consolidations are reported on an aggregated basis under Other/Consolidation.

Presentation of operating segments
Interest income and associated interest expenses generated by the operating segments are offset and reported as net interest income in the information on operating segments because, from a group perspective, the operating segments are managed solely on the basis of the net figure.

Measurement
Internal reporting to the chief operating decision-makers in the DZ BANK Group is primarily based on the generally accepted accounting and measurement principles applicable to the DZ BANK Group.

Intragroup transactions between operating segments are carried out on an arm's-length basis. These transactions are reported internally using the financial reporting standards applied to external financial reporting.

The key indicators for assessing the performance of the operating segments are profit/loss before taxes, the cost/income ratio, and the return on risk-adjusted capital (regulatory RORAC).

The cost/income ratio shows the ratio of administrative expenses to operating income and reflects the economic efficiency of the operating segment concerned. Operating income includes net interest income, net fee and commission income, gains and losses on trading activities, gains and losses on investments, other gains and losses on valuation of financial instruments, net income from insurance business, and other net operating income.

Regulatory RORAC is a risk-adjusted performance measure. For the reporting period, it reflected the relationship between adjusted profit before taxes (profit before taxes largely taking into account income and capital structure effects on performance) and average own funds for a year (determined on a quarterly basis) in accordance with the own funds/solvency requirements for the financial conglomerate. It therefore shows the return on the regulatory risk capital employed. A preliminary regulatory RORAC figure has been reported for the R+V management unit and the DZ BANK Group for 2016.

Other/Consolidation

The consolidation-related adjustments shown under Other/Consolidation to reconcile operating segment profit/loss before taxes to consolidated profit/loss before taxes are attributable to the elimination of intragroup transactions and to the fact that investments in joint ventures and associates were accounted for using the equity method.

The adjustments to net interest income were primarily the result of the elimination of intragroup dividend payments and profit distributions in connection with intragroup liabilities to dormant partners and were also attributable to the early redemption of issued bonds and commercial paper that had been acquired by entities in the DZ BANK Group other than the issuer.

The figure under Consolidation for net fee and commission income largely relates to the fee and commission business of TeamBank and the BSH subgroup with the R+V subgroup.

The remaining adjustments are mostly also attributable to the consolidation of income and expenses.

Also included are the income from the recognition of the negative goodwill arising on the business combination with WGZ BANK and income from the elimination of business relationships that existed before the business combination (see note 89).

DZ BANK Group-wide disclosures

Information about geographical areas

The DZ BANK Group's operating income was generated in the following geographical areas:

€ million	2016	2015
Germany	5,260	4,959
Rest of Europe	849	762
Rest of World	192	352
Consolidation/reconciliation	-191	-215
Total	**6,110**	**5,858**

Information on geographical areas is presented according to the home countries of the companies included in the consolidated financial statements.

This information does not include the separate disclosure of certain non-current (largely tangible) assets because these assets are of minor significance in the DZ BANK Group's business model.

Information about products and services

Information on products and services offered by the DZ BANK Group is included in the income statement disclosures below.

» 34 Net interest income

€ million	2016	2015
INTEREST INCOME AND CURRENT INCOME AND EXPENSE	**6,811**	**6,667**
Interest income from	**6,698**	**6,434**
Lending and money market business	6,464	6,081[1]
of which relating to: local authority loans	698	659
mortgage loans	700	757
home savings loans	101	126
advance and interim financing	864	829
other building loans	71	77
finance leases	153	199
Fixed-income securities	894	910
Portfolio hedges of interest-rate risk	-566	-538
Financial assets with a negative effective interest rate	-94	-19
Current income and expense from	**70**	**180**
Shares and other variable-yield securities	87	168
Investments in subsidiaries	3	4
Investments in associates	1	28
Operating leases	-21	-20
Income from using the equity method for	**31**	**48**
Investments in joint ventures	17	39
Investments in associates	14	9
Income from profit-pooling, profit-transfer and partial profit-transfer agreements	**12**	**5**
INTEREST EXPENSE ON	**-4,151**	**-3,797**
Deposits from banks and customers	-3,483	-3,026
of which: relating to home savings deposits	-1,006	-823
Debt certificates issued including bonds	-577	-659
Subordinated capital	-191	-153
Portfolio hedges of interest-rate risk	12	19
Financial liabilities with a positive effective interest rate	94	29
Provisions and other liabilities	-6	-7
Total	**2,660**	**2,870**

1 Amount restated.

» 35 Allowances for losses on loans and advances

€ million	2016	2015
Allowances for losses on loans and advances to banks	**-18**	**6**
Additions	-33	-3
Reversals	14	7
Directly recognized impairment losses	–	-2
Recoveries on loans and advances previously impaired	1	4
Allowances for losses on loans and advances to customers	**-485**	**-164**
Additions	-1,093	-758
Reversals	541	543
Directly recognized impairment losses	-48	-66
Recoveries on loans and advances previously impaired	115	117
Other allowances for losses on loans and advances	**-66**	**5**
Change in provisions for loan commitments	-35	13
Change in other provisions for loans and advances	-21	-16
Change in liabilities from financial guarantee contracts	-10	8
Total	**-569**	**-153**

» 36 Net fee and commission income

€ million	2016	2015
Fee and commission income	**3,236**	**3,159**
Securities business	2,321	2,323
Asset management	187	194
Payments processing including card processing	231	185
Lending business and trust activities	228	223
Financial guarantee contracts and loan commitments	53	46
International business	8	6
Building society operations	11	5
Other	197	177
Fee and commission expenses	**-1,538**	**-1,527**
Securities business	-885	-886
Asset management	-124	-131
Payments processing including card processing	-125	-98
Lending business	-116	-116[1]
Financial guarantee contracts and loan commitments	-6	-4
Building society operations	-120	-141
Other	-162	-151
Total	**1,698**	**1,632**

1 Amount restated.

» 37 Gains and losses on trading activities

€ million	2016	2015
Gains and losses on non-derivative financial instruments and embedded derivatives	-225	183
Gains and losses on derivatives	627	58
Gains and losses on exchange differences	378	128
Total	**780**	**369**

» 38 Gains and losses on investments

€ million	2016	2015
Gains and losses on bonds and other fixed-income securities	**45**	**-46**
Disposals	17	-13
Impairment losses	-14	-62
Reversals of impairment losses	42	29
Gains and losses on shares and other variable-yield securities	**99**	**146**
Disposals	102	147
Impairment losses	-3	-1
Gains and losses on investments in subsidiaries	**-8**	**-12**
Disposals	1	–
Impairment losses	-9	-12
Gains and losses on investments in joint ventures	**-3**	**3**
Impairment losses	-7	-10
Reversals of impairment losses	4	13
Gains and losses on investments in associates	**-6**	**-32**
Disposals	11	5
Impairment losses	-17	-37
Total	**127**	**59**

» 39 Other gains and losses on valuation of financial instruments

€ million	2016	2015
Gains and losses from hedge accounting	**-15**	38
Gains and losses on derivatives used for purposes other than trading	**18**	–
Gains and losses on financial instruments designated as at fair value through profit or loss	**48**	262
Gains and losses on non-derivative financial instruments and embedded derivatives	206	344
Gains and losses on derivatives	-158	-82
Total	**51**	300

Gains and losses on derivatives used for purposes other than trading result from gains and losses on valuation of derivatives that are used for economic hedging but are not included in hedge accounting.

» 40 Premiums earned

€ million	2016	2015
Net premiums written	**14,668**	14,442
Gross premiums written	14,767	14,536
Reinsurance premiums ceded	-99	-94
Change in provision for unearned premiums	**-10**	-24
Gross premiums	-8	-26
Reinsurers' share	-2	2
Total	**14,658**	14,418

» 41 Gains and losses on investments held by insurance companies and other insurance company gains and losses

€ million	2016	2015
Income from investments held by insurance companies	**5,255**	**5,210**
Interest income and current income	2,567	2,642
Income from reversals of impairment losses and unrealized gains	389	567
Gains on valuation through profit or loss of investments held by insurance companies	1,158	1,063
Gains on disposals	1,141	938
Expenses in connection with investments held by insurance companies	**-1,577**	**-2,205**
Administrative expenses	-132	-115
Depreciation/amortization expense, impairment losses, and unrealized losses	-562	-565
Losses on valuation through profit or loss of investments held by insurance companies	-456	-1,069
Losses on disposals	-427	-456
Other gains and losses of insurance companies	**137**	**75**
Other insurance gains and losses	178	183
Other non-insurance gains and losses	-41	-108
Total	**3,815**	**3,080**

The income and expenses relating to investments and other gains and losses include gains of €138 million on currency translation (2015: gains of €286 million).

» 42 Insurance benefit payments

€ million	2016	2015
EXPENSES FOR CLAIMS	**-10,601**	**-9,850**
Payments for claims	**-9,777**	**-8,966**
Gross payments for claims	-9,826	-9,048
Reinsurers' share	49	82
Change in the provision for claims outstanding	**-824**	**-884**
Gross change in the provision for claims outstanding	-844	-842
Reinsurers' share	20	-42
CHANGE IN THE BENEFIT RESERVE AND IN OTHER INSURANCE LIABILITIES	**-3,411**	**-4,050**
Change in the benefit reserve	**-3,398**	**-4,037**
Gross change in the benefit reserve	-3,395	-4,031
Reinsurers' share	-3	-6
Change in other insurance liabilities	**-13**	**-13**
EXPENSES FOR PREMIUM REFUNDS	**-1,388**	**-764**
Gross expenses for premium refunds	-670	-665
Expenses for deferred premium refunds	-718	-99
Total	**-15,400**	**-14,664**

The net reinsurance expense amounted to €12 million (2015: net expense of €36 million).

Claims rate trend for direct non-life insurance business including claim settlement costs

Gross claims provisions in direct business and payments made against the original provisions:

€ million	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
At the end of the year	4,173	3,856	3,634	3,901	3,345	3,341	3,324	2,953	2,704	2,672	2,509
1 year later	–	3,767	3,523	3,847	3,336	3,359	3,135	2,901	2,623	2,601	2,414
2 years later	–	–	3,457	3,769	3,247	3,279	3,160	2,763	2,527	2,531	2,306
3 years later	–	–	–	3,731	3,220	3,254	3,139	2,756	2,533	2,472	2,268
4 years later	–	–	–	–	3,189	3,241	3,122	2,756	2,505	2,487	2,230
5 years later	–	–	–	–	–	3,250	3,139	2,768	2,513	2,478	2,245
6 years later	–	–	–	–	–	–	3,080	2,710	2,469	2,434	2,214
7 years later	–	–	–	–	–	–	–	2,685	2,466	2,422	2,210
8 years later	–	–	–	–	–	–	–	–	2,449	2,426	2,205
9 years later	–	–	–	–	–	–	–	–	–	2,419	2,207
10 years later	–	–	–	–	–	–	–	–	–	–	2,207
Settlements	–	**89**	**177**	**170**	**156**	**91**	**244**	**268**	**255**	**253**	**302**

Net claims provisions in direct business and payments made against the original provisions:

€ million	2016	2015	2014	2013	2012	2011	2010
At the end of the year	4,110	3,827	3,574	3,669	3,313	3,298	3,254
1 year later	–	3,736	3,460	3,613	3,300	3,317	3,056
2 years later	–	–	3,393	3,533	3,211	3,236	3,077
3 years later	–	–	–	3,490	3,180	3,208	3,057
4 years later	–	–	–	–	3,139	3,194	2,939
5 years later	–	–	–	–	–	3,191	3,049
6 years later	–	–	–	–	–	–	2,957
Settlements	–	**91**	**181**	**179**	**174**	**107**	**297**

Claims rate trend for inward reinsurance business

Gross claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Gross provisions for claims outstanding	**2,718**	2,433	1,976	1,710	1,506	1,409	1,190	892	712	596	524
Cumulative payments for the year concerned and prior years											
1 year later	–	622	464	481	385	463	437	282	232	127	138
2 years later	–	–	783	685	630	640	632	399	347	203	175
3 years later	–	–	–	897	764	345	739	468	410	250	212
4 years later	–	–	–	–	930	891	856	516	447	282	240
5 years later	–	–	–	–	–	1,029	922	588	475	307	252
6 years later	–	–	–	–	–	–	1,043	626	528	324	266
7 years later	–	–	–	–	–	–	–	652	555	366	283
8 years later	–	–	–	–	–	–	–	–	574	384	307
9 years later	–	–	–	–	–	–	–	–	–	396	321
10 years later	–	–	–	–	–	–	–	–	–	–	330
Gross provisions for claims outstanding and payments made against the original provision											
At the end of the year	2,718	2,433	1,976	1,710	1,506	1,409	1,190	892	712	596	524
1 year later	–	2,434	2,157	1,840	1,593	1,536	1,401	1,026	779	583	541
2 years later	–	–	2,004	1,859	1,569	1,472	1,343	872	765	529	480
3 years later	–	–	–	1,779	1,628	1,014	1,338	826	696	518	432
4 years later	–	–	–	–	1,580	1,528	1,360	837	680	479	423
5 years later	–	–	–	–	–	1,501	1,396	858	691	470	396
6 years later	–	–	–	–	–	–	1,379	870	709	480	391
7 years later	–	–	–	–	–	–	–	876	719	498	399
8 years later	–	–	–	–	–	–	–	–	725	504	403
9 years later	–	–	–	–	–	–	–	–	–	505	407
10 years later	–	–	–	–	–	–	–	–	–	–	407
Settlements	**–**	**-1**	**-28**	**-69**	**-74**	**-92**	**-189**	**16**	**-13**	**91**	**117**

Net claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	2016	2015	2014	2013	2012	2011	2010
Net provisions for claims outstanding	**2,710**	**2,428**	**1,970**	**1,695**	**1,491**	**1,389**	**1,164**
Cumulative payments for the year concerned and prior years							
1 year later	–	622	464	473	383	461	432
2 years later	–	–	782	677	620	636	625
3 years later	–	–	–	888	754	333	729
4 years later	–	–	–	–	919	878	839
5 years later	–	–	–	–	–	1,016	904
6 years later	–	–	–	–	–	–	1,025
Net provisions for claims outstanding and payments made against the original provision							
At the end of the year	2,710	2,428	1,970	1,695	1,491	1,389	1,164
1 year later	–	2,429	2,152	1,827	1,576	1,519	1,377
2 years later	–	–	1,999	1,845	1,554	1,454	1,321
3 years later	–	–	–	1,766	1,612	997	1,314
4 years later	–	–	–	–	1,566	1,510	1,337
5 years later	–	–	–	–	–	1,484	1,372
6 years later	–	–	–	–	–	–	1,357
Settlements	**–**	**-1**	**-29**	**-71**	**-75**	**-95**	**-193**

» 43 Insurance business operating expenses

€ million	2016	2015
Gross expenses	-2,335	-2,178
Reinsurers' share	22	20
Total	**-2,313**	**-2,158**

» 44 Administrative expenses

€ million	2016	2015
Staff expenses	**-1,760**	**-1,610**
Wages and salaries	-1,444	-1,329
Social security contributions	-174	-161
Pension and other post-employment benefit expenses	-129	-107
Expenses for share-based payment transactions	-13	-13
General and administrative expenses	**-1,683**	**-1,502**
Expenses for temporary staff	-19	-22
Contributions and fees	-150	-147[1]
of which: contributions to the German restructuring fund for banks	-57	-54[1]
Consultancy	-398	-336
Office expenses	-193	-196
IT expenses	-386	-331
Property and occupancy costs	-204	-177
Information procurement	-65	-59
Public relations/marketing	-163	-138
Other general and administrative expenses	-98	-90
Expenses for administrative bodies	-7	-6
Depreciation and amortization	**-157**	**-140**
Property, plant and equipment, and investment property	-71	-63
Other assets	-86	-77
Total	**-3,600**	**-3,252**

1 Amount restated due to restructuring of the income statement: Contributions to the resolution fund are reported under administrative expenses.

» 45 Other net operating income

€ million	2016	2015
Other income/expense from leasing business	-1	6
Income/expense from other taxes	4	-14
Gains and losses on non-current assets and disposal groups classified as held for sale	8	39
Restructuring expenses	-55	-22
Gains and losses on deconsolidation of subsidiaries	2	-4
Impairment losses on goodwill	–	-47
Residual other net operating income	76	-6
Total	**34**	**-48**

Gains and losses on non-current assets and disposal groups classified as held for sale included realized gains of €4 million on disposals (2015: gains of €39 million); they also included reversals of impairment losses amounting to €4 million (2015: no reversals); there were no impairment losses (2015: small impairment losses only).

Impairment losses on goodwill in the DVB subgroup segment amounting to €28 million and in the VR LEASING subgroup segment amounting to €19 million had been recognized in 2015.

Residual other net operating income mainly comprised income from the reversal of provisions and accruals. It also included rental income from investment property of €13 million (2015: €9 million) and directly assignable expenses of €3 million (2015: €1 million).

» 46 Income taxes

€ million	2016	2015
Current tax expense	-348	-514
Deferred tax expense	-243	-143
Total	**-591**	**-657**

The total for current taxes includes income of €95 million (2015: expenses of €14 million) attributable to previous years. Deferred taxes include expenses of €267 million (2015: expenses of €89 million) arising from the appearance and disappearance of temporary differences.

Current taxes in relation to the German limited companies in the group are calculated using an effective corporation tax rate of 15.825 percent based on a corporation tax rate of 15.0 percent plus the solidarity surcharge. The tax rate applied in 2016 was unchanged from the rate used in 2015. The effective rate for trade tax is 15.330 percent (2015: 15.155 percent) for DZ BANK and subsidiaries that are members of the tax group.

Deferred taxes must be calculated using tax rates expected to apply when the tax asset is recovered or liability settled. The tax rates used are therefore those that are valid or have been announced for the periods in question as at the balance sheet date.

The following table shows a reconciliation from expected income taxes to recognized income taxes based on application of the current tax law in Germany:

€ million	2016	2015
Profit before taxes	**2,197**	2,453
Group income tax rate	31.155%	30.980%
Expected income taxes	**-684**	-760
Income tax effects	**93**	103
Impact of tax-exempt income and non-deductible expenses	-5	7
Adjustments resulting from other types of income tax, other trade tax multipliers, and changes in tax rates	35	39
Tax rate differences on income subject to taxation in other countries	-46	11
Current and deferred taxes relating to prior years	109	23
Change in impairment losses on deferred tax assets	-28	17
Other effects	28	6
Recognized income taxes	**-591**	-657

The following amounts were reclassified from other comprehensive income/loss to the income statement in 2016:

» 47 Items reclassified to the income statement

€ million	2016	2015
Gains and losses on available-for-sale financial assets	**329**	-116
Gains (+)/losses (-) arising during the reporting period	657	44
Gains (-)/losses (+) reclassified to the income statement	-328	-160
Gains and losses on cash flow hedges	**-5**	14
Gains (+)/losses (-) arising during the reporting period	-15	-32
Gains (-)/losses (+) reclassified to the income statement	10	46
Exchange differences on currency translation of foreign operations	**17**	45
Gains (+)/losses (-) arising during the reporting period	20	45
Gains (-)/losses (+) reclassified to the income statement	-3	–
Gains and losses on hedges of net investments in foreign operations	**-1**	-24
Gains (+)/losses (-) arising during the reporting period	-6	-18
Gains (-)/losses (+) reclassified to the income statement	5	-6
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	**-14**	17
Gains (+)/losses (-) arising during the reporting period	-14	21
Gains (-)/losses (+) reclassified to the income statement	–	-4

The table below shows the income taxes on the various components of other comprehensive income:

» 48
Income taxes relating to components of other comprehensive income

€ million	2016			2015		
	Amount before taxes	Income taxes	Amount after taxes	Amount before taxes	Income taxes	Amount after taxes
Items that may be reclassified to the income statement	**326**	**-20**	**306**	-64	73	9
Gains and losses on available-for-sale financial assets	329	-22	307	-116	72	-44
Gains and losses on cash flow hedges	-5	2	-3	14	-5	9
Exchange differences on currency translation of foreign operations	17	–	17	45	-2	43
Gains and losses on hedges of net investments in foreign operations	-1	–	-1	-24	8	-16
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-14	–	-14	17	–	17
Items that will not be reclassified to the income statement	**-176**	**55**	**-121**	150	-44	106
Gains and losses arising from remeasurement of defined benefit plans	-176	55	-121	151	-44	107
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	–	–	–	-1	–	-1
Total	**150**	**35**	**185**	86	29	115

D Balance sheet disclosures

» 49 Cash and cash equivalents

€ million	Dec. 31, 2016	Dec. 31, 2015
Cash on hand	205	192
Balances with central banks and other government institutions	8,310	6,350
of which: with Deutsche Bundesbank	3,333	3,202
Total	8,515	6,542

The average target minimum reserve for 2016 was €1,903 million (2015: €1,323 million).

» 50 Loans and advances to banks

	Repayable on demand		Other loans and advances		Total	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Domestic banks	23,608	8,033	74,880	63,145	98,488	71,178
Affiliated banks	3,126	3,005	65,964	52,795	69,090	55,800
Other banks	20,482	5,028	8,916	10,350	29,398	15,378
Foreign banks	6,051	6,957	2,714	2,600	8,765	9,557
Total	29,659	14,990	77,594	65,745	107,253	80,735

The following table shows the breakdown of loans and advances to banks by type of business:

€ million	Dec. 31, 2016	Dec. 31, 2015
Local authority loans	6,702	8,038
Mortgage loans and other loans secured by mortgages on real estate	76	559
Finance leases	14	80
Money market placements	27,738	14,860
Other loans and advances	72,723	57,198
Total	107,253	80,735

» 51 Loans and advances to customers

€ million	Dec. 31, 2016	Dec. 31, 2015
Loans and advances to domestic customers	136,344	91,638
Loans and advances to foreign customers	40,188	35,212
Total	176,532	126,850

The following table shows the breakdown of loans and advances to customers by type of business:

€ million	Dec. 31, 2016	Dec. 31, 2015
Local authority loans	23,540	12,359
Mortgage loans and other loans secured by mortgages on real estate	46,753	19,936
Loans secured by ship mortgages	1,413	1,437
Home savings loans advanced by building society	37,253	33,659
of which: from allotment (home savings loans)	3,031	3,651
for advance and interim financing	32,219	27,905
other building loans	2,003	2,103
Finance leases	3,156	3,548
Money market placements	1,075	644
Other loans and advances	63,342	55,267
Total	**176,532**	**126,850**

The changes in allowances for losses on loans and advances recognized under assets were as follows:

» 52 Allowances for losses on loans and advances

	Allowances for losses on loans and advances to banks		Allowances for losses on loans and advances to customers		Total
€ million	Specific loan loss allowances	Portfolio loan loss allowances	Specific loan loss allowances	Portfolio loan loss allowances	
Balance as at Jan. 1, 2015	89	20	1,819	460	2,388
Additions	3	–	663	95	761
Utilizations	-38	–	-339	–	-377
Reversals	-3	-4	-434	-109	-550
Interest income	–	–	-45	–	-45
Changes in scope of consolidation	-15	–	1	–	-14
Other changes	–	–	-94	4	-90
Balance as at Dec. 31, 2015	36	16	1,571	450	2,073
Additions	20	13	888	205	1,126
Utilizations	-35	–	-209	–	-244
Reversals	-14	–	-402	-139	-555
Interest income	–	–	-31	–	-31
Other changes	–	–	12	13	25
Balance as at Dec. 31, 2016	**7**	**29**	**1,829**	**529**	**2,394**

The interest income arises from unwinding the discount on impaired loans and advances as specified in IAS 39.AG93.

» 53
Derivatives used for hedging (positive fair values)

€ million	Dec. 31, 2016	Dec. 31, 2015
Derivatives used as fair value hedges	**1,545**	**415**
Interest-linked contracts	1,545	415
Derivatives used as cash flow hedges	**2**	**1**
Currency-linked contracts	2	1
Derivatives used for hedges of net investments in foreign operations	**2**	–
Currency-linked contracts	2	–
Total	**1,549**	**416**

» 54
Financial assets held for trading

€ million	Dec. 31, 2016	Dec. 31, 2015
DERIVATIVES (POSITIVE FAIR VALUES)	**23,585**	**21,683**
Interest-linked contracts	20,438	19,848
Currency-linked contracts	1,794	716
Share-/index-linked contracts	298	292
Other contracts	811	584
Credit derivatives	244	243
BONDS AND OTHER FIXED-INCOME SECURITIES	**9,459**	**11,271**
Money market instruments	**172**	**392**
from public-sector issuers	172	192
from other issuers	–	200
Bonds	**9,287**	**10,879**
from public-sector issuers	1,676	2,902
from other issuers	7,611	7,977
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,047**	**1,010**
Shares	1,026	999
Investment fund units	16	7
Other variable-yield securities	5	4
RECEIVABLES	**15,188**	**15,556**
Money market placements	**14,238**	**14,723**
with banks	10,742	11,189
of which: with affiliated banks	1,181	1,383
with other banks	9,561	9,806
with customers	3,496	3,534
Promissory notes, registered bonds, and other loans and advances	**950**	**833**
with banks	532	667
of which: with other banks	532	667
with customers	418	166
Total	**49,279**	**49,520**

» 55
Investments

€ million	Dec. 31, 2016	Dec. 31, 2015
BONDS AND OTHER FIXED-INCOME SECURITIES	**67,384**	**51,590**
Money market instruments	**366**	**104**
from public-sector issuers	–	16
from other issuers	366	88
Bonds	**67,018**	**51,486**
from public-sector issuers	32,144	25,625
from other issuers	34,874	25,861
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,609**	**1,463**
Shares and other shareholdings	327	315
Investment fund units	1,274	1,140
Other variable-yield securities	8	8
INVESTMENTS IN SUBSIDIARIES	**270**	**265**
of which: in banks	16	30
in financial services institutions	3	3
INVESTMENTS IN JOINT VENTURES	**562**	**574**
of which: in banks	416	444
INVESTMENTS IN ASSOCIATES	**355**	**413**
of which: in banks	31	30
Total	**70,180**	**54,305**

The carrying amount of investments in joint ventures accounted for using the equity method totaled €560 million (December 31, 2015: €569 million). €349 million of the investments in associates has been accounted for using the equity method (December 31, 2015: €410 million).

» 56
Investments held by insurance companies

€ million	Dec. 31, 2016	Dec. 31, 2015
Investment property	2,470	2,251
Investments in subsidiaries	604	489
Investments in joint ventures	16	37
Investments in associates	1	2
Mortgage loans	9,049	8,732
Promissory notes and loans	8,211	8,728
Registered bonds	9,338	10,244
Other loans	768	1,105
Variable-yield securities	8,430	7,288
Fixed-income securities	40,927	36,759
Derivatives (positive fair values)	360	248
Deposits with ceding insurers	188	163
Assets related to unit-linked contracts	10,011	8,698
Total	**90,373**	**84,744**

The fair value of investment property was €3,086 million as at the balance sheet date (December 31, 2015: €2,752 million). As in 2015, government grants of €5 million were deducted from the carrying amount of investment property. The grants are non-interest-bearing, low-interest or forgivable loans.

Some investment property has been pledged as collateral and is subject to restrictions on disposal, the total furnished collateral value of the property being €803 million (December 31, 2015: €724 million). The group also has capital expenditure commitments amounting to €92 million (December 31, 2015: €316 million). A total of €25 million was spent on the repair and maintenance of investment property in 2016 (2015: €19 million). Vacant property resulted in repair and maintenance expenses of €1 million (2015: €1 million).

No investments in joint ventures were accounted for using the equity method in the year under review. As at December 31, 2015, the carrying amount of investments in joint ventures accounted for using the equity method was €21 million.

» 57 Property, plant and equipment, and investment property

€ million	Dec. 31, 2016	Dec. 31, 2015
Land and buildings	953	837
Office furniture and equipment	158	150
Assets subject to operating leases	388	460
Investment property	253	263
Total	**1,752**	**1,710**

The fair value of investment property was €329 million as at the balance sheet date (December 31, 2015: €342 million). This did not include any fair value as at December 31, 2016 for investment property reported as assets subject to operating leases. As at December 31, 2015, the figure had included a fair value of €4 million for investment property reported as assets subject to operating leases.

Payments in advance are allocated to the relevant item of property, plant and equipment.

» 58 Income tax assets and liabilities

€ million	Dec. 31, 2016	Dec. 31, 2015
Income tax assets	**1,280**	**902**
Current income tax assets	432	371
Deferred tax assets	848	531
Income tax liabilities	**780**	**775**
Current income tax liabilities	297	408
Deferred tax liabilities	483	367

In addition to deferred tax assets recognized for tax loss carryforwards, deferred tax assets and liabilities are also recognized for temporary differences in respect of the items shown below:

	Deferred tax assets		Deferred tax liabilities	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Tax loss carryforwards	59	35		
Loans and advances to banks and customers (net)	82	39	293	134
Financial assets and liabilities held for trading, derivatives used for hedging (positive and negative fair values)	787	596	29	28
Investments	57	95	610	784
Investments held by insurance companies	147	26	589	449
Property, plant and equipment, and investment property	36	51	47	45
Deposits from banks and customers	690	506	169	119
Debt certificates issued including bonds	119	87	11	14
Provisions for employee benefits and for share-based payment transactions	511	450	183	33
Other provisions	170	132	3	12
Insurance liabilities	73	118	395	288
Other balance sheet items	66	38	103	103
Total (gross)	**2,797**	**2,173**	**2,432**	**2,009**
Netting of deferred tax assets and deferred tax liabilities	-1,949	-1,642	-1,949	-1,642
Total (net)	**848**	**531**	**483**	**367**

Deferred tax assets for temporary differences and tax loss carryforwards are only recognized if it is sufficiently probable that the asset can be recovered in the future. No deferred tax assets have been recognized for corporation tax loss carryforwards amounting to €203 million (December 31, 2015: €177 million), which can be carried forward indefinitely, or for trade tax loss carryforwards amounting to €161 million (December 31, 2015: €145 million). There remained foreign loss carryforwards of €489 million (December 31, 2015: €923 million) that mostly expire in no more than 13 years and for which no deferred tax assets are recognized. As regards companies (or permanent establishments of companies) in the DZ BANK Group that have suffered tax losses in 2016 or 2015 in their tax jurisdiction, it will be possible to utilize deferred tax assets amounting to €58 million (December 31, 2015: €68 million) in the future if a corresponding level of taxable income is available. It is assumed that this will in fact be the case based on information available from planning of taxable income.

Overall, there was a net deferred tax liability of €260 million recognized in other comprehensive income. As at December 31, 2015, there had been a net deferred tax liability of €268 million. The net deferred tax liability primarily relates to investments and investments held by insurance companies.

Deferred tax assets of €208 million (December 31, 2015: €73 million) are only expected to be recovered after a period of 12 months. As at December 31, 2015, there had been deferred tax liabilities amounting to €171 million that were only expected to be settled after a period of 12 months.

As at December 31, 2016, no deferred tax liabilities were recognized for temporary differences of €126 million (December 31, 2015: €193 million) relating to long-term equity investments in subsidiaries.

» 59 Other assets

€ million	Dec. 31, 2016	Dec. 31, 2015
Other assets held by insurance companies	3,719	3,182
Goodwill	169	169
Other intangible assets	462	406
of which: software	326	248
acquired customer relationships	79	96
Other loans and advances	213	188
Residual other assets	407	325
Total	**4,970**	**4,270**

Other intangible assets include internally generated intangible assets amounting to €28 million (December 31, 2015: €20 million).

The breakdown of other assets held by insurance companies is as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Intangible assets	**156**	**155**
Reinsurance assets	**224**	**208**
Provision for unearned premiums	6	8
Benefit reserve	63	65
Provision for claims outstanding	155	135
Receivables	**633**	**661**
Receivables arising out of direct insurance operations	362	419
Receivables arising out of reinsurance operations	203	182
Other receivables	68	60
Credit balances with banks, checks and cash on hand	**738**	**241**
Residual other assets	**1,968**	**1,917**
Property, plant and equipment	418	437
Prepaid expenses	23	34
Remaining assets held by insurance companies	1,527	1,446
Total	**3,719**	**3,182**

The intangible assets in the other assets held by insurance companies include internally generated intangible assets amounting to €20 million (December 31, 2015: €25 million).

The following tables show the reinsurers' share of the changes in insurance liabilities:

REINSURERS' SHARE OF THE CHANGES IN THE PROVISION FOR UNEARNED PREMIUMS

€ million	2016	2015
Balance as at Jan. 1	8	6
Additions	19	24
Utilizations/reversals	-21	-22
Balance as at Dec. 31	**6**	**8**

REINSURERS' SHARE OF THE CHANGES IN THE BENEFIT RESERVE

€ million	2016	2015
Balance as at Jan. 1	65	71
Additions	4	4
Utilizations/reversals	-6	-10
Balance as at Dec. 31	**63**	**65**

REINSURERS' SHARE OF THE CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2016	2015
Balance as at Jan. 1	135	177
Claims expenses	63	33
less payments	-43	-75
Balance as at Dec. 31	**155**	**135**

The following table shows the changes in investment property included in the investments held by insurance companies, the changes in property, plant and equipment, and investment property, and the changes in intangible assets included in other assets:

» 60 Changes in non-current assets

€ million	Investments held by insurance companies: Investment property
Carrying amounts as at Jan. 1, 2015	1,924
Cost as at Jan. 1, 2015	2,260
Additions	394
Additions in respect of borrowing costs eligible for capitalization	1
Reclassifications	–
Reclassifications to non-current assets and disposal groups classified as held for sale	–
Disposals	-30
Changes attributable to currency translation	–
Changes in scope of consolidation	–
Cost as at Dec. 31, 2015	**2,625**
Reversals of impairment losses as at Jan. 1, 2015	8
Additions	4
Reclassifications	–
Reversals of impairment losses as at Dec. 31, 2015	**12**
Depreciation/amortization and impairment losses as at Jan. 1, 2015	-344
Depreciation/amortization expense for the year	-49
Impairment losses for the year	-4
Reclassifications	–
Reclassifications to non-current assets and disposal groups classified as held for sale	–
Disposals	11
Changes attributable to currency translation	–
Changes in scope of consolidation	–
Depreciation/amortization and impairment losses as at Dec. 31, 2015	**-386**
Carrying amounts as at Dec. 31, 2015	2,251
Cost as at Jan. 1, 2016	2,625
Additions	307
Additions in respect of borrowing costs eligible for capitalization	1
Reclassifications	-4
Reclassifications to non-current assets and disposal groups classified as held for sale	–
Disposals	-44
Changes attributable to currency translation	–
Changes in scope of consolidation	–
Cost as at Dec. 31, 2016	**2,885**
Reversals of impairment losses as at Jan. 1, 2016	12
Additions	–
Reclassifications	5
Reversals of impairment losses as at Dec. 31, 2016	**17**
Depreciation/amortization and impairment losses as at Jan. 1, 2016	-386
Depreciation/amortization expense for the year	-54
Impairment losses for the year	-9
Reclassifications	–
Reclassifications to non-current assets and disposal groups classified as held for sale	–
Disposals	17
Changes attributable to currency translation	–
Changes in scope of consolidation	–
Depreciation/amortization and impairment losses as at Dec. 31, 2016	**-432**
Carrying amounts as at Dec. 31, 2016	**2,470**

	Property, plant and equipment, and investment property				Other assets	
	Land and buildings	Office furniture and equipment	Assets subject to operating leases	Investment property	Goodwill	Other intangible assets
	844	155	1,200	93	216	329
	1,161	556	1,446	104	273	1,152
	15	44	129	172	–	174
	–	–	–	–	–	–
	–	–	-17	–	–	–
	-5	-3	-2	–	–	-6
	-4	-81	-840	–	–	-18
	–	2	118	–	–	1
	–	-1	-196	–	–	6
	1,167	**517**	**638**	**276**	**273**	**1,309**
	13	–	30	5	–	–
	–	–	10	–	–	–
	–	–	–	–	–	–
	13	**–**	**40**	**5**	**–**	**–**
	-330	-401	-276	-16	-57	-823
	-20	-41	-70	-2	–	-96
	-2	-1	-50	–	-47	-1
	–	–	19	–	–	–
	5	3	2	–	–	6
	4	74	148	–	–	13
	–	-2	-13	–	–	-1
	–	1	22	–	–	-1
	-343	**-367**	**-218**	**-18**	**-104**	**-903**
	837	150	460	263	169	406
	1,167	517	638	276	273	1,309
	57	45	143	-5	–	140
	–	–	–	–	–	–
	1	–	-62	-1	–	–
	–	–	–	–	–	–
	-50	-72	-201	–	-1	-42
	–	1	12	–	–	–
	118	9	-3	–	–	29
	1,293	**500**	**527**	**270**	**272**	**1,436**
	13	–	40	5	–	–
	–	–	1	–	–	–
	–	–	–	–	–	–
	13	**–**	**41**	**5**	**–**	**–**
	-343	-367	-218	-18	-104	-903
	-23	-44	-41	-4	–	-105
	-1	–	-26	–	–	–
	–	–	–	–	–	–
	–	–	–	–	–	–
	14	69	108	–	1	31
	–	–	-4	–	–	–
	–	–	1	–	–	3
	-353	**-342**	**-180**	**-22**	**-103**	**-974**
	953	**158**	**388**	**253**	**169**	**462**

In 2016, the useful life of the assets varied from 8 to 50 years for buildings (as it had in 2015), from 2.5 to 25 years for office furniture and equipment (2015: 2.5 to 25 years), and – as in 2015 – from 6 months to 25 years for assets subject to an operating lease; the useful life for investment property was 5 to 77 years (2015: 3 to 77 years). Software included in other intangible assets was amortized over a useful life of 1 to 11 years (2015: 3 to 10 years) while the useful life of the customer relationships acquired was 10 to 12 years (2015: 10 to 12 years). Depreciation and amortization are recognized on a straight-line basis over the useful life of the asset.

Payments in advance are allocated to the relevant item of property, plant and equipment.

As in 2015, borrowing costs of €1 million were capitalized for investment property held by insurance companies. No borrowing costs were capitalized for assets subject to operating leases in 2016 (as in 2015). The capitalization rate used for borrowing costs was 1.28 percent for investment property held by insurance companies (2015: 2.0 percent).

Disclosures regarding the changes in goodwill are included in note 89.

Other intangible assets include acquired customer relationships amounting to €79 million (December 31, 2015: €96 million). The associated amortization expense came to €17 million (2015: €16 million).

» 61 Non-current assets and disposal groups classified as held for sale

The non-current assets and disposal groups classified as held for sale include individual non-current assets, assets and liabilities from disposal groups not qualifying as discontinued operations, and assets and liabilities of subsidiaries to be sold within one year.

The individual non-current assets classified as held for sale comprise a long-term equity investment and items of property, plant and equipment. The assets and liabilities from disposal groups not qualifying as discontinued operations are investment fund units in various funds. The long-term equity investment is measured at fair value through other comprehensive income. The gains of €136 million are reported under equity in the revaluation reserve.

The disposal of the assets and liabilities of the following fully consolidated subsidiaries of VR LEASING was settled in the second quarter of 2016: Lombard Bérlet Gépjármüpark-kezelö és Kereskedelmi Korlátolt Felelõsségû Társaság, Szeged, Hungary, Lombard Ingatlan Lízing Zártkörûen Mûködõ Részvénytársaság, Szeged, Hungary, and Lombard Pénzügyi és Lízing Zártkörûen Mûködõ Részvénytársaság, Szeged, Hungary.

» 62 Deposits from banks

€ million	Repayable on demand		With agreed maturity or notice period		Total	
	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Domestic banks	**38,793**	31,094	**79,154**	57,210	**117,947**	88,304
Affiliated banks	33,982	24,666	21,883	19,142	55,865	43,808
Other banks	4,811	6,428	57,271	38,068	62,082	44,496
Foreign banks	**2,075**	868	**9,258**	8,055	**11,333**	8,923
Total	**40,868**	**31,962**	**88,412**	**65,265**	**129,280**	**97,227**

The following table shows the breakdown of deposits from banks by type of business:

€ million	Dec. 31, 2016	Dec. 31, 2015
Home savings deposits	1,612	1,252
Money market deposits	20,762	20,229
Other deposits	106,906	75,746
Total	**129,280**	**97,227**

» 63 Deposits from customers

€ million	Dec. 31, 2016	Dec. 31, 2015
DEPOSITS FROM DOMESTIC CUSTOMERS	**109,677**	**83,443**
Home savings deposits	**51,905**	**49,212**
Other deposits	**57,772**	**34,231**
Repayable on demand	13,722	8,141
With agreed maturity or notice period	44,050	26,090
DEPOSITS FROM FOREIGN CUSTOMERS	**14,748**	**12,743**
Home savings deposits	**1,865**	**1,714**
Other deposits	**12,883**	**11,029**
Repayable on demand	7,998	7,327
With agreed maturity or notice period	4,885	3,702
Total	**124,425**	**96,186**

The following table shows the breakdown of deposits from customers by type of business:

€ million	Dec. 31, 2016	Dec. 31, 2015
Home savings deposits	53,770	50,926
Money market deposits	2,652	1,655
Other deposits	68,003	43,605
Total	**124,425**	**96,186**

The other deposits from customers are broken down by customer group as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Germany	**57,772**	**34,231**
Retail customers	2,154	1,931
Corporate customers	54,314	31,885
Public sector	1,304	415
International	**12,883**	**11,029**
Retail customers	405	510
Corporate customers	12,030	10,219
Public sector	448	300
Total	**70,655**	**45,260**

» 64
Debt certificates issued including bonds

€ million	Dec. 31, 2016	Dec. 31, 2015
Bonds issued	**52,629**	**33,759**
Mortgage Pfandbriefe	16,792	7,197
Public-sector Pfandbriefe	3,089	3,252
Other bonds	32,748	23,310
Other debt certificates issued	**25,609**	**21,192**
Total	**78,238**	**54,951**

All other debt certificates issued are commercial paper.

» 65
Derivatives used for hedging (negative fair values)

€ million	Dec. 31, 2016	Dec. 31, 2015
Derivatives used as fair value hedges	**3,858**	**1,630**
Interest-linked contracts	3,858	1,630
Derivatives used as cash flow hedges	**16**	**10**
Currency-linked contracts	16	10
Derivatives used for hedges of net investments in foreign operations	**–**	**1**
Currency-linked contracts	–	1
Total	**3,874**	**1,641**

66 Financial liabilities held for trading

€ million	Dec. 31, 2016	Dec. 31, 2015
DERIVATIVES (NEGATIVE FAIR VALUES)	**25,123**	**23,727**
Interest-linked contracts	19,568	18,811
Currency-linked contracts	1,171	786
Share-/index-linked contracts	791	717
Other contracts	3,492	3,282
Credit derivatives	101	131
SHORT POSITIONS	**508**	**836**
BONDS ISSUED	**17,465**	**14,572**
DEPOSITS	**7,108**	**6,242**
Money market deposits	**6,939**	**6,070**
from banks	6,345	5,704
of which: from affiliated banks	1,375	925
from other banks	4,970	4,779
from customers	594	366
Promissory notes and registered bonds issued	**169**	**172**
to banks	133	146
of which: to affiliated banks	133	146
to customers	36	26
Total	**50,204**	**45,377**

Bonds issued mainly comprise share- and index-linked certificates.

67 Provisions

€ million	Dec. 31, 2016	Dec. 31, 2015
Provisions for employee benefits	**2,467**	**1,868**
Provisions for defined benefit plans	2,058	1,635
Provisions for other long-term employee benefits	139	117
of which: for semi-retirement schemes	15	16
Provisions for termination benefits	232	76
of which: for early retirement schemes	15	16
for restructuring	187	31
Provisions for short-term employee benefits	38	40
Provisions for share-based payment transactions	**39**	**23**
Other provisions	**1,535**	**1,190**
Provisions for onerous contracts	10	7
Provisions for restructuring	15	5
Provisions for loan commitments	137	51
Other provisions for loans and advances	85	68
Provisions relating to building society operations	915	653
Residual provisions	373	406
Total	**4,041**	**3,081**

Provisions for defined benefit plans

The provisions for defined benefit plans predominantly result from pension plans that employees can no longer join (closed plans). There are also defined benefit pension plans for members of boards of managing directors. New employees in Germany are almost always only offered defined contribution pension plans, for which it is not generally necessary to recognize a provision. The picture outside Germany is more varied because there are both defined contribution and defined benefit plans that are open to new employees. However, the proportion of the group's total obligations accounted for by obligations outside Germany is not material. The expense for defined contribution pension plans came to €18 million in 2016 (2015: €18 million).

The present value of the defined benefit obligations is broken down by risk category as follows:

	Germany		Other countries		Total	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Final-salary-dependent plans	2,480	2,213	112	106	2,592	2,319
Defined benefit contributory plans	426	227	221	211	647	438
Accessorial plans	55	8	3	4	58	12
Total	2,961	2,448	336	321	3,297	2,769

A significant risk factor for all plans is the level of market interest rates for investment-grade fixed-income corporate bonds because the discount rate determined from this data affects both the amount of the obligations and the measurement of the plan assets.

Final-salary-dependent plans are pension obligations to employees, the amount of which depends on the employee's final salary before the insured event occurs and that, for the most part, can be assumed to constitute a life-long payment obligation. In Germany, section 16 (1) of the Occupational Pensions Act (BetrAVG) requires the amount of the pension to be adjusted every 3 years to reflect the change in consumer prices or net wages. The main risk factors for final-salary-dependent pension plans are longevity, changes in salary, inflation risk, and the discount rate.

The majority of defined benefit contributory plans comprise obligations to pay fixed capital amounts or amounts at fixed interest rates. An annuitization option exists for around half of the obligations. As a result, there may be lifelong payment obligations as well as lump-sum payments and installments. For most obligations, the contributions are linked to remuneration. Most of these plans are closed.

Accessorial plans are when the employer commits to a benefit that essentially corresponds to the benefit that is provided when an insured event occurs if the contributions are invested in a financial product of a third-party pension provider or insurer. The amount of the pension benefits therefore depends on the pension plan of the third-party pension provider, which is

directly exposed to the risk factors longevity, changes in salary, and market interest rate risk. Accessorial plans are almost risk free for the employer.

The pension plans agreed in Germany are not subject to minimum funding requirements. Minimum funding is required for some pension plans outside Germany owing to local regulations.

The changes in the present value of the defined benefit obligations were as follows:

€ million	2016	2015
Present value of defined benefit obligations as at Jan. 1	2,769	2,891
Current service cost	60	57
Interest expense	64	58
Employee contributions	6	6
Pension benefits paid including plan settlements	-106	-94
of which: relating to plan settlements	-1	-1
Unrecognized past service cost	6	-9
Actuarial gains (-)/losses (+)	193	-157
of which: due to changes in demographic assumptions	-3	–
due to changes in financial assumptions	213	-156
experience-based	-17	-1
Plan takeovers	–	1
Changes attributable to currency translation	-8	15
Changes in scope of consolidation	313	1
Present value of defined benefit obligations as at Dec. 31	**3,297**	**2,769**

The following actuarial assumptions were used in the measurement of the defined benefit obligations:

%	Dec. 31, 2016	Dec. 31, 2015
Discount rate	1.75	2.25
Weighted salary increases	1.88	1.98
Weighted pension increases	1.76	1.77

Sensitivity analysis

The following table shows the sensitivity of the present value of the defined benefit obligations to changes in the actuarial parameters. The effects shown are based on an isolated change to one parameter, with the other parameters remaining constant. Correlation effects between individual parameters are not considered.

	Dec. 31, 2016		Dec. 31, 2015	
	€ million	%	€ million	%
Change in the present value of defined benefit obligations as at balance sheet date if				
the discount rate were 100 basis points higher	-446	-13.53	-375	-13.54
the discount rate were 100 basis points lower	562	17.05	477	17.23
the future salary increase were 50 basis points higher	44	1.33	42	1.52
the future salary increase were 50 basis points lower	-41	-1.24	-39	-1.41
the future pension increase were 25 basis points higher	77	2.34	66	2.38
the future pension increase were 25 basis points lower	-73	-2.21	-63	-2.28

The duration of the defined benefit obligations as at December 31, 2016 was 15.69 years (December 31, 2015: 15.81 years).

Plan assets

Defined benefit obligations are offset by plan assets. €793 million of the plan assets (December 31: 2015: €725 million) are attributable to contractual trust arrangements (CTAs) at DZ BANK and BSH, and are managed as trust assets by DZ BANK Pension Trust e.V., Frankfurt am Main. BSH made the first contribution to its CTA on December 1, 2016 in an amount of €20 million. The relevant CTA investment committee defines the investment policy and strategy for the asset management company. Plan assets relating to obligations in the United States and United Kingdom are also managed by independent trusts. In Luxembourg, the assets were transferred to a pension fund and, in Switzerland, to a foundation. Trustees/administrators are responsible for the administration and management of the pension plans and for compliance with regulatory requirements.

The funding status of the defined benefit obligations is shown in the following table:

€ million	Dec. 31, 2016	Dec. 31, 2015
Present value of defined benefit obligations funded by plan assets	2,400	1,603
Present value of defined benefit obligations not funded by plan assets	897	1,166
Present value of defined benefit obligations	**3,297**	**2,769**
less fair value of plan assets	-1,239	-1,134
Provisions for defined benefit plans	**2,058**	**1,635**
Reimbursement rights recognized as assets	2	2

In addition to merger-related changes to the funding status, BSH intends to increase its funding of pension obligations by adding additional funding to the CTA.

The following table shows the changes in plan assets:

€ million	2016	2015
Fair value of plan assets as at Jan. 1	1,134	1,149
Interest income	26	23
Return on/expenses from plan assets (excluding interest income)	35	-21
Contributions to plan assets	43	24
of which: contributions by employer	37	18
employee contributions	6	6
Pension benefits paid	-62	-54
Changes attributable to currency translation	-3	13
Changes in scope of consolidation	66	–
Fair value of plan assets as at Dec. 31	**1,239**	**1,134**

Contributions to plan assets of €272 million are expected in 2017 (2016: €17 million). Of this total, €255 million will be allocated to the CTA at BSH.

56 percent of the plan assets (2015: 59 percent) are invested in fixed-income assets, thereby allowing for the defined benefit obligations' sensitivity to interest rates. The defined benefit obligations and the plan assets are largely in the euro, US dollar, and pound sterling currency areas. If the defined benefit obligations and the plan assets are in different currencies, derivative hedges are entered into in order to hedge the currency risk. The minimum quality of the fixed-income investments – in the form of Pfandbriefe, government bonds, and corporate bonds – is investment grade (AAA to BBB). The bulk of the investments (particularly Pfandbriefe and government bonds) are of prime quality (AAA to AA).

The other investments are predominantly floating-rate securities (equities and investment fund units) from around the world, plus entitlements arising from insurance policies, short-term investments, and real estate assets.

The fair value of the plan assets is broken down by asset class as follows:

	Dec. 31, 2016			Dec. 31, 2015		
€ million	With quoted market price in an active market	Without quoted market price in an active market	Total	With quoted market price in an active market	Without quoted market price in an active market	Total
Cash and money market investments	–	26	26	–	27	27
Bonds and other fixed-income securities	700	–	700	664	–	664
Shares	76	–	76	79	–	79
Investment fund units	83	96	179	28	139	167
Other variable-yield securities	6	–	6	–	–	–
Other shareholdings	–	28	28	–	–	–
Derivatives	-1	–	-1	-1	–	-1
Land and buildings	–	5	5	–	5	5
Entitlements arising from insurance policies	–	120	120	–	113	113
Other assets	–	100	100	–	80	80
Total	**864**	**375**	**1,239**	**770**	**364**	**1,134**

As at December 31, 2016, the plan assets included €33 million of the group's own financial instruments (December 31, 2015: €23 million). The real estate and other assets contained in the plan assets are not used by the companies themselves.

In Luxembourg, there is a joint plan with other employers. Provisions and contributions are allocated to the contributors as stipulated in the regulations. The gains or losses on investments are distributed to the contributors on the basis of the proportion of the net assets attributable to them at the start of the year.

Other provisions

The following table shows the changes in other provisions in 2016:

€ million	Provisions for onerous contracts	Provisions for restruct-uring	Provisions for loan commit-ments	Other provisions for loans and advances	Provisions relating to building society operations	Residual provisions	Total
Balance as at Jan. 1	7	5	51	68	653	406	1,190
Additions	5	14	71	42	362	256	750
Utilizations	–	-3	–	-1	-103	-177	-284
Reversals	-2	-1	-36	-21	–	-138	-198
Interest expense/ changes in discount rate	–	–	–	1	–	2	3
Changes in scope of consolidation	–	–	46	–	–	20	66
Other changes	–	–	5	-4	3	4	8
Balance as at Dec. 31	**10**	**15**	**137**	**85**	**915**	**373**	**1,535**

The residual provisions include provisions totaling €58 million for litigation risk (December 31, 2015: €109 million). In particular, the entities in the DZ BANK Group have recognized provisions in connection with capital market and lending products. No information pursuant to IAS 37.84 and IAS 37.85 is disclosed for these provisions because the DZ BANK Group believes that disclosure of this information would seriously harm the outcome of the proceedings. The year-on-year decline in the provision amount is attributable to the reversal of a provision through profit or loss following the end of a court case.

The expected maturities of other provisions are shown in the tables below.

AS AT DECEMBER 31, 2016

€ million	≤ 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provisions for onerous contracts	–	–	2	8	–
Provisions for restructuring	–	6	9	–	–
Provisions for loan commitments	43	42	48	–	4
Other provisions for loans and advances	2	39	2	2	40
Provisions relating to building society operations	1	420	326	168	–
Residual provisions	39	125	67	117	25
Total	**85**	**632**	**454**	**295**	**69**

AS AT DECEMBER 31, 2015

€ million	≤ 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provisions for onerous contracts	–	–	1	6	–
Provisions for restructuring	1	4	–	–	–
Provisions for loan commitments	4	5	37	–	5
Other provisions for loans and advances	7	34	7	2	18
Provisions relating to building society operations	6	392	187	68	–
Residual provisions	32	242	83	33	16
Total	**50**	**677**	**315**	**109**	**39**

» 68 Insurance liabilities

€ million	Dec. 31, 2016	Dec. 31, 2015
Provision for unearned premiums	1,119	1,104
Benefit reserve	55,167	52,634
Provision for claims outstanding	10,071	9,257
Provision for premium refunds	8,918	7,923
Other insurance liabilities	65	53
Reserve for unit-linked insurance contracts	8,785	7,958
Total	**84,125**	**78,929**

CHANGES IN THE PROVISION FOR UNEARNED PREMIUMS

€ million	2016	2015
Balance as at Jan. 1	1,104	1,071
Additions	1,180	1,170
Utilizations/reversals	-1,172	-1,143
Changes attributable to currency translation	7	6
Balance as at Dec. 31	**1,119**	**1,104**

CHANGES IN THE BENEFIT RESERVE

€ million	2016	2015
Balance as at Jan. 1	52,634	49,724
Additions	6,158	5,965
Interest component	1,128	1,392
Utilizations/reversals	-4,753	-4,448
Changes attributable to currency translation	–	1
Balance as at Dec. 31	**55,167**	**52,634**

Supplementary change-in-discount-rate reserves totaling €2,162 million have been recognized for policies with a discount rate in excess of the reference rate specified in the DeckRV (December 31, 2015: €1,528 million).

CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2016	2015
Balance as at Jan. 1	9,257	8,352
Claims expenses	5,827	5,463
less payments	-4,983	-4,622
Changes attributable to currency translation	-30	64
Balance as at Dec. 31	**10,071**	**9,257**

CHANGES IN THE PROVISION FOR PREMIUM REFUNDS

€ million	2016	2015
Balance as at Jan. 1	7,923	8,568
Additions	670	665
Utilizations/reversals	-760	-797
Changes resulting from unrealized gains and losses on investments (through other comprehensive income)	367	-626
Changes resulting from other remeasurements (through profit or loss)	718	99
Changes attributable to currency translation	–	14
Balance as at Dec. 31	**8,918**	**7,923**

The breakdown of maturities for insurance liabilities is shown in the following tables:

AS AT DECEMBER 31, 2016

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	1,011	83	25	–
Benefit reserve	1,654	6,983	12,129	34,401
Provision for claims outstanding	4,297	3,273	2,501	–
Provision for premium refunds	701	646	754	6,817
Other insurance liabilities	43	15	3	4
Total	**7,706**	**11,000**	**15,412**	**41,222**

AS AT DECEMBER 31, 2015

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	982	100	22	–
Benefit reserve	1,977	6,658	12,292	31,707
Provision for claims outstanding	3,855	3,090	2,312	–
Provision for premium refunds	739	607	854	5,723
Other insurance liabilities	39	9	3	2
Total	**7,592**	**10,464**	**15,483**	**37,432**

» 69 Other liabilities

€ million	Dec. 31, 2016	Dec. 31, 2015
Other liabilities of insurance companies	4,948	4,255
Liabilities from financial guarantee contracts	117	97
Accruals	1,048	977
Other payables	139	356
Residual other liabilities	410	354
Total	**6,662**	**6,039**

The table below gives a breakdown of insurance companies' other liabilities.

€ million	Dec. 31, 2016	Dec. 31, 2015
Other provisions	**329**	**327**
Provisions for employee benefits	303	297
Provisions for share-based payment transactions	1	1
Other provisions	25	29
Payables and residual other liabilities	**4,619**	**3,928**
Subordinated capital	76	73
Deposits received from reinsurers	85	78
Payables arising out of direct insurance operations	1,523	1,574
Payables arising out of reinsurance operations	239	230
Debt certificates issued including bonds	30	29
Deposits from banks	613	524
Derivatives (negative fair values)	105	70
Liabilities from capitalization transactions	1,345	775
Other payables	197	198
Residual other liabilities	406	377
Total	**4,948**	**4,255**

» 70 Subordinated capital

€ million	Dec. 31, 2016	Dec. 31, 2015
Subordinated liabilities	4,391	3,812
Profit-sharing rights	291	292
Other hybrid capital	19	–
Share capital repayable on demand	22	38
Total	**4,723**	**4,142**

Subscribed capital

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Equity

The subscribed capital of DZ BANK consists of 1,884,591,900 registered non-par-value shares each with an imputed value of €2.60. DZ BANK holds 93,247,143 of these shares as treasury shares, reducing the subscribed capital by €243 million. All other shares in issue are fully paid-up. For the 2015 financial year, DZ BANK paid a dividend of €0.16 per share in 2016 (paid in 2015: €0.15 per share). A dividend of €0.18 per share for 2016 will be proposed to the Annual General Meeting.

The Annual General Meeting in 2016 passed a resolution to increase the subscribed capital by €1,253,672,030.00 from €3,646,266,910.00 to €4,899,938,940.00 to facilitate the merger with WGZ BANK. The capital increase was carried out by issuing shares in DZ BANK as the consideration for the transfer of the net assets of WGZ BANK to DZ BANK. The exchange ratio was based on the exchange ratio of 1:67.5984 set forth in the merger agreement and confirmed by the auditors of the merger. The capital increase by way of an issue of 482,181,550 registered non-par-value shares at a value of €9.81 per share was entered in the commercial register of the Frankfurt am Main local court on July 29, 2016. Dividends are payable on the new shares from January 1, 2016.

Authorized capital

The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to increase the share capital by May 31, 2021 on one or more occasions by up to a total of €100 million by way of issuing new registered non-par-value shares in return for cash or non-cash contributions. The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to exclude the subscription rights of shareholders both in the case of capital increases in return for non-cash contributions and in the case of capital increases for cash if the capital is increased for the purpose of
- issuing new shares to employees of the company (employee shares),
- issuing new shares to one or more cooperative banks which, measured in terms of their total assets, directly or indirectly have a below-average stake in the company's share capital, i.e. less than 0.5 percent of their total assets (based on the nominal value of €2.60 per DZ BANK share),
- acquiring companies, equity investments in companies or for granting equity investments in the corporation in order to back strategic partnerships.

The Board of Managing Directors is also authorized, subject to the approval of the Supervisory Board, to exclude fractions from the subscription right of shareholders ('Authorized Capital I').

The Board of Managing Directors is also authorized, subject to the approval of the Supervisory Board, to increase the share capital by May 31, 2021 on one or more occasions by up to a total of €300 million by issuing new registered non-par-value shares in return for cash contributions. The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to exclude fractions from the subscription right of shareholders ('Authorized Capital II').

Contingent capital

The share capital is to be contingently raised by up to €49,976,173.00 by issuing up to 19,221,605 new, registered non-par-value shares (Contingent Capital). The increase in the Contingent Capital shall serve to grant registered non-par-value shares (subscription shares) for the fulfillment of corresponding conversion rights and/or conversion obligations of creditors of convertible bonds or registered bonds, as the case may be, that were issued until June 24, 2015 in return for a cash contribution on the basis of the authorization resolution of the Annual General Meeting of WGZ BANK of June 24, 2014. The increase in the Contingent Capital must only be carried out to the extent that the creditors of aforesaid convertible bonds or registered bonds, as the case may be, entitled or obliged to convert make use of their conversion right or fulfill their conversion obligation and that no own shares are used for aforesaid fulfillment. The subscription shares shall at all times be issued at a ratio of one registered bond to 7,435.824 subscription shares.

The subscription shares participate from the beginning of the financial year in which they come into existence in the profits of the current financial year as well as in the profits of previous years if a resolution of the appropriation of said profits has yet to be passed.

The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to determine the further details pertaining to the execution of the increase in the Contingent Capital.

Disclosures on shareholders

At the end of 2016, 99.2 percent of shares were held by cooperative enterprises (December 31, 2015: 99.5 percent). These cooperative enterprises include the cooperative banks and other legal entities and trading companies economically associated with the cooperative movement or cooperative housing sector.

Capital reserve

The capital reserve comprises the amounts from the issue of DZ BANK shares in excess of the imputed par value of the shares.

Retained earnings

Retained earnings comprise earned, undistributed consolidated profit together with gains and losses arising from remeasurement of defined benefit plans after taking into account deferred taxes. Cumulative gains and losses arising from remeasurement of defined benefit plans amounted to a loss of €537 million (December 31, 2015: loss of €438 million).

Revaluation reserve

The revaluation reserve shows changes in the fair value of available-for-sale financial assets after allowing for deferred taxes. Gains and losses are only recognized in profit or loss when the relevant asset is sold or an impairment has been identified. As at December 31, 2016, non-current assets classified as held for sale accounted for €136 million of the revaluation reserve (December 31, 2015: none).

Cash flow hedge reserve

The cash flow hedge reserve comprises the gains and losses on the measurement of hedging instruments attributable to the effective portion of the hedge after taking into account deferred taxes.

Currency translation reserve

The currency translation reserve is the result of the translation of financial statements of subsidiaries denominated in foreign currency into euros (the group reporting currency). It also includes the gains and losses on hedges of net investments in foreign operations and the change in the currency translation reserve for entities accounted for using the equity method.

Additional equity components

Additional Tier 1 notes

In 2015, DZ BANK issued a tranche of additional Tier 1 notes ('AT1 bonds') with a total volume of €750 million. The tranche of AT1 bonds issued is shown in the 'Additional equity components' sub-line item. According to the provisions of IAS 32, the AT1 bonds have characteristics of equity. The AT1 bonds are unsecured, subordinated bearer bonds of DZ BANK.

Other hybrid capital

As a result of the merger of DZ BANK with WGZ BANK, the convertible bond issued by WGZ BANK was taken over by DZ BANK as the legal successor. Upon initial recognition when the convertible bond was taken over, the components had to be defined as a financial liability or an equity instrument. The portion of the convertible bond that was not classified as a component of equity was recognized under subordinated capital. The equity component of €98 million has been included as an additional equity component within the equity of the DZ BANK Group until such time as it is potentially converted into non-par-value shares of DZ BANK. Further disclosures on conversion into non-par-value shares of DZ BANK can be found in the section on contingent capital.

Non-controlling interests

Non-controlling interests comprise the equity of subsidiaries not attributable to DZ BANK.

Breakdown of changes in equity by component of other comprehensive income

2016

€ million	Equity earned by the group	Revaluation reserve	Cash flow hedge reserve	Currency translation reserve	Non-controlling interests
Gains and losses on available-for-sale financial assets	–	230	–	–	77
Gains and losses on cash flow hedges	–	–	-4	–	1
Exchange differences on currency translation of foreign operations	–	–	–	15	2
Gains and losses on hedges of net investments in foreign operations	–	–	–	-1	–
Gains and losses arising from remeasurement of defined benefit plans	-101	–	–	–	-20
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	–	-12	–	–	-2
Other comprehensive income/loss	**-101**	**218**	**-4**	**14**	**58**

2015

€ million	Equity earned by the group	Revaluation reserve	Cash flow hedge reserve	Currency translation reserve	Non-controlling interests
Gains and losses on available-for-sale financial assets	–	-3	–	–	-41
Gains and losses on cash flow hedges	–	–	9	–	–
Exchange differences on currency translation of foreign operations	–	–	–	34	9
Gains and losses on hedges of net investments in foreign operations	–	–	–	-16	–
Gains and losses arising from remeasurement of defined benefit plans	92	–	–	–	15
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-1	11	–	4	2
Other comprehensive income/loss	**91**	**8**	**9**	**22**	**-15**

E Financial instruments and fair value disclosures

The following tables show the breakdown of carrying amounts and fair values of financial assets and financial liabilities by class (in accordance with IFRS 7) and by category of financial instruments (in accordance with IAS 39):

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Classes, categories, and fair values of financial instruments

	Dec. 31, 2016		Dec. 31, 2015	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**172,583**	**172,583**	**151,065**	**151,065**
Financial instruments held for trading	**49,639**	**49,639**	**49,768**	**49,768**
Financial assets held for trading	49,279	49,279	49,520	49,520
Investments held by insurance companies	360	360	248	248
Fair value option	**21,300**	**21,300**	**18,029**	**18,029**
Loans and advances to banks	2,053	2,053	1,666	1,666
Loans and advances to customers	7,564	7,564	5,720	5,720
Investments	11,013	11,013	9,923	9,923
Investments held by insurance companies	670	670	720	720
Derivatives used for hedging	**1,549**	**1,549**	**416**	**416**
Derivatives used for hedging (positive fair values)	1,549	1,549	416	416
Available-for-sale financial assets	**100,095**	**100,095**	**82,852**	**82,852**
Loans and advances to customers	22	22	22	22
Investments	50,527	50,527	38,764	38,764
Investments held by insurance companies	49,546	49,546	44,066	44,066
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**312,778**	**322,074**	**234,826**	**244,477**
Held-to-maturity investments	**2,561**	**2,524**	**–**	**–**
Investments	2,561	2,524	–	–
Loans and receivables	**309,879**	**319,212**	**234,543**	**244,194**
Cash and cash equivalents	8,310	8,310	6,350	6,350
Loans and advances to banks	105,150	107,118	78,937	80,829
Loans and advances to customers	163,464	166,070	115,580	118,870
Investments	4,919	5,031	4,450	4,525
Investments held by insurance companies	27,041	31,664	28,483	33,131
Other assets	1,019	1,019	489	489
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	-24		254	
Available-for-sale financial assets	**338**	**338**	**283**	**283**
Investments	251	251	189	189
Investments held by insurance companies	87	87	94	94
FINANCE LEASES	**3,138**	**3,226**	**3,587**	**3,746**
Loans and advances to banks	14	15	80	105
Loans and advances to customers	3,124	3,211	3,507	3,641

€ million	Dec. 31, 2016		Dec. 31, 2015	
	Carrying amount	Fair value	Carrying amount	Fair value
FINANCIAL LIABILITIES MEASURED AT FAIR VALUE	**84,494**	**84,494**	**70,632**	**70,632**
Financial instruments held for trading	**50,309**	**50,309**	**45,447**	**45,447**
Financial liabilities held for trading	50,204	50,204	45,377	45,377
Other liabilities	105	105	70	70
Fair value option	**30,311**	**30,311**	**23,544**	**23,544**
Deposits from banks	5,178	5,178	3,561	3,561
Deposits from customers	11,544	11,544	7,009	7,009
Debt certificates issued including bonds	12,957	12,957	12,216	12,216
Subordinated capital	632	632	758	758
Derivatives used for hedging	**3,874**	**3,874**	**1,641**	**1,641**
Derivatives used for hedging (negative fair values)	3,874	3,874	1,641	1,641
FINANCIAL LIABILITIES MEASURED AT AMORTIZED COST	**307,811**	**311,873**	**230,508**	**235,022**
Deposits from banks	124,102	126,145	93,666	95,647
Deposits from customers	112,881	114,839	89,177	91,378
Debt certificates issued including bonds	65,281	64,785	42,735	43,109
Other liabilities	1,276	1,276	1,289	1,289
Subordinated capital	4,091	4,828	3,384	3,599
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	180		257	
FINANCE LEASES	**–**	**–**	**27**	**32**
Other liabilities	–	–	27	32
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**254**	**254**	**148**	**148**
Financial guarantee contracts	**117**	**117**	**97**	**97**
Other liabilities	117	117	97	97
Loan commitments	**137**	**137**	**51**	**51**
Provisions	137	137	51	51

Given the complex structure of home savings contracts and the multitude of scales of rates and charges, there is currently no suitable method for calculating the fair value of an individual contract as at the balance sheet date. Consequently, the fair value cannot be determined using either comparable market prices or suitable option pricing models. The fair values of financial assets and financial liabilities resulting from building society operations are therefore shown in simplified form at their carrying amounts. On the basis of the models used for building society management, which comprise both collective and non-collective business including deposits, the overall amount for building society operations during the reporting period was positive.

The carrying amounts and fair values reported under investments held by insurance companies relate to receivables and fixed-income securities matched as cover for long-term insurance contract obligations as part of insurance operations. Because these instruments are normally held over their entire maturity, interest-rate-related changes in fair value during the maturity of the financial assets balance each other out in full. The fair values of the investments held by insurance companies comprise both the proportion of the fair values that is attributable to the policyholders and the proportion attributable to the shareholders of the DZ BANK Group. The fair value attributable to the shareholders of the DZ BANK Group of investments held by insurance companies was €28,079 million (December 31, 2015: €29,557 million), such investments being measured at amortized cost and reported under loans and receivables. The fair value attributable to the shareholders of the DZ BANK Group of other liabilities that are recognized as finance leases was €32 million as at December 31, 2015. The insurance companies did not report any finance leases as at December 31, 2016.

Financial instruments measured at cost

Investments and investments held by insurance companies include shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates measured at cost with a total carrying amount of €335 million (December 31, 2015: €283 million). There are no active markets for these investments, nor can their fair value be reliably determined by using a valuation technique based on assumptions that do not rely on available observable market data. Furthermore, there are no other markets for these financial instruments. The main purpose of these financial instruments is to support the business operations of the DZ BANK Group on a permanent basis.

During the year under review, shares and other variable-yield securities measured at cost, other shareholdings measured at cost, and investments in subsidiaries and associates with a carrying amount of €2 million were sold. This resulted in gains on disposal of €1 million.

In 2015, investments in non-consolidated subsidiaries and other shareholdings measured at cost with a carrying amount of €13 million had been sold. This had resulted in gains on disposal of €62 million.

Fair value hierarchy

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Assets and liabilities measured at fair value on the balance sheet

The fair value measurements are assigned to the levels of the fair value hierarchy as follows:

	Level 1		Level 2		Level 3	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Assets	**63,503**	63,317	**112,610**	92,001	**6,663**	4,556
Loans and advances to banks	–	–	1,824	1,666	229	–
Loans and advances to customers	–	–	6,507	5,159	1,079	583
Derivatives used for hedging (positive fair values)	–	–	1,549	416	–	–
Financial assets held for trading	1,217	1,172	47,621	48,074	441	274
Investments	14,168	18,372	45,480	28,968	1,892	1,347
Investments held by insurance companies	48,092	43,752	9,609	7,628	2,886	2,352
Non-current assets and disposal groups classified as held for sale	26	21	20	90	136	–
of which: non-recurring measurement	26	21	–	74	–	–
Liabilities	**1,170**	2,769	**90,865**	74,078	**2,393**	2,402
Deposits from banks	–	–	5,177	3,561	1	–
Deposits from customers	–	–	11,544	7,009	–	–
Debt certificates issued including bonds	492	2,153	11,951	9,562	514	501
Derivatives used for hedging (negative fair values)	–	–	3,874	1,641	–	–
Financial liabilities held for trading	647	602	48,047	42,875	1,510	1,900
Financial liabilities arising from unit-linked insurance products	–	–[1]	9,909	8,597[1]	–	–
Other liabilities	6	14	80	55	19	1
Subordinated capital	–	–	283	758	349	–
Liabilities included in disposal groups classified as held for sale	25	–	–	20	–	–

1 Amount restated due to subsequent reclassification of the financial liabilities arising from unit-linked insurance products as at December 31, 2015 of €5,402 million from Level 1 to Level 2 on the basis of an updated estimate of the input factor (fund prices).

The investments held by insurance companies measured at fair value include assets related to unit-linked contracts. These are offset on the equity and liabilities side of the balance sheet by financial liabilities measured at fair value arising from unit-linked insurance products, which consist of the reserve for unit-linked insurance contracts and liabilities from capitalization transactions allocated to unit-linked life insurance.

Transfers

Assets and liabilities held at the balance sheet date and measured at fair value on a recurring basis were transferred as follows between Levels 1 and 2 of the fair value hierarchy:

	Transfers from Level 1 to Level 2		Transfers from Level 2 to Level 1	
€ million	**2016**	2015	**2016**	2015
Assets measured at fair value	**4,303**	821	**1,025**	5,880
Financial assets held for trading	6	–	15	17
Investments	4,193	666	755	5,579
Investments held by insurance companies	104	155	255	284
Liabilities measured at fair value	**–**	–	**4**	1
Financial liabilities held for trading	–	–	4	1

Transfers from Level 1 to Level 2 were due to quoted prices no longer being obtainable in active markets for identical assets. Transfers from Level 2 to Level 1 were due to the availability of quoted prices in active markets that had previously not existed.

In the DZ BANK Group, transfers between Levels 1 and 2 take place when there is a change in the inputs that is relevant to categorization in the fair value hierarchy.

Fair value measurements within Levels 2 and 3

Fair value measurements within Level 2 of the fair value hierarchy either use prices available in active markets for similar, but not identical, financial instruments or use valuation techniques largely based on observable market data. If valuation techniques are used that include a significant valuation input that is not observable in the market, the relevant fair value measurements are categorized within Level 3 of the fair value hierarchy.

Generally, the discounted cash flow (DCF) method is used in the model-based measurement of the fair value of financial instruments without optionalities. Modeling of the yield curves is based on a multi-curve approach with collateral discounting. Simple products on which options exist are measured using customary standard models in which the inputs are quoted in active markets. For structured products on which options exist, a wide range of standard valuation techniques are used. Valuation models are calibrated to available market prices and validated regularly. The fair values of structured products can be measured by breaking these products into their constituent parts, which are then measured using the valuation methods described below.

The basis for measurement is the selection of an adequate yield curve for each specific instrument. The measurement is carried out by selecting appropriate tenor-specific forward curves for projecting variable cash flows. The nature and collateralization of the transactions determines how they are discounted using yield curves that can be adjusted on the basis of relevant spreads.

The DZ BANK Group uses prices in active markets (provided these prices are available) for the fair value measurement of loans and advances as well as unstructured bonds. Otherwise, it mainly uses the discounted cash flow method. Discounting is based on yield curves that are adjusted for liquidity-related and credit rating-related costs using spreads. Product-dependent funding spreads are added to the yield curve for liabilities attributable to registered creditors, debt certificates issued including bonds, and subordinated capital. Debt instruments held are adjusted using issuer-specific spreads or spreads derived from the issuer's internal and external credit rating, sector, and risk category. Customer-appropriate spreads and collateralization rates are taken into account for the measurement of loans when the discounted cash flow method is used. If significant unobservable inputs are used for measurement and there are no indications that the transaction price is not identical to the fair value at the time of first-time recognition on the balance sheet, the valuation method is calibrated in such a way that the model price at the time of acquisition corresponds to the transaction price. In exceptional cases, the notional amount of the debt instrument in question provides the best evidence of fair value.

The fair value measurements of shares and other variable-yield securities and of long-term equity investments accounted for in accordance with IAS 39 are determined by applying income capitalization approaches and observing transaction prices. The best indicator of fair value is deemed to be the transaction prices for recent transactions involving the relevant

financial instruments, provided there have been any such transactions. Otherwise, the fair value is measured using income capitalization approaches in which future income and dividends – calculated on the basis of forecasts and estimates – are discounted, taking risk parameters into account.

The fair value measurements of investment fund units are determined using the pro rata net asset value. This is adjusted for any outstanding performance-related remuneration entitlements of fund managers; risk adjustments are also taken into account. Some long-term equity investments in real-estate companies are also measured at net asset value. In this case, the liabilities are subtracted from the fair values of the real estate tied up in the company and the result is multiplied by the percentage of shareholding. The prices of units in real-estate funds that are not managed by the DZ BANK Group are provided by the asset management company that manages these funds. These units are measured regularly at net asset value. Fair value measurements are also based on valuations, current values, and prices in recent transactions.

The fair value measurement of standardized derivatives traded in liquid markets is based on observable market prices and/or industry-standard models using observable inputs. To discount the cash flows of derivatives, a distinction is made between non-collateralized and collateralized transactions when using yield curves. Moreover, calculation of the model prices for products on which options exist mostly requires the input of additional market data (e.g. volatilities, correlations, repo rates). As far as possible, this data is derived implicitly from quoted market prices that are available. If observable quoted market prices are not available, or only available to a limited extent, DZ BANK uses customary interpolation and extrapolation mechanisms, historical time series analysis, and fundamental analysis of economic variables to generate the required inputs. It also uses expert assessments on a small scale.

The fair value measurement of OTC derivatives applies the option in IFRS 13.48, which enables the total net amount to be measured. In the first step, credit risk is not taken into account. Counterparty-specific credit risk arising from derivatives is recognized after the total net amount has been determined. Credit valuation adjustments (CVAs) are recognized to mitigate counterparty credit risk and debt valuation adjustments (DVAs) are recognized to mitigate the group's own credit risk. Their measurement also takes account of collateral and uses market-implied parameters with matching maturities or internal parameters with matching maturities for the probability of default and loss given default.

The measurement of financial instruments also involves carrying out measurement adjustments to a suitable degree. This includes, among other things, model reserves that enable uncertainties in model selection, model parameters, and model configuration to be taken into account. The DZ BANK Group measures financial instruments at the price at which these financial instruments can be realized in the market. If this differs from the measurement of the individual instruments (e.g. measurement at middle rates), the bid/ask adjustments (close-out reserves) are determined on a net basis applying the option in IFRS 13.48. Measurement takes account of the group's funding structure.

The following table shows the valuation techniques, the unobservable inputs, and their spreads used for the fair value measurements at Level 3 of the fair value hierarchy as at the balance sheet date.

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Loans and advances to banks	Loans	229	DCF method	Credit spread	0.5 to 4.5
Loans and advances to customers	Loans	525	DCF method	Credit spread	0 to 8.3
		17	DCF method	Internal spread	1.5 to 9.5
		515	DCF method	BVAL price adjustment	-1.9 to 1.3
	Receivables arising from silent partnerships	22	DCF method	Internal credit ratings	6.7
Financial assets held for trading	ABSs	58	DCF method	Credit spread	0.7 to 150
	Bearer securities	30	DCF method	BVAL price adjustment	-0.2 to 0.6
	Equity/commodity basket products	12	Local volatility model	Correlation of the risk factors considered	-14.6 to 82.8
	Collateralized loan obligations	3	Gaussian copula model	Liquidity spread	0
	Syndicated loans	66	DCF method	Credit spread	0 to 8.3
	Loans and advances to issuers in default	7	DCF method	Recovery rate	–
	Registered securities	265	DCF method	BVAL price adjustment	-1.9 to 1.3
Investments	Bearer securities	752	DCF method	BVAL price adjustment	-0.2 to 0.6
		62	DCF method	Recovery rate	88.7 to 132.5
	VR Circle	515	DCF method	Multiple-year default probabilities	0 to 100
	Investments in subsidiaries	12	Income capitalization approach	Future income	–
		30	DCF method	Assumptions for measurement of risk parameters	9.3 to 14.6
	Other shareholdings	311	DCF method	Assumptions for measurement of risk parameters	9.3 to 14.6
	Investment fund units	44	Net asset value	–	–
	ABSs	166	DCF method	Credit spread	0.3 to 150

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Investments held by insurance companies	Investments in subsidiaries, associates, and joint ventures, real estate funds, profit-participation certificates, and other long-term equity investments	1,427	Net asset value	–	–
	Investments in subsidiaries and associates, other long-term equity investments, and shares in cooperatives	354	Income capitalization approach	Future income	6.1 to 11.3
		360	Prices offered by external suppliers of market prices	–	–
	ABSs	86	DCF method	Credit spread	6.0 to 6.1
	Profit-participation certificates, silent partnerships, promissory notes, and loan commitments	262	DCF method	Credit spread	0 to 6.1
	Fixed-income securities, shares, and shares in cooperatives	396	Prices offered by external suppliers of market prices	–	–
	Derivatives (positive fair values)	1	Prices offered by external suppliers of market prices	–	–
Non-current assets and disposal groups classified as held for sale	Other shareholdings	136	Income capitalization approach	Future income	–
Deposits from banks	Loans	1	DCF method	Credit spread	0.5 to 4.5
Debt certificates issued including bonds	VR Circle	514	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	1,486	Local volatility model	Correlation of the risk factors considered	-14.6 to 82.8
	Basket credit-linked notes	22	Gaussian copula model	Credit correlation	55 to 80
	Products with quanto correlation	2	Libor market model	Correlation of the risk factors considered	32.7 to 70
Other liabilities	Derivatives (negative fair values)	1	Prices offered by external suppliers of market prices	–	–
	Derivatives (negative fair values)	18	DCF method	Correlation of the risk factors considered	41.8
Subordinated capital	Loans	349	DCF method	Credit spread	0.5 to 4.5

The following table shows the valuation techniques, the unobservable inputs, and their spread used for the fair value measurements at Level 3 of the fair value hierarchy as at December 31, 2015.

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Loans and advances to customers	Loans	522	DCF method	Credit spread	0 to 8.3
		39	DCF method	Internal spread	1.5 to 9.5
	Receivables arising from silent partnerships	22	DCF method	Internal credit ratings	6.7
Financial assets held for trading	ABSs	78	DCF method	Credit spread	0 to 370
	Bearer securities	170	DCF method	BVAL price adjustment	-0.5 to 155
	Equity/commodity basket products	16	Local volatility model	Correlation of the risk factors considered	0 to 87
	Collateralized loan obligations	3	Gaussian copula model	Liquidity spread	0
	Syndicated loans	1	DCF method	Credit spread	–
	Loans and advances to issuers in default	6	DCF method	Recovery rate	0 to 60
Investments	Bearer securities	378	DCF method	BVAL price adjustment	-0.5 to 155
		25	DCF method	Recovery rate	50
	VR Circle	501	DCF method	Multiple-year default probabilities	0 to 100
	Investments in subsidiaries	107	Income capitalization approach	Future income	–
		51	DCF method	Assumptions for measurement of risk parameters	9 to 14.3
	Other shareholdings	222	Income capitalization approach	Future income	–
		16	DCF method	Assumptions for measurement of risk parameters	9 to 14.3
	Investment fund units	42	Net asset value	–	–
	ABSs	5	DCF method	Credit spread	0 to 370

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Investments held by insurance companies	Investments in subsidiaries, associates, and joint ventures, real estate funds, profit-participation certificates, and other long-term equity investments	1,279	Net asset value	–	–
	Investments in subsidiaries and associates, investment fund units, profit-participation certificates, long-term equity investments	233	Income capitalization approach	Future income	6.4 to 7.5
		465	Prices offered by external suppliers of market prices	–	–
	ABSs	83	DCF method	Credit spread	6.0 to 6.1
	Profit-participation certificates, silent partnerships, promissory notes	151	DCF method	Credit spread	3.0 to 5.4
	Fixed-income securities, shares	140	Prices offered by external suppliers of market prices	–	–
	Derivatives (positive fair values)	1	Prices offered by external suppliers of market prices	–	–
Debt certificates issued including bonds	VR Circle	501	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	1,853	Local volatility model	Correlation of the risk factors considered	0 to 87
	Basket credit-linked notes	35	Gaussian copula model	Credit correlation	0
	Products with quanto correlation	12	Libor market model	Liquidity spread	-11 to 76
Other liabilities	Derivatives (negative fair values)	1	Prices offered by external suppliers of market prices	–	–

Fair value measurements within Level 3 of the fair value hierarchy

The table below shows the changes in the recurring fair value measurements of assets within Level 3 of the fair value hierarchy:

€ million	Loans and advances to banks	Loans and advances to customers	Financial assets held for trading	Investments	Investments held by insurance companies	Non-current assets and disposal groups classified as held for sale
Balance as at Jan. 1, 2015	–	595	385	2,686	2,075	8
Additions (purchases)	–	20	37	175	657	–
Transfers	–	–	36	-1,468	162	–
from Level 3 to Levels 1 and 2	–	–	-26	-1,517	-49	–
from Levels 1 and 2 to Level 3	–	–	62	49	211	–
Disposals (sales)	–	-86	-153	-214	-411	-8
Changes resulting from measurement at fair value	–	54	-31	111	53	–
through profit or loss	–	4	-31	-34	-16	-39
through other comprehensive income	–	50	–	145	69	39
Other changes	–	–	–	57	-184	–
Balance as at Dec. 31, 2015	–	583	274	1,347	2,352	–
Additions (purchases)	–	202	220	61	741	–
Transfers	230	282	-1	-158	-15	–
from Level 3 to Level 2	–	–	-97	-258	-261	–
from Levels 1 and 2 to Level 3	230	282	96	100	246	–
Disposals (sales)	–	-39	-60	-120	-386	–
Changes resulting from measurement at fair value	-1	7	4	147	175	–
through profit or loss	-1	7	4	21	-8	–
through other comprehensive income	–	–	–	126	183	–
Other changes	–	44	4	615	19	136
Balance as at Dec. 31, 2016	**229**	**1,079**	**441**	**1,892**	**2,886**	**136**

The table below shows the changes in the recurring fair value measurements of liabilities within Level 3 of the fair value hierarchy:

€ million	Deposits from banks	Deposits from customers	Debt certificates issued including bonds	Financial liabilities held for trading	Other liabilities
Balance as at Jan. 1, 2015	9	6	611	4,930	1
Transfers	-9	-6	-51	-2,429	–
from Level 3 to Level 2	-9	-6	-51	-2,485	–
from Level 2 to Level 3	–	–	–	56	–
Disposals (settlements)	–	–	-55	-555	–
Changes resulting from measurement at fair value through profit or loss	–	–	-2	-46	–
Other changes	–	–	-2	–	–
Balance as at Dec. 31, 2015	–	–	501	1,900	1
Additions (issues)	–	–	13	101	–
Transfers	1	–	–	-488	18
from Level 3 to Level 2	–	–	–	-522	–
from Level 2 to Level 3	1	–	–	34	18
Disposals (settlements)	–	–	–	–	-1
Changes resulting from measurement at fair value through profit or loss	–	–	–	-3	1
Balance as at Dec. 31, 2016	**1**	**–**	**514**	**1,510**	**19**

The other changes mainly consist of merger-related effects, changes in the scope of consolidation, and currency translation changes.

As part of the processes for fair value measurement, the DZ BANK Group reviews whether the valuation methods used for the measurement are typical and whether the valuation inputs used in the valuation methods are observable in the market. This review takes place at every balance sheet date, i.e. at least every 6 months. On the basis of this review, the fair value measurements are assigned to the levels of the fair value hierarchy. In the DZ BANK Group, transfers between the levels generally take place as soon as there is a change in the inputs that is relevant to categorization in the fair value hierarchy.

In each step of these processes, both the distinctive features of the particular product type and the distinctive features of the business models of the group entities are taken into consideration.

Transfers of fair values from Levels 1 and 2 to Level 3 of the fair value hierarchy during the financial year are largely attributable to a revised estimate of the market observability of the valuation inputs used in the valuation methods. Transfers from Level 3 to Levels 1 or 2 are essentially due to the availability of a price listed in an active market and to the inclusion in the valuation method of material valuation inputs observable in the market.

The amount recognized in profit or loss resulting from the recurring fair value measurements within Level 3 of assets and liabilities held at the balance sheet date constituted a gain of €6 million during the reporting period (2015: gain of €55 million). The gains or losses are included in the line items allowances for losses on loans and advances, gains and losses on trading activities, other gains and losses on valuation of financial instruments, and gains and losses on investments held by insurance companies and other insurance company gains and losses.

For the fair values of investments held by insurance companies reported within Level 3, a worsening in the credit rating or a rise in the interest rate of 1 percent would lead to the recognition of a €16 million loss in the income statement (2015: loss of €5 million) and a loss of €15 million under other comprehensive income/loss (2015: loss of €7 million). In the case of the fair values of loans and advances to customers, the same change would lead to the recognition of a €13 million loss in the income statement (2015: loss of €15 million) and a loss of €1 million under other comprehensive income/loss (2015: loss of €1 million). For the fair values of investments, there would be a €3 million loss under other comprehensive income/loss (2015: loss of €5 million) and a €12 million loss in the income statement. There would have been no impact on the income statement in 2015. As at the balance sheet date, there would be changes within financial assets held for trading giving rise to a loss of €4 million recognized in profit or loss, and changes within other liabilities giving rise to a loss of €1 million recognized in profit or loss. There would have been no changes in either item as at December 31, 2015 that would have impacted the income statement.

The fair values of bonds without liquid markets that are reported within financial assets held for trading, investments, loans and advances to banks, and loans and advances to customers are given an individual adjustment spread or are measured using Bloomberg Valuation Service prices, which are observable in the market. All other things being equal, an increase in the pertinent measurement assumptions of 1 percent would lead to the recognition of a €76 million loss in the income statement (2015: loss of €6 million) and a gain of €7 million under other

comprehensive income/loss (2015: gain of €3 million). Historical spreads are used for subordinated bonds recognized under subordinated capital whose spread components are no longer observable in the market. All other things being equal, an increase of 1 percent in the spread would lead to a €4 million increase in fair value that would be recognized in the income statement. There would have been no significant changes in 2015.

An alternative assumption about the credit spreads used could lead to a significant change in the fair values of some of the ABSs reported under financial assets held for trading and under investments. All other things being equal, a rise of 1 percent in these credit spreads would lead to the recognition of a loss of €3 million in the income statement (2015: loss of €4 million) and a loss of €1 million in other comprehensive income/loss. In 2015, there would have been no impact on other comprehensive income/loss.

Measurement of some of the commodities reported under financial assets and financial liabilities held for trading is based on the benchmark volatility of a comparable underlying. All other things being equal, an increase of 1 percent in the volatility would lead to the recognition of a gain of €28 million in the income statement (2015: gain of €9 million).

All other things being equal, a rise in the correlation assumptions by 1 percent would result in recognition in the income statement of a gain of €40 million for the fair values of equity/commodity basket products reported under financial assets and financial liabilities held for trading. There would have been no significant effects in 2015.

Sensitivity analysis is used to calculate the aforementioned changes in the fair value measurements. Non-performing exposures and strategically held investments in subsidiaries and other shareholdings whose fair values are calculated using an income capitalization approach are not included in the sensitivity analysis.

Exercise of option pursuant to IFRS 13.48

The option offered by IFRS 13.48 of measuring a net risk position for financial assets and financial liabilities is used for portfolios whose components are recognized under the balance sheet items loans and advances to banks, loans and advances to customers, financial assets held for trading, investments, and financial liabilities held for trading.

Fair value hierarchy

» 74
Assets and liabilities not measured at fair value on the balance sheet

Recurring fair value measurements of assets and liabilities that are not recognized at fair value on the balance sheet, but whose fair value must be disclosed, are assigned to the levels of the fair value hierarchy as follows:

	Level 1		Level 2		Level 3	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Assets	**52**	62	**173,296**	142,193	**152,141**	105,316
Cash and cash equivalents	–	–	8,310	6,350	–	–
Loans and advances to banks	33	21	104,249	78,605	2,836	2,203
Loans and advances to customers	–	–	33,102	21,112	132,968	97,758
Investments	–	–	6,459	3,110	1,347	1,604
Investments held by insurance companies	19	41	20,630	32,559	14,188	3,377
Property, plant and equipment, and investment property	–	–	164	170	165	172
Other assets	–	–	382	287	637	202
Liabilities	**617**	2,080	**250,234**	179,618	**61,276**	53,472
Deposits from banks	–	–	124,364	94,195	1,781	1,452
Deposits from customers	–	–	60,883	40,426	53,956	50,952
Debt certificates issued including bonds	617	2,080	64,168	41,029	–	–
Provisions	–	–	5	3	132	48
Other liabilities	–	–	231	396	1,162	990
Subordinated capital	–	–	583	3,569	4,245	30

Fair value measurements within Levels 2 and 3

The fair value measurements of assets and liabilities that are not recognized at fair value on the balance sheet largely correspond to the fair value measurements of assets and liabilities that are recognized at fair value on the balance sheet.

The following table shows the valuation techniques and the unobservable inputs used in these techniques for the fair value measurements at Level 3 of the fair value hierarchy as at the balance sheet date.

Class according to IFRS 13	**Assets/ liabilities**	**Fair value (€ million)**	**Valuation technique**	**Unobservable inputs**
Loans and advances to banks	Loans	2,836	DCF method	Credit spread, recovery rate
Loans and advances to customers	Loans	95,703	DCF method	Credit spread, recovery rate, internal spread
	Building loans	37,091	Amortized cost	–
	Shareholders' loans, profit-sharing rights, silent partnerships	174	DCF method	Internal credit ratings
Investments	Mortgage-backed securities	728	DCF method	Duration
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	239	Cost	–
	ABSs	246	DCF method	Credit spread
	Collateralized loan obligations	8	DCF method	Liquidity spread
	Bearer securities	83	DCF method	Credit spread
	RMBSs/CMBSs	36	DCF method	Liquidity spread
	Profit-participation certificates	7	DCF method	Estimated cash flows
Investments held by insurance companies	Investment property	2,982	DCF method	Future rent, reference prices in the market
		104	Cost	Nominal amounts
	Loans and bank accounts	10,937	DCF method	Yield curves, credit spread
	Loans	78	Cost	Nominal amounts
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	87	Cost	–
Property, plant and equipment	Investment property	165	Valuation reports	–
Other assets	Credit balances with banks	569	Cost	Nominal amounts
	Other loans and advances	68	Cost	Nominal amounts

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Deposits from banks	Home savings deposits	1,612	Amortized cost	–
	Loans	169	DCF method	Credit spread
Deposits from customers	Home savings deposits	53,770	Amortized cost	–
	Loans	179	DCF method	Credit spread
	Overpayments on consumer finance loans	7	Cost	–
Provisions	Provisions for loan commitments	132	Settlement amount	–
Other liabilities	Loans	446	Cost	Nominal amounts
	Liabilities from capitalization transactions	221	Cost	Nominal amounts
	Other payables	274	Cost	Nominal amounts
	Non-controlling interests in special funds	89	Cost	Nominal amounts
	Registered securities	29	Cost	Nominal amounts
	Liabilities from financial guarantee contracts	103	Settlement amount	–
Subordinated capital	Share capital repayable on demand	13	Amount repayable	–
	Bearer securities	4,232	DCF method	Credit spread

The following table shows the valuation techniques and the unobservable inputs used in these techniques for the fair value measurements at Level 3 of the fair value hierarchy as at December 31, 2015.

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Loans and advances to banks	Loans	2,203	DCF method	Credit spread, recovery rate
Loans and advances to customers	Loans	64,128	DCF method	Credit spread, recovery rate, internal spread
	Building loans	33,492	Amortized cost	–
	Shareholders' loans, profit-sharing rights, silent partnerships	138	DCF method	Internal credit ratings
Investments	Mortgage-backed securities	876	DCF method	Duration
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	189	Cost	–
	ABSs	316	DCF method	Credit spread
	Collateralized loan obligations	74	DCF method	Liquidity spread
	Bearer securities	104	DCF method	Credit spread
	RMBSs/CMBSs	38	DCF method	Liquidity spread
	Profit-participation certificates	7	DCF method	Estimated cash flows
Investments held by insurance companies	Investment property	2,642	DCF method	Future rent, reference prices in the market
		110	Cost	Nominal amounts
	Loans and bank accounts	441	DCF method	Yield curves, credit spread
	Loans	90	Cost	Nominal amounts
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	94	Cost	–
Property, plant and equipment	Investment property	172	Valuation reports	–
Other assets	Credit balances with banks	142	Cost	Nominal amounts
	Other loans and advances	60	Cost	Nominal amounts

Class according to IFRS 13	Assets/ liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Deposits from banks	Home savings deposits	1,253	Amortized cost	–
	Loans	199	DCF method	Credit spread
Deposits from customers	Home savings deposits	50,926	Amortized cost	–
	Loans	22	DCF method	Credit spread
	Overpayments on consumer finance loans	4	Cost	–
Provisions	Provisions for loan commitments	48	Settlement amount	–
Other liabilities	Loans	427	Cost	Nominal amounts
	Liabilities from capitalization transactions	136	Cost	Nominal amounts
	Other payables	188	Cost	Nominal amounts
	Non-controlling interests in special funds	79	Cost	Nominal amounts
	Registered securities	29	Cost	Nominal amounts
	Subordinated loans	39	Cost	Nominal amounts
	Liabilities from financial guarantee contracts	82	Settlement amount	–
	Share capital repayable on demand	10	Amount repayable	–
Subordinated capital	Share capital repayable on demand	30	Amount repayable	–

Loans and receivables designated as at fair value through profit or loss

» 75
Financial instruments designated as at fair value through profit or loss

The following table shows the maximum exposure to credit risk of loans and receivables designated as at fair value through profit or loss:

€ million	Dec. 31, 2016	Dec. 31, 2015
Loans and advances to banks	2,053	1,666
Loans and advances to customers	7,577	5,739
Investments	940	565
Investments held by insurance companies	325	327
Total	**10,895**	**8,297**

Financial guarantee contracts with a value of €3,252 million (December 31, 2015: €3,375 million) furnished by affiliated banks mitigate this credit risk.

As a result of changes in the credit risk, the fair value of loans and receivables designated as at fair value through profit or loss increased by €23 million during the reporting year (2015: increase of €7 million). As at the balance sheet date, the cumulative amount by which the fair value had decreased owing to changes in the credit risk was €3 million (December 31, 2015:

decrease of €14 million). Any changes in fair value attributable to changes in the credit risk are determined as a residual amount. They take into account all changes to market conditions that do not affect market risk.

Financial liabilities designated as at fair value through profit or loss

The following overview shows the fair value of financial liabilities designated as at fair value through profit or loss compared with the amounts contractually required to be repaid at maturity to the creditors concerned:

	Fair value		Amount repayable	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Deposits from banks	5,178	3,561	5,068	3,451
Deposits from customers	11,544	7,009	9,520	5,470
Debt certificates issued including bonds	12,957	12,216	13,574	11,912
Subordinated capital	632	758	583	710
Total	**30,311**	**23,544**	**28,745**	**21,543**

As in 2015, the fair value of financial liabilities designated as at fair value through profit or loss did not change as a result of changes in credit risk in 2016.

» 76
Reclassifications

In 2016, no financial assets were reclassified from 'financial instruments held for trading' or 'available-for-sale financial assets' to another category. No financial assets had been reclassified in 2015 either.

The table below shows the carrying amounts and the fair values of all reclassified financial assets that were held at the balance sheet date:

€ million	Dec. 31, 2016	Dec. 31, 2015
Carrying amounts	572	754
Fair values	561	748

If all the reclassifications carried out in the past had not taken place, an additional loss of €17 million before taxes would have been recognized in the income statement in 2016 as a result of the fair value measurement (2015: loss of €23 million). In addition, gains before

taxes of €2 million in respect of the fair value measurement would have been recognized in other comprehensive income in the reporting year (2015: losses before taxes of €4 million).

In 2016, profit before taxes included a profit of €8 million from gains, losses, income, and expenses in connection with all the reclassified financial assets held (2015: profit of €12 million).

» 77 Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities reference standard master agreements, such as ISDA Master Agreements and German Master Agreements for Financial Futures.

The following tables show financial assets that were offset as at the balance sheet date, that are subject to a legally enforceable global netting agreement, or that are subject to a similar arrangement:

AS AT DECEMBER 31, 2016

€ million	Gross amount of financial assets before offsetting	Gross amount of offset financial liabilities	Net amount of financial assets (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instru-ments	Cash collateral received	
Derivatives	33,412	8,285	25,127	17,574	3,765	3,788
Reverse repos/securities borrowing	13,559	–	13,559	13,342	–	217
Total	**46,971**	**8,285**	**38,686**	**30,916**	**3,765**	**4,005**

AS AT DECEMBER 31, 2015

€ million	Gross amount of financial assets before offsetting	Gross amount of offset financial liabilities	Net amount of financial assets (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instru-ments	Cash collateral received	
Derivatives	28,943	6,701	22,242	16,520	3,032	2,690
Reverse repos/securities borrowing	14,563	–	14,563	14,398	–	165
Total	**43,506**	**6,701**	**36,805**	**30,918**	**3,032**	**2,855**

The following tables show financial liabilities that were offset as at the balance sheet date, that are subject to a legally enforceable global netting agreement, or that are subject to a similar arrangement:

AS AT DECEMBER 31, 2016

€ million	Gross amount of financial liabilities before offsetting	Gross amount of offset financial assets	Net amount of financial liabilities (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instru-ments	Cash collateral furnished	
Derivatives	38,699	10,098	28,601	16,463	10,560	1,578
Repos/securities lending	7,068	–	7,068	7,043	–	25
Total	**45,767**	**10,098**	**35,669**	**23,506**	**10,560**	**1,603**

AS AT DECEMBER 31, 2015

€ million	Gross amount of financial liabilities before offsetting	Gross amount of offset financial assets	Net amount of financial liabilities (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instru-ments	Cash collateral furnished	
Derivatives	32,453	7,780	24,673	15,365	8,735	573
Repos/securities lending	5,055	–	5,055	5,028	–	27
Total	**37,508**	**7,780**	**29,728**	**20,393**	**8,735**	**600**

Transfers of financial assets

» 78
Sale and repurchase agreements, securities lending

In 2016, the only transfers carried out by the DZ BANK Group in which the transferred assets remained on the balance sheet in their entirety were transfers under sale and repurchase agreements (repos), in which the DZ BANK Group was the original seller, and transfers as part of securities lending transactions.

Sale and repurchase agreements

The entities in the DZ BANK Group enter into sale and repurchase agreements using standard banking industry master agreements, notably the Global Master Repurchase Agreement

(GMRA) and the master agreement provided by the International Securities Market Association (ISMA). Under these agreements, the buyer of the securities is permitted to make use of the securities without restriction (with no requirement for a prior counterparty default) and return securities of the same type. If the fair value of the securities received or transferred in such transactions increases or decreases, the entity concerned may be required to furnish additional collateral or may demand additional collateral.

As at the balance sheet date, the sale and repurchase agreements entered into by companies in the DZ BANK Group were exclusively genuine sale and repurchase agreements.

Sale and repurchase agreements in which DZ BANK acts as a seller (repos)

Under sale and repurchase agreements, bonds and other fixed-income securities classified as financial assets measured at fair value and financial assets measured at amortized cost are temporarily transferred to another party. As at the balance sheet date, the carrying amounts of securities subject to such sale and repurchase agreements were:

€ million	Dec. 31, 2016	Dec. 31, 2015
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**3,890**	5,443
Financial instruments held for trading	**77**	5,099
Financial assets held for trading	77	5,099
Fair value option	**331**	–
Investments	331	–
Available-for-sale financial assets	**3,482**	344
Investments	3,482	344
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**241**	–
Held-to-maturity investments	**241**	–
Investments	241	–
Total	**4,131**	5,443

As at the balance sheet date, additional collateral with a carrying amount of €115 million had been furnished in connection with sale and repurchase agreements (December 31, 2015: €74 million). This collateral is recognized under financial assets held for trading and under loans and advances to banks; it may be sold or repledged even if the recipient is not in default.

The carrying amounts of liabilities arising from sale and repurchase agreements were as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT FAIR VALUE	**3,691**	**5,474**
Liabilities associated with financial assets classified as held for trading	**76**	**5,129**
Liabilities associated with financial assets held for trading	76	5,129
Liabilities associated with financial assets classified as fair value option	**304**	**–**
Liabilities associated with investments	304	–
Liabilities associated with available-for-sale financial assets	**3,311**	**345**
Liabilities associated with investments	3,311	345
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**223**	**–**
Liabilities associated with held-to-maturity investments	**223**	**–**
Liabilities associated with investments	223	–
Total	**3,914**	**5,474**

Sale and repurchase agreements in which DZ BANK acts as the buyer (reverse repos)

In reverse repo transactions, bonds and other fixed-income securities are bought on a temporary basis. As at December 31, 2016, the fair value of securities involved in such transactions was €13,378 million (December 31, 2015: €14,472 million). Bonds and other fixed-income securities with a fair value of €46 million were also repledged as collateral. No securities had been repledged as collateral in 2015.

The receivables arising from these reverse repo transactions and reported under financial assets held for trading and under loans and advances to banks amounted to €13,358 million as at the balance sheet date (December 31, 2015: €14,383 million). As part of the collateral management requirements, the original seller provides the DZ BANK Group with additional collateral for reverse repo transactions in which the fair value of the securities purchased is less than the amounts receivable from the seller.

Securities lending

Securities lending transactions are undertaken on the basis of the Global Master Securities Lending Agreement (GMSLA) or on the basis of individual contractual arrangements. Under these agreements, the borrower of the securities is permitted to make use of the securities without restriction and return securities of the same type. If the fair value of the securities received or transferred in such transactions increases or decreases, the entity concerned may be required to furnish additional collateral or may demand additional collateral.

Securities lending

In securities lending transactions, shares and other variable-yield securities are temporarily transferred to another party. All securities lent by the DZ BANK Group are classified as financial assets at fair value. As at the balance sheet date, the carrying amounts of securities lent under securities lending arrangements were as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Financial instruments held for trading	**92**	**130**
Financial assets held for trading	92	130
Available-for-sale financial assets	**1,615**	**1,459**
Investments held by insurance companies	1,615	1,459
Total	**1,707**	**1,589**

Collateral is provided or received as part of collateral management arrangements in connection with financial assets held for trading and investments held by insurance companies that are lent under securities lending agreements. In this process, all positions with the counterparty concerned are netted to determine the collateral to be provided or received.

As at the balance sheet date, additional collateral with a carrying amount of €389 million had been furnished in connection with securities lending (December 31, 2015: €191 million). This collateral is recognized under financial assets held for trading and may be sold or repledged even if the recipient is not in default.

Securities borrowing

The fair value of borrowed securities as at the balance sheet date was as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Bonds and other fixed-income securities	418	310
Shares and other variable-yield securities	11	36
Total	**429**	**346**

In addition to securities subject to sale and repurchase agreements or that have been borrowed, bonds and other fixed-income securities and shares and other variable-yield securities are accepted as additional collateral. These may be sold or repledged as collateral, even if the recipient is not in default. As at December 31, 2016, the fair value of the additional collateral received was €74 million (December 31, 2015: €39 million).

Securities subject to a sale and repurchase or lending agreement that the recipient may sell or repledge as collateral with no requirement for a prior counterparty default

All securities transferred to another party by entities in the DZ BANK Group under sale and repurchase agreements or securities lending agreements may be sold or repledged as collateral by the recipient without restriction.

The carrying amounts of the individual balance sheet items concerned are as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Financial assets held for trading	169	5,229
Investments	4,054	344
Investments held by insurance companies	1,615	1,459
Total	**5,838**	**7,032**

Collateral pledged

» 79
Collateral

The breakdown of the carrying amount of financial assets pledged as collateral for liabilities is as follows:

€ million	Dec. 31, 2016	Dec. 31, 2015
Loans and advances to banks	49,192	35,025
Loans and advances to customers	1,724	545
Financial assets held for trading	11,364	11,092
Investments	1,447	21
Investments held by insurance companies	607	613
Total	**64,334**	**47,296**

Of the total financial assets pledged as collateral for liabilities, financial assets held for trading and investments with a carrying amount of €3,753 million (2015: €2,487 million) may be sold or repledged as collateral by the recipient, even if the relevant entity in the DZ BANK Group is not in default.

Funds received from German federal and state development banks that are to be specifically used for the purposes of development program loans are mainly passed on to affiliated banks and customers. The corresponding loans and advances to affiliated banks and customers serve as collateral with the German federal and state development banks.

Securities and money market placements recognized as financial assets held for trading are pledged as collateral for exchange-traded forward transactions, non-exchange-traded derivatives and for forward forex transactions. These arrangements are governed by standard industry collateral agreements.

The investments pledged as collateral for the most part comprise securities furnished as collateral for transactions with central banks.

The investments held by insurance companies are predominantly securities pledged as collateral as part of the reinsurance business; this collateral may only be sold or pledged by the recipient in the event of default by the assignor.

Collateral held

Only a very small amount of collateral was held in the year under review. In 2015, foreign mortgage rights with a fair value of €15 million used as collateral for loans and advances to customers could be repledged as collateral or sold, even in the absence of any payment default by the party providing the collateral. However, there was an obligation to return the collateral to the owner.

Net gains and losses

» 80
Items of income, expense, gains, and losses

The breakdown of net gains or net losses on financial instruments by IAS 39 category for financial assets and financial liabilities is as follows:

€ million	2016	2015
Financial instruments at fair value through profit or loss	**989**	339
Financial instruments held for trading	801	25
Financial instruments designated as at fair value through profit or loss	188	314
Available-for-sale financial assets	**2,414**	2,217
Held-to-maturity investments	**10**	–
Loans and receivables	**5,771**	6,174[1]
Financial liabilities measured at amortized cost	**-3,313**	-3,200

1 Amount restated.

Net gains or net losses comprise gains and losses on fair value measurement through profit or loss, impairment losses and reversals of impairment losses, and gains and losses on the sale or early repayment of the financial instruments concerned. These items also include interest income and interest expense, current income, income from profit-pooling, profit-transfer agreements, partial profit-transfer agreements, and expenses from the transfer of losses.

Interest income and expense

The following total interest income and expense arose in connection with financial assets and financial liabilities that are not measured at fair value through profit or loss:

€ million	**2016**	2015
Interest income	7,744	7,931[1]
Interest expense	-3,315	-3,201

1 Amount restated.

Fee and commission income and expenses

€ million	**2016**	2015
Fee and commission income		
from financial instruments not at fair value through profit or loss	237	225
from trust and other fiduciary activities	2,509	2,521
Fee and commission expenses		
for financial instruments not at fair value through profit or loss	-211	-268[1]
for trust and other fiduciary activities	-999	-1,003

1 Amount restated.

Interest income on impaired financial assets

Interest income arising from unwinding the discount on impaired loans and advances recognized at present value as specified in IAS 39.A93 amounted to €31 million (2015: €47 million).

Impairment losses on financial assets

The table below shows impairment losses on financial assets broken down by class of financial instrument.

€ million	2016	2015
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**-241**	**-325**
Available-for-sale financial assets	**-241**	**-325**
Loans and advances to customers	-4	-34
Investments held by insurance companies	-237	-291
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**-1,178**	**-868**
Loans and receivables	**-1,169**	**-860**
Loans and advances to banks	-33	-5
Loans and advances to customers	-1,122	-813
Investments	-13	-36
Investments held by insurance companies	-1	-6
Held-to-maturity investments	**-1**	–
Investments	-1	–
Available-for-sale financial assets	**-8**	**-8**
Investments	-8	-8
FINANCE LEASES	**-17**	**-8**
Loans and advances to customers	-17	-8

The changes in impairment losses included in the allowances for losses on loans and advances recognized under assets, shown by class of financial instrument, were as follows:

€ million	Financial assets measured at amortized cost	Finance leases
Balance as at Jan. 1, 2015	2,295	63
Additions	751	8
Utilizations	-366	-7
Reversals	-525	-18
Interest income	-41	-3
Changes in scope of consolidation	-15	–
Other changes	-86	-2
Balance as at Dec. 31, 2015	2,013	41
Additions	1,107	17
Utilizations	-237	-4
Reversals	-530	-21
Interest income	-29	-2
Other changes	25	1
Balance as at Dec. 31, 2016	**2,349**	**32**

The financial assets measured at amortized cost are loans and advances to banks and customers in the category 'loans and receivables'.

» 81
Derivatives

The DZ BANK Group uses derivatives primarily to hedge against market risk as well as for trading purposes. As at the balance sheet date, the breakdown of the portfolio of derivatives was as follows:

€ million	Notional amount					Fair value			
	Time to maturity			Total amount		Positive		Negative	
	≤ 1 year	> 1 year –5 years	> 5 years	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
INTEREST-LINKED CONTRACTS	**122,258**	**319,371**	**376,584**	**818,213**	**740,894**	**22,255**	**20,469**	**23,429**	**20,482**
OTC products									
Forward rate agreements	8,501	–	–	8,501	9,398	–	–	–	–
Interest-rate swaps	92,645	274,025	350,215	716,885	642,062	19,802	18,128	19,489	16,682
Interest-rate options – call	7,323	17,895	9,649	34,867	33,652	2,089	2,052	48	29
Interest-rate options – put	6,990	27,100	16,720	50,810	48,296	136	132	3,892	3,732
Other interest-rate contracts	1,017	–	–	1,017	1,728	228	156	–	38
Exchange-traded products									
Interest-rate futures	5,782	351	–	6,133	5,758	–	1	–	1
CURRENCY-LINKED CONTRACTS	**93,611**	**5,678**	**334**	**99,623**	**85,809**	**1,818**	**749**	**1,264**	**792**
OTC products									
Forward forex transactions	84,772	4,158	293	89,223	73,527	1,753	696	1,182	726
Forex options – call	3,876	609	–	4,485	5,531	35	26	25	14
Forex options – put	4,553	900	15	5,468	5,933	30	18	52	42
Exchange-traded products									
Forex futures	181	–	–	181	209	–	–	–	–
Forex options	229	11	26	266	609	–	9	5	10
SHARE-/INDEX-LINKED CONTRACTS	**12,845**	**6,440**	**1,615**	**20,900**	**17,817**	**365**	**301**	**797**	**730**
OTC products									
Share/index options – call	654	146	34	834	767	120	67	–	–
Share/index options – put	171	180	3	354	365	–	–	21	44
Other share/index contracts	925	2,333	1,077	4,335	4,042	56	44	111	71
Exchange-traded products									
Share/index futures	558	13	–	571	752	–	–	–	10
Share/index options	10,537	3,768	501	14,806	11,891	189	190	665	605
OTHER CONTRACTS	**11,554**	**30,674**	**23,037**	**65,265**	**61,769**	**811**	**585**	**3,511**	**3,303**
OTC products									
Cross-currency swaps	8,138	25,171	13,786	47,095	42,010	810	577	3,466	3,262
Precious metal contracts	20	5	–	25	26	–	–	–	2
Commodities contracts	295	78	–	373	675	–	5	1	5
Other contracts	2,592	5,329	9,190	17,111	17,831	–	–	32	14
Exchange-traded products									
Futures	211	24	–	235	247	–	1	1	1
Options	298	67	61	426	980	1	2	11	19
CREDIT DERIVATIVES	**9,427**	**13,494**	**3,928**	**26,849**	**30,135**	**245**	**243**	**101**	**131**
Protection buyer									
Credit default swaps	4,434	4,674	351	9,459	12,244	20	31	74	88
Protection seller									
Credit default swaps	4,993	8,814	3,497	17,304	17,807	217	202	27	42
Total return swaps	–	6	80	86	84	8	10	–	1
Total	249,695	375,657	405,498	1,030,850	936,424	25,494	22,347	29,102	25,438

The derivatives held at the balance sheet date involved the following counterparties:

€ million	Fair value			
	Positive		Negative	
	Dec. 31, 2016	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
OECD central governments	436	188	450	395
OECD banks	21,571	19,269	26,071	23,044
OECD financial services institutions	269	257	650	333
Other companies, private individuals	3,164	2,599	1,744	1,449
Non-OECD banks	54	34	187	217
Total	**25,494**	**22,347**	**29,102**	**25,438**

The Union Investment Group has capital preservation commitments under section 1 (1) no. 3 of the German Personal Pension Plan Certification Act (AltZertG) amounting to €11,616 million (December 31, 2015: €10,470 million). These commitments are the total amount of the pension contributions paid by investors into the individual variants of the *UniProfiRente* and *UniProfiRente Select* products, which represent the minimum amount that must be made available at the start of the payout phase under statutory provisions, and the guaranteed payout amounts for existing contracts that are already in the payout phase. The group also has minimum payment commitments of €5,495 million (December 31, 2015: €7,361 million) in connection with genuine guarantee funds launched by fund management companies in the group.

Types of hedges

» 82
Hedge accounting

The DZ BANK Group designates 3 types of hedges: fair value hedges, cash flow hedges, and hedges of net investments in foreign operations.

Hedged items

Fair value hedges are used in the hedging of interest-rate risk. The hedged financial assets are loans and advances to banks and customers that are classified as 'loans and receivables' or that arise in connection with finance leases. Bonds in the category 'available-for-sale financial assets' are also designated as hedged items in fair value hedges. Hedged financial liabilities are deposits from banks and customers, mortgage Pfandbriefe, other bonds, and subordinated liabilities, all of which are measured at amortized cost. Interest-rate risk portfolios under both assets and liabilities are designated as hedged items in portfolio hedges.

Cash flow hedges are designated in connection with hedging exposure to currency risk. Hedged items are expected receipt of interest payments and fee and commission income, together with payments made for administrative expenses, in each case in a foreign currency different from the reporting currency (euros).

Hedges of net investments in foreign operations are designated in connection with hedging exposure to currency risk. The hedged items are investments in joint ventures and associates accounted for using the equity method and denominated in foreign currency.

Hedging instruments

Interest-rate swaps and swaptions are designated as hedging instruments in fair value hedges of financial assets and financial liabilities.

Forward forex transactions are used as hedging instruments in cash flow hedges and hedges of net investments in foreign operations.

Assessment of hedge effectiveness

The prerequisite for recognizing a hedge under IAS 39 is that the hedge must be highly effective on both a prospective and retrospective basis. Highly effective in this case means that the changes in fair value or expected cash flows for the hedged items must be offset by the changes in fair value or expected cash flows for the hedging instruments within a range of 80 percent to 125 percent specified by IAS 39. Hedge effectiveness must be assessed and documented at every balance sheet date as a minimum. If this assessment identifies that a hedge has not achieved the required effectiveness, the hedge must be reversed retrospectively to the balance sheet date of the last assessment in which the hedge was found to be effective.

In the case of fair value hedges, prospective effectiveness is assessed by using sensitivity analyses (based on the basis point value method) and linear regression analysis. Retrospective effectiveness is assessed primarily by using the dollar offset method, a noise threshold value, and linear regression analysis. In these methods, the cumulative changes in the fair value of the hedged items attributable to the hedged risk are compared with the changes in the fair value of the hedging instruments.

When assessing the retrospective and prospective effectiveness of cash flow hedges, the changes in the present value of the expected or actual cash flows for the hedged items are compared against the changes in the fair values of the hedging instruments.

The prospective effectiveness of hedges of net investments in foreign operations is assessed by means of sensitivity analyses. The dollar offset method is used for the retrospective assessment of effectiveness.

Cash flow hedges

Cash flows hedged by cash flow hedges comprise cash inflows and cash outflows that will take place in the 2017 financial year and that will be recognized in profit or loss in this period.

In 2016, losses of €5 million in connection with cash flow hedges were recognized in other comprehensive income (2015: gains of €14 million).

Of the gains and losses reclassified to the income statement, an expense of €5 million was recognized under net interest income, an expense of €3 million under administrative expenses, and an expense of €2 million under net fee and commission income. The gains and losses reclassified in 2015 had comprised the recognition of an expense of €39 million under net interest income, income of €7 million as a reduction in administrative expenses, and an expense of €14 million under net fee and commission income.

Hedge accounting gains and losses recognized in profit or loss

Gains and losses arising on hedging instruments and hedged items that need to be recognized in profit or loss are reported in the gains and losses from hedge accounting under other gains and losses on valuation of financial instruments. The breakdown of gains and losses from hedge accounting, by type of hedge, is as follows:

€ million	**2016**	2015
Gains and losses on fair value hedges	**2**	6
Gains and losses on hedging instruments	108	-40
Gains and losses on hedged items	-106	46
Gains and losses on portfolio fair value hedges	**-17**	32
Gains and losses on hedging instruments	-75	-52
Gains and losses on hedged items	58	84
Total	**-15**	38

With the exception of the maturity analyses required by IFRS 7.39(a) and (b) and IFRS 4.39(d)(i) and the disclosures on the claims rate trends for direct non-life insurance business and inward reinsurance business pursuant to IFRS 4.39(c)(iii), the disclosures on the nature and extent of risks arising from financial instruments (IFRS 7.31–42) and insurance contracts (IFRS 4.38–39A) are included in the opportunity and risk report within the group management report. These disclosures can be found in notes 84, 68, and 42.

» 83
Nature and extent of risks arising from financial instruments and insurance contracts

» 84
Maturity analysis

AS AT DECEMBER 31, 2016

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Financial assets	**64,018**	**19,213**	**38,708**	**155,638**	**236,022**	**19,114**
Cash and cash equivalents	8,310	–	–	–	–	–
Loans and advances to banks	31,380	3,146	8,412	29,655	39,063	4
Loans and advances to customers	14,667	6,166	16,826	65,008	90,215	1,323
Derivatives used for hedging (positive fair values)	5	3	64	395	1,089	–
Financial assets held for trading	6,385	7,425	3,841	8,858	21,245	1,465
of which: non-derivative financial assets held for trading	5,610	6,664	2,441	2,784	6,744	1,465
derivatives (positive fair values)	775	761	1,400	6,074	14,501	–
Investments	1,308	1,537	5,909	31,451	30,100	1,442
Investments held by insurance companies	666	923	3,522	19,959	54,310	14,863
of which: non-derivative investments held by insurance companies	656	914	3,499	19,924	54,263	14,863
derivatives (positive fair values)	10	9	23	35	47	–
Other assets	1,297	13	134	312	–	17
Financial liabilities	**-84,157**	**-23,039**	**-35,067**	**-87,728**	**-115,915**	**-58,105**
Deposits from banks	-44,823	-6,532	-8,761	-28,744	-40,426	-2,129
Deposits from customers	-25,138	-2,541	-5,245	-10,923	-31,541	-54,174
Debt certificates issued including bonds	-8,539	-10,782	-15,338	-24,219	-20,300	–
Derivatives used for hedging (negative fair values)	-10	-10	-62	-1,115	-2,677	–
Financial liabilities held for trading	-4,884	-2,730	-4,954	-18,457	-18,490	-609
of which: non-derivative financial liabilities held for trading	-4,082	-2,186	-2,849	-8,965	-6,395	-609
derivatives (negative fair values)	-802	-544	-2,105	-9,492	-12,095	–
Other liabilities	-656	-432	-265	-858	-1,075	-1,168
of which: non-derivative other liabilities	-626	-378	-264	-843	-1,058	-1,168
derivatives (negative fair values)	-30	-54	-1	-15	-17	–
Subordinated capital	-107	-12	-442	-3,412	-1,406	-25
Financial guarantee contracts and loan commitments	**-31,911**	**-553**	**-1,882**	**-2,754**	**-2,978**	**-209**
Financial guarantee contracts	-5,613	-61	-60	-321	-893	-209
Loan commitments	-26,298	-492	-1,822	-2,433	-2,085	–

AS AT DECEMBER 31, 2015

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Financial assets	**45,485**	**20,370**	**34,678**	**143,525**	**174,342**	**16,649**
Cash and cash equivalents	6,350	–	–	–	–	–
Loans and advances to banks	14,223	5,749	7,674	31,379	26,884	66
Loans and advances to customers	15,202	5,645	14,624	57,110	52,102	291
Derivatives used for hedging (positive fair values)	3	–	19	138	197	–
Financial assets held for trading	6,891	6,708	4,478	11,164	18,883	1,734
of which: non-derivative financial assets held for trading	6,512	6,297	2,924	4,648	5,721	1,734
derivatives (positive fair values)	379	411	1,554	6,516	13,162	–
Investments	1,192	1,405	4,468	23,584	24,185	1,374
Investments held by insurance companies	858	842	3,354	19,819	52,091	13,146
of which: non-derivative investments held by insurance companies	857	826	3,329	19,789	52,072	13,146
derivatives (positive fair values)	1	16	25	30	19	–
Other assets	766	21	61	331	–	38
Financial liabilities	**-67,758**	**-25,618**	**-26,225**	**-72,741**	**-69,537**	**-53,449**
Deposits from banks	-37,997	-7,154	-7,478	-24,304	-22,131	-812
Deposits from customers	-18,857	-2,081	-2,642	-8,312	-19,368	-51,214
Debt certificates issued including bonds	-5,178	-13,031	-10,773	-18,505	-8,943	–
Derivatives used for hedging (negative fair values)	-13	-27	-36	-766	-799	–
Financial liabilities held for trading	-5,259	-2,628	-4,860	-17,182	-15,773	-667
of which: non-derivative financial liabilities held for trading	-3,879	-1,669	-2,615	-8,245	-4,581	-662
derivatives (negative fair values)	-1,380	-959	-2,245	-8,937	-11,192	-5
Other liabilities	-413	-450	-248	-726	-1,191	-719
of which: non-derivative other liabilities	-402	-449	-246	-714	-1,179	-719
derivatives (negative fair values)	-11	-1	-2	-12	-12	–
Subordinated capital	-41	-247	-188	-2,946	-1,332	-37
Financial guarantee contracts and loan commitments	**-29,001**	**-117**	**-162**	**-723**	**-1,231**	**-59**
Financial guarantee contracts	-5,939	-58	-38	-244	-81	-57
Loan commitments	-23,062	-59	-124	-479	-1,150	-2

The maturity analysis shows contractually agreed cash inflows with a plus sign and contractually agreed cash outflows with a minus sign. In the case of financial guarantee contracts and loan commitments, the potential cash outflows are shown.

The contractual maturities do not match the estimated actual cash inflows and cash outflows, especially in the case of financial guarantee contracts and loan commitments. The management of liquidity risk based on expected cash flows is described in the opportunity and risk report within the group management report.

The table below shows the carrying amounts of the DZ BANK Group's exposures to bonds issued by governments and public authorities in countries particularly affected by the sovereign debt crisis, broken down into the categories applied to financial instruments under IAS 39.

» 85
Exposures to countries particularly affected by the sovereign debt crisis

	Dec. 31, 2016		Dec. 31, 2015	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
Portugal	**679**	**659**	**293**	**300**
Fair value option	317	317	244	244
Available-for-sale financial assets	69	69	–	–
Held-to-maturity investments	244	221	–	–
Loans and receivables	49	52	49	56
Italy	**6,228**	**6,202**	**5,275**	**5,275**
Financial instruments held for trading	20	20	–	–
Fair value option	1,413	1,413	1,372	1,372
Available-for-sale financial assets	4,317	4,317	3,903	3,903
Held-to-maturity investments	478	452	–	–
Spain	**2,161**	**2,157**	**2,094**	**2,094**
Financial instruments held for trading	218	218	168	168
Fair value option	1,119	1,119	1,353	1,353
Available-for-sale financial assets	631	631	573	573
Held-to-maturity investments	193	189	–	–
Total	**9,068**	**9,018**	**7,662**	**7,669**

Bonds issued by countries particularly affected by the sovereign debt crisis and held as part of the insurance business are only recognized in the proportion attributable to the shareholders of the DZ BANK Group.

As a result of a further improvement in its credit rating, Ireland has not been shown separately in internal risk reporting since the start of 2016. Consequently, the total exposure in respect of countries particularly affected by the sovereign debt crisis as at December 31, 2015 disclosed here differs from the corresponding amount in the 2015 consolidated financial statements.

Fair value hierarchy

The recurring fair value measurements as measured and recognized on the balance sheet are assigned to the levels of the fair value hierarchy as follows:

	Level 1		Level 2		Level 3	
€ million	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Portugal	**317**	244	**69**	–	**–**	–
Fair value option	317	244	–	–	–	–
Available-for-sale financial assets	–	–	69	–	–	–
Italy	**4,609**	4,524	**1,141**	751	**–**	–
Financial instruments held for trading	–	–	20	–	–	–
Fair value option	1,331	1,312	82	60	–	–
Available-for-sale financial assets	3,278	3,212	1,039	691	–	–
Spain	**1,304**	1,631	**664**	463	**–**	–
Financial instruments held for trading	–	–	218	168	–	–
Fair value option	1,069	1,353	50	–	–	–
Available-for-sale financial assets	235	278	396	295	–	–
Total	**6,230**	6,399	**1,874**	1,214	**–**	–

Impairment

No impairment losses were recognized to cover exposures in respect of the bonds from countries particularly affected by the sovereign debt crisis (Portugal, Italy, and Spain) because there was insufficient objective evidence of impairment.

Maturity analysis

AS AT DECEMBER 31, 2016

€ million	≤ 1 month	> 1 month –3 months	> 3 months –1 year	> 1 year –5 years	> 5 years
Portugal	20	–	28	151	859
Italy	95	100	345	1,727	5,264
Spain	5	4	120	533	2,142
Total	**120**	**104**	**493**	**2,411**	**8,265**

AS AT DECEMBER 31, 2015

€ million	≤ 1 month	> 1 month –3 months	> 3 months –1 year	> 1 year –5 years	> 5 years
Portugal	–	–	12	48	376
Italy	87	112	475	1,129	4,454
Spain	4	23	326	362	2,026
Total	**91**	**135**	**813**	**1,539**	**6,856**

The maturity analysis shows the contractually agreed cash inflows.

F Other disclosures

» 86 Contingent liabilities

€ million	Dec. 31, 2016	Dec. 31, 2015
Contingent liabilities in respect of litigation risk	2	5
Total	**2**	**5**

The contingent liabilities in respect of litigation risk comprise a small number of court proceedings relating to different cases. Where provisions have been recognized for particular claims, no contingent liabilities are recognized.

» 87 Financial guarantee contracts and loan commitments

€ million	Dec. 31, 2016	Dec. 31, 2015
Financial guarantee contracts	**7,157**	**6,417**
Loan guarantees	3,817	3,113
Letters of credit	512	391
Other guarantees and warranties	2,828	2,913
Loan commitments	**33,130**	**24,876**
Credit facilities to banks	4,596	2,589
Credit facilities to customers	14,936	11,618
Guarantee credits	150	221
Letters of credit	5	–
Global limits	13,443	10,448
Total	**40,287**	**31,293**

The amounts shown for financial guarantee contracts and loan commitments are the nominal values of the exposure in each case.

» 88 Trust activities

Assets held and liabilities entered into as part of trust activities do not satisfy the criteria for recognition on the balance sheet. The following table shows the breakdown for trust activities:

€ million	Dec. 31, 2016	Dec. 31, 2015
Trust assets	**1,124**	**1,155**
Loans and advances to banks	130	151
Loans and advances to customers	51	57
Investments	943	947
Trust liabilities	**1,124**	**1,155**
Deposits from banks	106	130
Deposits from customers	1,018	1,025

Trust assets and trust liabilities each include trust loans amounting to €133 million (December 31, 2015: €155 million).

» 89 Business combinations

The planned business combination of DZ BANK AG, Frankfurt am Main, and WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank, Düsseldorf, was announced on November 19, 2015. The related merger agreement was signed by both parties on April 12, 2016, laying the cornerstone for the merger of the two banks. The Supervisory Board of DZ BANK AG agreed to the merger on April 27, 2016. Agreement from the Supervisory Board of WGZ BANK AG was obtained on May 4, 2016. The shareholders adopted a resolution approving the two banks' business combination at the annual general meetings of WGZ BANK AG on June 21, 2016 and DZ BANK AG on June 22, 2016.

The merger was to be effected by way of acquisition, with the assets of WGZ BANK AG being transferred to DZ BANK AG. In return, the shareholders of WGZ BANK AG were to receive shares in DZ BANK AG as part of a capital increase. The exchange ratio for the shares held by the shareholders of WGZ BANK AG was based on the enterprise valuation of the two institutions as at June 21, 2016.

As intended by both Boards of Managing Directors, WGZ BANK AG was fully merged (100 percent of the voting shares) into DZ BANK AG in a spirit of partnership. The merger was entered in the commercial register on July 29, 2016. The subsidiaries of WGZ BANK AG were also transferred to DZ BANK AG as part of the merger.

WGZ BANK AG was the central institution for the local cooperative banks in North Rhine-Westphalia, Koblenz, and Trier. Alongside its strategic focus as a central institution, WGZ BANK AG was also a commercial and trading bank. To help it fulfill these roles, it operated subsidiaries, for which it acted as the group parent company. This strategy was underpinned by WGZ BANK AG's decentralized function within the regional cooperative financial network and the responsibilities that it assumed within the wider cooperative financial network in this role. Its activities were concentrated in 3 operating segments: its affiliated cooperative banks, corporate customers, and capital markets partners.

WGZ BANK AG's uppermost objective as a central institution was to support its shareholders and strengthen the competitiveness of the cooperative banks in its region. It saw itself as a partner to the local cooperative banks in the regional cooperative financial network. In addition to payments processing, WGZ BANK AG primarily operated the joint credit business and the funding and development lending businesses for the regional cooperative financial network, was a trading partner and advisor to the member banks on all banking matters, and saw itself as an 'Initiativbank' – or driving force – in the development of innovative products, services, and technologies.

In its role as a commercial and trading bank, WGZ BANK AG's target customers were small and medium-sized corporate customers – including in the area of real estate finance – along with companies and partners operating in the capital markets (banks and capital market institutions). Securities and trading business and custody services were included in the capital markets partners operating segment, as were custodian bank services. In corporate customer lending business, the decentralized structure of the regional cooperative financial network and the bank's in-depth knowledge of the local markets in its region provided the foundations on which to continue building on its good position in this segment.

To provide its cooperative banks and customers with comprehensive support, WGZ BANK AG drew on the wider cooperative financial network and the activities of its subsidiaries. These subsidiaries included WL BANK AG, Westfälische Landschaft Bodenkreditbank, Münster, WGZ BANK Ireland plc, Dublin, PHOENIX Beteiligungsgesellschaft mbH, Düsseldorf, and IMPETUS Bietergesellschaft mbH, Düsseldorf.

As part of the business combination between DZ BANK AG and WGZ BANK AG, WGZ BANK IRELAND plc was renamed DZ BANK IRELAND plc on August 12, 2016.

WGZ BANK AG had a 90.9 percent long-term equity investment in WL BANK AG. The other shareholders in WL BANK AG are local cooperative banks, which hold a 4.5 percent stake, and the Westfälische Landschaft Foundation, which holds 4.6 percent.

The joint cooperative central institution created by the business combination will build on the successful business policies pursued in recent years. Besides the pooling of financial resources, the business combination will enable synergies resulting from the two banks' very similar business models to be leveraged in the areas of strategy, business, and regulatory requirements. The joint central institution will be able to look to the future and expand the collaboration with the cooperative banks – which number approximately 1,000 – with all services from a single source, driven by the consistent focus on the cooperative financial network.

DZ BANK AG acquired control (as defined by IFRS 10) over WGZ BANK AG with effect from June 28, 2016. DZ BANK AG was deemed to have control when it was exposed, or had rights, to variable returns from its involvement with WGZ BANK AG and had the ability to affect those returns through its power over WGZ BANK AG. When assessing whether control exists, all aspects and circumstances are considered (such as approval from the relevant authorities). According to their assessment, control was obtained 30 days before entry in the commercial register, the effective date of the merger under civil law. In view of the 30-day notice required to convene a general meeting of shareholders and provided that the entry in the commercial register was not delayed, it had to be assumed from June 28, 2016 onward that the shareholders of WGZ BANK AG would no longer be able to convene a general meeting for WGZ BANK AG in the period up to July 29, 2016. In fact, the rights of the DZ BANK

shareholders were classed as substantive from that date. The ability to direct the relevant activities of the WGZ BANK Group thus passed to the DZ BANK shareholders on that date.

After control was obtained, the transaction was completed on June 28, 2016. To simplify matters and due to the immaterial measurement differences between June 28, 2016 and June 30, 2016, the WGZ BANK Group was consolidated for the first time in the half-year financial report of the DZ BANK Group as at June 30, 2016.

Under IFRS 3, all identifiable assets and liabilities of the acquired entity had to be measured at their fair value on the date of acquisition. The negative goodwill that arose between the consideration transferred and the higher balance of the assets acquired and liabilities assumed measured at fair value was recognized as income from the business combination in the income statement and thus directly increased the equity of the DZ BANK Group. DZ BANK AG determined the transferred consideration from the capital increase using the discounted cash flow method on the basis of estimated future cash flows and the weighted cost of capital pursuant to IDW S 1 *Principles for the Performance of Business Valuations* (2008 version). However, the fair values of each individual asset and liability in existence were determined in accordance with the provisions of IFRS 3 in conjunction with IFRS 13. The partial goodwill method was used to measure the non-controlling interests on the basis of the non-controlling interests' proportionate share of the remeasured net assets. The negative goodwill resulting from the business combination amounted to €159 million and has been reported in the income statement under 'Net income from the business combination with WGZ BANK'. This income is largely explained by the different methods used for measurement of the consideration transferred and measurement of the assets acquired and liabilities assumed. The consideration transferred equates to the enterprise value of the WGZ BANK Group, which was determined in accordance with the provisions of IDW S 1 *Principles for the Performance of Business Valuations* (2008 version) on the basis of the future long-term income of the WGZ BANK Group as a whole. By contrast, the rules of IFRS 3 in conjunction with IFRS 13 require that each individual asset and liability be remeasured at fair value and that hidden reserves and hidden liabilities be identified.

The following table shows the preliminary purchase price allocation under IFRS 3 relating to the date of first-time consolidation as at June 30, 2016.

Fair value of the consideration transferred

€ million	Jun. 30, 2016
Consideration transferred arising from the capital increase of DZ BANK AG	4,730
Consideration transferred in the amount of the DZ BANK AG shares held by WGZ BANK AG	5
Consideration transferred	**4,735**

Fair value of the assets acquired and liabilities assumed

€ million	Jun. 30, 2016
Cash and cash equivalents	215
Loans and advances to banks	25,540
Loans and advances to customers	43,315
Financial assets held for trading	9,047
Investments	23,884
Property, plant and equipment, and investment property	127
Income tax assets	497
Other assets	95
Total assets acquired	**102,720**
Deposits from banks	42,318
Deposits from customers	22,208
Debt certificates issued including bonds	21,212
Financial liabilities held for trading	10,695
Provisions	325
Income tax liabilities	21
Other liabilities	76
Subordinated capital	891
Total liabilities assumed	97,746
Net assets acquired	**4,974**

Determination of goodwill

€ million	Jun. 30, 2016
Net assets acquired	4,974
Less consideration transferred	-4,735
Less negative amount attributable to non-controlling interests	20
Less convertible bond	-98
Less shares in WGZ BANK AG already held by DZ BANK AG	-2
Negative goodwill	**159**

The consideration transferred was paid in the form of a capital increase by DZ BANK AG by issuing 482,181,550 registered non-par-value shares with an imputed value of €1,253,672,030.00 and by distributing the shares in DZ BANK AG held by WGZ BANK AG with an imputed value of €1,306,663.80 to the former shareholders of WGZ BANK AG. For commercial reasons, the capital increase was recognized simultaneously with the first-time consolidation as at June 30, 2016. The capital increase became legally effective on July 29, 2016 when it was entered in the commercial register.

The loans and advances acquired as a result of the business combination between DZ BANK AG and WGZ BANK AG were subdivided into loans and advances to banks and loans and advances to customers. As at June 30, 2016, the fair value of the acquired loans and advances to banks was €25,540 million. The gross amount of the loans and advances to banks came to €25,254 million. The fair value determined for the acquired loans and advances to customers as at June 30, 2016 was €43,315 million, with a corresponding gross amount of €40,798 million. Contractually agreed cash flows totaling €147 million were deemed uncollectible.

The fair values of the loans and advances to banks and loans and advances to customers acquired as part of the business combination totaled €68,855 million as at June 30, 2016, the main components of which were an amount of €23,304 million relating to mortgage loans and other loans secured by charges over real estate and an amount of €13,457 million relating to local authority loans. The gross amount of the contractually agreed loans and advances to banks and loans and advances to customers came to a total of €66,052 million. The main items within this gross amount were mortgage loans and other loans secured by charges over real estate of €22,097 million and local authority loans of €11,312 million.

The contractually agreed cash flows deemed to be uncollectible were accounted for largely by mortgage loans and other loans secured by charges over real estate amounting to €62 million and money market placements amounting to €62 million.

In the context of the business combination, no contingent liabilities were identified that would have to be recognized as a liability.

As at the acquisition date, there were business relationships between the DZ BANK Group and the WGZ BANK Group that, in accordance with IFRS 3.51, constituted business relationships that existed before the business combination. These included transactions involving registered non-derivative and derivative financial instruments (mainly loans, registered securities, and derivatives) that had been entered into for funding, investment, or hedging purposes. The loans and registered securities were measured, in some cases at cost, before completion of the business combination and recognized on the balance sheet under loans and advances to banks and customers, investments held by insurance companies, and deposits from banks and customers. By contrast, the derivatives were measured at fair value and recognized on the balance sheet under financial assets held for trading, financial liabilities held for trading, and investments held by insurance companies. Where the business relationships that existed before the business combination were settled, the settlement amount was determined at fair value.

As at the acquisition date, the settlement of these business relationships that existed before the business combination resulted in income of €344 million, which was reported in the income statement under 'Net income from the business combination with WGZ BANK'. The volume of the business relationships that existed before the business combination stood at €6,544 million and increased both the consideration transferred and the net assets acquired.

If the business combination had taken place at the start of the financial year, the WGZ BANK Group would probably have contributed additional interest income and fee and commission income totaling €1,091 million and a net profit of €183 million to the income statement of the DZ BANK Group. This amount is based on the IFRS net profit calculated by the WGZ BANK Group as an independent group for the first half of 2016. It does not include effects from the consolidation.

As a consequence of the business combination between DZ BANK AG and WGZ BANK AG, expenses for restructuring were recognized in an amount of €247 million under 'Net income from the business combination with WGZ BANK'.

As a result of the merger with WGZ BANK AG, DZ BANK AG initially held a 36.4 percent long-term equity investment in DZ Holding GmbH & Co. KG (DZ Holding), which means that, because of the significant influence that existed, DZ Holding ought to have been accounted for in the consolidated financial statements using the equity method pursuant to IAS 28 *Investments in Associates and Joint Ventures* with an amount of €915 million recognized under investments. The sole purpose of DZ Holding was to acquire and manage direct and indirect long-term equity investments in DZ BANK AG with the result that DZ BANK AG indirectly held treasury shares via DZ Holding that were not required to be consolidated in accordance with IAS 32.33. Both legally and in substance, DZ BANK AG effectively held treasury shares as a result of acquiring WGZ BANK AG. In consequence, DZ BANK AG was in the same position, both legally and in substance, as it would have been if it had acquired treasury shares directly and did not have any related voting rights or dividend rights. DZ BANK AG withdrew from its role as limited partner in DZ Holding in December 2016. Following this decision, the DZ BANK shares were transferred to DZ BANK AG and, as treasury shares, then decreased equity by an amount of €916 million.

Because the initial recognition of the acquisition has not yet been completed, the allocation of the purchase price carried out in accordance with IFRS 3 and the resulting determination of the fair values of the assets acquired and liabilities assumed are still provisional. Accordingly, there may still be changes to the fair values that are ultimately determined.

In the UMH subgroup, 100 percent of the shares in Volksbank Invest Kapitalanlagegesellschaft m.b.H., Vienna, had been acquired in 2015. The acquiree was renamed Union Investment Austria GmbH with effect from December 31, 2015. A 94.5 percent stake in Immo Kapitalanlage AG, Vienna, was acquired indirectly as a result of this transaction. The strategic reason for the business combination was to open up the Austrian sales market. The purchase price amounted to €50 million and was paid in cash. This can be broken down into €13.6 million for the fair value of the consideration transferred for the acquisition of Volksbank Invest Kapitalanlagegesellschaft m.b.H. and €36.4 million for the acquisition of exclusive sales rights and exclusivity rights in respect of Union Investment Group products. Measured at fair value, the net assets amounted to €14.2 million on the acquisition date. The net assets comprised financial assets of €19.9 million, intangible assets of €5.7 million, income tax assets of €1 million, other assets of €1.2 million, financial liabilities of €2.5 million, provisions of €4.4 million, income tax liabilities of €1.4 million, and other liabilities of €5.3 million. Non-controlling interests came to €0.6 million.

In the R+V subgroup, real estate had been acquired in 2015 in the form of an asset deal. The property was purchased so that the insurance company could hold the real estate as an investment. The purchase price amounted to €165 million and was paid in cash.

Goodwill is allocated to the DZ BANK Group's operating segments, each of which constitutes a cash-generating unit. As had been the case a year earlier, goodwill of €128 million was allocated to the DZ PRIVATBANK subgroup operating segment, €39 million to the UMH subgroup operating segment, and €2 million to the TeamBank operating segment as at the balance sheet date. Also unchanged year on year, no goodwill was allocated to the following operating segments: DZ BANK, the BSH subgroup, DG HYP, the DVB subgroup, the R+V subgroup, and the VR LEASING subgroup.

Goodwill is regularly tested for possible impairment in the last quarter of the financial year. If there are any indications of possible impairment, more frequent impairment tests are also carried out. In an impairment test, the carrying amount of the goodwill-bearing units is compared with the relevant recoverable amount. The carrying amount is equivalent to the equity attributable to the goodwill-bearing entity. For the purposes of the test, the goodwill is notionally increased by the amount attributable to non-controlling interests. If the recoverable amount exceeds the carrying amount, no impairment of the goodwill is recognized. The recoverable amount is determined as the value in use of the goodwill-bearing entity. Value in use is based on the DZ BANK Group's 4-year plan, from which estimated future cash flows can be derived.

The basic assumptions are determined using an overall assessment based on past experience, current market and economic conditions, and estimates of future market trends. The macroeconomic scenario used as the basis for the 4-year plan assumes that Germany and the other countries of the European Monetary Union are entering a phase of economic recovery. It also assumes that both the euro area and the US dollar area will be hit by rising inflation. Central banks are expected to adjust key interest rates accordingly after some delay. The scenario anticipates a gradual narrowing of spreads on government bonds issued by the peripheral countries of the eurozone.

As had been the case in 2015, cash flows beyond the end of the 4-year period were estimated using a constant rate of growth of 1.0 percent for the following operating segments: DZ PRIVATBANK subgroup, UMH subgroup, and TeamBank.

The value in use for a goodwill-bearing entity is produced by discounting these cash flows back to the date of the impairment test. The following discount rates (before taxes) used in the calculation were determined on the basis of the capital asset pricing model in 2016: 13.66 percent for the DZ PRIVATBANK subgroup operating segment (2015: 13.46 percent), 13.66 percent for the UMH subgroup operating segment (2015: 13.46 percent), and 13.66 percent for the TeamBank operating segment (2015: 13.48 percent).

Sensitivity analyses are also carried out in which parameters relevant to the calculation of value in use are modified within a plausible range of values. The parameters that are particularly relevant to the DZ BANK Group are the forecast cash flows and the discount rates. No impairment would result in the TeamBank, DZ PRIVATBANK subgroup, or UMH subgroup operating segments in any of the scenarios.

Finance leases

» 90
Leases

DZ BANK GROUP AS LESSOR

€ million	Dec. 31, 2016	Dec. 31, 2015
Gross investment	**3,498**	4,025
Up to 1 year	1,111	1,188
More than 1 year and up to 5 years	2,072	2,337
More than 5 years	315	500
less unearned finance income	**-328**	-397
Net investment	3,170	3,628
less present value of unguaranteed residual values	**-70**	-90
Present value of minimum lease payment receivables	**3,100**	3,538
Up to 1 year	971	1,038
More than 1 year and up to 5 years	1,853	2,071
More than 5 years	276	429

As at the balance sheet date, the accumulated allowance for uncollectible minimum lease payments at lessor companies amounted to €32 million (December 31, 2015: €41 million).

Within the DZ BANK Group, the DVB and VR LEASING subgroups are active as lessors. The entities in the DVB subgroup primarily enter into finance leases for ships, ship containers, and aircraft. As had been the case at the end of 2015, the total term of these leases runs for up to 10 years. The companies in the VR LEASING subgroup predominantly enter into leases with customers for equipment.

DZ BANK GROUP AS LESSEE

€ million	Dec. 31, 2016	Dec. 31, 2015
Total future minimum lease payments	**–**	37
Up to 1 year	–	3
More than 1 year and up to 5 years	–	12
More than 5 years	–	22
less discount	**–**	-10
Present value of future minimum lease payments	–	27
Up to 1 year	–	3
More than 1 year and up to 5 years	–	9
More than 5 years	–	15

Residual other assets held by insurance companies had included leased property, plant and equipment amounting to €22 million as at December 31, 2015. Other payables of insurance companies had included finance lease liabilities of €27 million as at December 31, 2015.

There were no finance leases in existence at the end of the year under review.

Operating leases

DZ BANK GROUP AS LESSOR

€ million	Dec. 31, 2016	Dec. 31, 2015
Total future minimum lease payments under non-cancelable leases	**810**	**786**
Up to 1 year	134	141
More than 1 year and up to 5 years	415	424
More than 5 years	261	221

In 2016, contingent minimum lease payments of €1 million (2015: €6 million) were recognized as income.

Entities in the DVB subgroup enter into operating leases for ships and aircraft as the lessor. As at the balance sheet date, lease terms for ship leases and aircraft leases were unchanged year on year at up to 9 years and up to 5 years respectively. The companies in VR LEASING predominantly enter into leases with customers for equipment. Leases are also entered into for residential property and business premises. Some of these leases have renewal options.

DZ BANK GROUP AS LESSEE

€ million	Dec. 31, 2016	Dec. 31, 2015
Total future minimum lease payments under non-cancelable leases	**713**	**607**
Up to 1 year	114	123
More than 1 year and up to 5 years	347	336
More than 5 years	252	148

As at the balance sheet date, the total future minimum lease payments expected to be received under non-cancelable subleases amounted to €14 million (December 31, 2015: €14 million).

In 2016, minimum lease payments of €114 million (2015: €125 million) and contingent rents of €22 million (2015: €27 million) were recognized as expenses.

Operating leases in the DZ BANK Group are leases for properties and business premises, some of which contain extension options or have their lease payments linked to a price index. There are also leases for office furniture and equipment in which some of the lease payments are dependent on the quantity of hardware used and the number of licenses provided.

Sale and leaseback transactions

Some companies in the DZ BANK Group, particularly individual companies in the VR LEASING subgroup, enter into sale and leaseback agreements. The classification of such leases as finance leases or operating leases depends on the structure of each individual transaction.

» 91 Letters of comfort

Except in the event of political risk, DZ BANK has undertaken to ensure, in proportion to its shareholding for the consolidated entity DZ PRIVATBANK, and in total for DG HYP, DZ BANK IRELAND, VR Equitypartner, and WL BANK, that these companies are able to meet their contractual obligations. These entities are identified in the list of DZ BANK Group's shareholdings (note 101) as being covered by a letter of comfort. DZ BANK has also issued subordinated letters of comfort in respect of DZ BANK Capital Funding LLC I, DZ BANK Capital Funding LLC II, and DZ BANK Capital Funding LLC III, all based in Wilmington. In addition, DZ BANK has issued 5 subordinated letters of comfort in respect of DZ BANK Perpetual Funding (Jersey) Limited, St. Helier, Jersey, each relating to different classes of preferred shares.

» 92 Employees

Average number of employees by employee group:

	Dec. 31, 2016	Dec. 31, 2015
Female employees	**13,305**	13,887
Full-time employees	8,408	8,901
Part-time employees	4,897	4,986
Male employees	**16,036**	16,142
Full-time employees	15,196	15,316
Part-time employees	840	826
Total	**29,341**	30,029

A total of 1,712 employees were added as at June 30, 2016 as a result of the business combination with WGZ BANK. These are included in the average number of employees pro rata temporis. However, the number of employees also decreased as a result of the derecognition of 4 subsidiaries in the R+V subgroup on January 1, 2016.

» 93 Auditor fees

The total fees charged for 2016 by the independent auditors of the consolidated financial statements, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, broken down by type of service are as follows:

€ million	2016	2015
Auditing services	14.0	10.7
Other attestation services	4.7	4.5
Tax consultancy services	0.2	–
Other services	4.5	3.5
Total	**23.4**	**18.7**

The fees for auditing services comprise expenses relating to the audit of the consolidated financial statements and group management report of DZ BANK as well as the audits of the annual financial statements and management reports of DZ BANK and consolidated subsidiaries carried out by the auditors of the consolidated financial statements. The fees for other attestation services comprise the fees charged for the audit in accordance with section 36 of the German Securities Trading Act (WpHG), the review by the auditor of the condensed interim consolidated financial statements, interim group management report, and quarterly financial statements, and services for which the auditors' professional seal must or can be applied. The fees for other services resulted from the auditing of funds of UMH and from consulting services.

» 94 Remuneration for the Board of Managing Directors and Supervisory Board of DZ BANK

In 2016, overall remuneration for DZ BANK's Board of Managing Directors from the group in accordance with IAS 24.17 amounted to €15.5 million (2015: €10.7 million). This total is broken down into short-term employee benefits of €9.8 million (2015: €7.1 million), post-employment benefits of €3.5 million (2015: €2.5 million), and share-based payments of €2.2 million (2015: €1.1 million). The remuneration for the Board of Managing Directors in 2016 and 2015 included the total bonus awarded to the Board of Managing Directors for the year in question. Supervisory Board remuneration amounted to €0.9 million (2015: €0.9 million) and consisted of payments due in the short term.

The remuneration for the Board of Managing Directors included contributions of €0.2 million (2015: €0.2 million) to defined contribution pension plans. DZ BANK has defined benefit obligations for the members of the Board of Managing Directors amounting to €53.6 million (December 31, 2015: €26.0 million).

In 2016, the total remuneration for the Board of Managing Directors of DZ BANK for the performance of their duties in DZ BANK and its subsidiaries pursuant to section 314 (1) no. 6a HGB was €12.2 million (2015: €8.4 million), while the total remuneration for the Supervisory Board for the performance of these duties amounted to €0.9 million (2015: €0.9 million).

The total remuneration paid to former members of the Board of Managing Directors or their surviving dependants pursuant to section 314 (1) no. 6b HGB amounted to €9.9 million in 2016 (2015: €8.5 million). DZ BANK has defined benefit obligations for former members of the Board of Managing Directors or their surviving dependants amounting to €164.8 million (2015: €117.8 million).

» 95 Share-based payment transactions

The entities in the DZ BANK Group have entered into share-based payment agreements with the members of the Board of Managing Directors and with certain other salaried employees.

DZ BANK has entered into agreements governing variable remuneration paid over several years with the members of the Board of Managing Directors and a group of selected salaried employees (risk takers). The amount of variable remuneration depends on the achievement of agreed targets. 80 percent of the variable remuneration is deferred over a period of up to 4 years from when the amount of variable remuneration is determined (grant date). Payment is spread out over a period of up to 4 years in total, taking into account deferral and retention periods. Up to a quarter of the deferred remuneration is paid in each subsequent year. The deferred portion of the variable remuneration may be reduced or even fully withdrawn if there is an adverse change in the value of DZ BANK shares or if there are negative contributions to profits from DZ BANK, individual divisions, or individual activities. A rise in the value of DZ BANK shares does not lead to an increase in the deferred remuneration. The deferred portion of the variable remuneration of members of the Board of Managing Directors is reduced by a half if the value of DZ BANK shares falls by between 7.5 percent and 12.5 percent. If the value drops by more than 12.5 percent, the deferred portion of the variable remuneration is canceled. The deferred portion of the variable remuneration of risk takers is reduced by a quarter if the value of DZ BANK shares falls by between 15 percent and 20 percent. If the value of DZ BANK shares drops by between 20 percent and 25 percent, the deferred portion of the variable remuneration is reduced by a half. If the value drops by more than 25 percent, the deferred portion of the variable remuneration is canceled entirely. In the event that the value of DZ BANK shares decreases by less than the aforementioned thresholds, the deferred portion of the variable remuneration is not reduced. The value of DZ BANK shares is determined each year by means of an independent business valuation. Based on a value per DZ BANK share of €9.00 as at December 31, 2014, a value per share of €9.10 as at December 31, 2015, and a value per share of €9.15 as at December 31, 2016, it can currently be assumed that the deferred remuneration will be paid in full.

The following summary shows the change in unpaid share-based payment components at DZ BANK:

€ million	Board of Managing Directors	Risk takers
Unpaid share-based payments as at Jan. 1, 2015	2.7	3.8
Remuneration granted	1.2	2.8
Payment of remuneration granted in 2014	-0.3	-0.4
Payment of remuneration granted in previous years	-0.7	-0.8
Unpaid share-based payments as at Dec. 31, 2015	2.9	5.4
Remuneration granted	1.1	9.6
Payment of remuneration granted in 2015	-0.3	-0.7
Payment of remuneration granted in previous years	-0.7	-0.8
Unpaid share-based payments as at Dec. 31, 2016	**3.0**	**13.5**

Share-based payments are granted in the year after they have been earned.

DZ PRIVATBANK has entered into an agreement on variable remuneration components with the members of its Board of Managing Directors, the structure of which is generally similar to that of the agreement with the members of the Board of Managing Directors at DZ BANK. The variable remuneration components are measured on the basis of the enterprise value of DZ PRIVATBANK. Thresholds apply to the payment of the deferred portions of the variable remuneration. If the enterprise value of DZ PRIVATBANK falls by between 10 percent and 15 percent, the deferred portion of the variable remuneration is reduced by a half. If the value drops by more than 15 percent, the deferred portion of the variable remuneration is canceled entirely. The enterprise value is determined each year by means of an independent business valuation.

The following summary shows the change in unpaid share-based payment components at DZ PRIVATBANK:

€ million	Board of Managing Directors
Unpaid share-based payments as at Jan. 1, 2015	2.6
Remuneration granted	0.9
Payment of remuneration granted in 2014	-0.2
Payment of remuneration granted in previous years	-0.6
Reduction of share-based payments	-0.1
Unpaid share-based payments as at Dec. 31, 2015	2.6
Remuneration granted	0.7
Payment of remuneration granted in 2015	-0.1
Payment of remuneration granted in previous years	-0.3
Unpaid share-based payments as at Dec. 31, 2016	**2.9**

The variable components of the remuneration paid to the Board of Managing Directors of R+V depend on whether both quantitative and qualitative targets are achieved. Half of the variable remuneration depends on changes in the enterprise value of R+V within the last 3 years. The enterprise value of R+V is determined in accordance with the principles specified in IDW S 1 *Principles for the Performance of Business Valuations*. If the change in enterprise value is negative, the Supervisory Board decides whether and to what extent this portion of the variable remuneration will be paid, depending on the extent of the negative performance.

The following table shows the changes in unpaid remuneration components at R+V:

€ million	Board of Managing Directors
Unpaid share-based payments as at Jan. 1, 2015	1.0
Remuneration granted	1.0
Payment of remuneration granted in 2014	-1.0
Unpaid share-based payments as at Dec. 31, 2015	1.0
Remuneration granted	1.2
Payment of remuneration granted in 2015	-1.0
Unpaid share-based payments as at Dec. 31, 2016	**1.2**

At DVB, the variable salary payments to the Board of Managing Directors and risk takers include a bonus, which is determined by the Supervisory Board each year on the basis of agreements on targets. It is paid in installments over the 4 years after the financial year to which it relates.

Each payment is subject to certain conditions (e.g. employment contract not having been terminated) and penalty arrangements (e.g. compliance with internal policies). A further condition applicable to all 4 bonus installments is that 50 percent of each tranche is subject to an additional one-year holding period and is therefore not paid immediately. During this holding period, the value of the retained tranche is replaced by a share-based payment instrument linked to the performance of DVB. In this mechanism, the value of the retained tranche is initially converted into notional shares in DVB (phantom shares). At the end of the subsequent year, the tranche due for payment is calculated by multiplying the allocated phantom shares by the price of DVB shares on the Frankfurt Stock Exchange, plus the dividend distributed during the course of the year.

In 2016, 67,179 phantom shares (2015: 58,922 phantom shares) were granted as a bonus for previous financial years. The fair value of the phantom shares granted was €1.7 million at the balance sheet date (December 31, 2015: €1.5 million).

The following summary shows the change in unpaid share-based payment components at DVB:

€ million	Board of Managing Directors	Risk takers
Unpaid share-based payments as at Jan. 1, 2015	0.5	0.0
Remuneration granted	0.3	1.1
Payment of remuneration granted in 2014	-0.3	0.0
Payment of remuneration granted in previous years	-0.2	0.0
Unpaid share-based payments as at Dec. 31, 2015	0.3	1.1
Remuneration granted	0.2	1.5
Payment of remuneration granted in 2015	-0.1	-1.2
Payment of remuneration granted in previous years	-0.2	0.0
Unpaid share-based payments as at Dec. 31, 2016	**0.2**	**1.4**

In 2016, the agreements described above gave rise to expenses for share-based payment transactions in the DZ BANK Group of €14.7 million (2015: €14.3 million). As at December 31, 2016, the provisions recognized for share-based payment transactions in the DZ BANK Group amounted to €39.7 million (December 31, 2015: €23.9 million).

DZ BANK enters into transactions with related parties (persons or entities) as part of its ordinary business activities. All of this business is transacted on an arm's length basis. Most of these transactions involve typical banking products and financial services.

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Related party disclosures

Transactions with related parties (entities)

€ million	Dec. 31, 2016	Dec. 31, 2015
Loans and advances to banks	**86**	**14**
to joint ventures	86	14
Loans and advances to customers	**111**	**89**
to subsidiaries	40	33
joint ventures	23	20
associates	46	36
other related parties (entities)	2	–
Financial assets held for trading	**2**	**–**
of other related parties (entities)	2	–
Investments	**2**	**2**
of subsidiaries	2	2
Investments held by insurance companies	**92**	**219**
of subsidiaries	92	122
joint ventures	–	97
Other assets	**17**	**13**
of subsidiaries	16	13
associates	1	–
Deposits from banks	**94**	**1,401**
owed to subsidiaries	–	11
joint ventures	94	1,390
Deposits from customers	**213**	**170**
owed to subsidiaries	202	153
joint ventures	–	3
associates	11	14
Other liabilities	**24**	**76**
of subsidiaries	13	40
joint ventures	8	3
associates	–	7
pension plans for the benefit of employees	3	26
Subordinated capital	**13**	**10**
of pension plans for the benefit of employees	13	10

€ million	Dec. 31, 2016	Dec. 31, 2015
Financial guarantee contracts	**9**	**1**
for subsidiaries	9	1
Loan commitments	**47**	**19**
to subsidiaries	40	18
joint ventures	–	1
associates	7	–

Income of €6 million (2015: €5 million) in the total reported net interest income, expenses of €2 million (2015: €2 million) in the total reported net fee and commission income, and expenses of €10 million (2015: €3 million) in the gains and losses on investments held by insurance companies and other insurance company gains and losses were attributable to transactions with related parties (entities).

Transactions with related parties (persons)

Related parties (persons) are key management personnel who are directly or indirectly responsible for the planning, management, and supervision of the activities of DZ BANK, as well as their close family members. For the purposes of IAS 24, the DZ BANK Group considers the members of the Board of Managing Directors and the members of the Supervisory Board to be key management personnel. As at December 31, 2016, the DZ BANK Group's loans and loan commitments to related parties (persons) amounted to €0.8 million (December 31, 2015: €0.7 million).

Like unrelated parties, key management personnel and their close family members also have the option of obtaining further financial services from the DZ BANK Group, for example in the form of insurance contracts, home savings contracts, and leases. Where they made use of this option, the transactions were carried out on an arm's-length basis.

The Board of Managing Directors and Supervisory Board of DVB, a publicly traded company, have issued a declaration of compliance with the German Corporate Governance Code as required by section 161 AktG. The declaration was published in the German Federal Gazette on December 2, 2016 and has been made publicly available on a permanent basis on DVB's website.

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Corporate governance

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Board of
Managing
Directors

Wolfgang Kirsch
(Chief Executive Officer)
Responsibilities: Legal; Communication, Marketing, CR; Group Audit

Hans-Bernd Wolberg
(Deputy Chief Executive Officer since July 29, 2016)
Responsibilities: Cooperative Banks/Verbund

Uwe Berghaus
(Member of the Board of Managing Directors since July 29, 2016)
Responsibilities: Investment Promotion; Corporate Banking Northern and Eastern Germany; Corporate Banking Western Germany

Dr. Christian Brauckmann
(Member of the Board of Managing Directors since July 29, 2016)
Responsibilities: IT; Organisation

Lars Hille
Responsibilities: Capital Markets Trading Frankfurt; Capital Markets Trading Düsseldorf;
Capital Markets Retail Clients

Wolfgang Köhler
Responsibilities: Capital Markets Institutional Clients

Karl-Heinz Moll
(Member of the Board of Managing Directors since July 29, 2016)
Responsibilities: Research and Economics; Group Treasury

Dr. Cornelius Riese
Responsibilities: Group Finance; Group Strategy and Controlling

Michael Speth
(Member of the Board of Managing Directors since July 29, 2016)
Responsibilities: Group Risk Controlling

Thomas Ullrich
Responsibilities: Transaction Management; Operations; Payments & Accounts; Group Human Resources

Frank Westhoff
Responsibilities: Compliance; Credit; Credit Special

Stefan Zeidler
Responsibilities: Corporate Banking Central Germany; Corporate Banking Bavaria; Corporate Banking Baden-Württemberg; Structured Finance

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Supervisory
Board

Helmut Gottschalk
(Chairman of the Supervisory Board)
Spokesman of the Board of Managing Directors
Volksbank Herrenberg-Nagold-Rottenburg eG

Ulrich Birkenstock
(Deputy Chairman of the Supervisory Board)
Employee
R+V Allgemeine Versicherung AG

Werner Böhnke
(Deputy Chairman of the Supervisory Board since June 22, 2016)
Bank director (ret.)

Henning Deneke-Jöhrens
(Deputy Chairman of the Supervisory Board until June 22, 2016)
Chief Executive Officer
Volksbank eG Hildesheim-Lehrte-Pattensen

Heiner Beckmann
Senior manager
R+V Allgemeine Versicherung AG

Hermann Buerstedde
Employee
Union Asset Management Holding AG

Martin Eul
(Member of the Supervisory Board since June 22, 2016)
Chief Executive Officer
Dortmunder Volksbank eG

Uwe Fröhlich
President
Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V. (BVR)

Uwe Goldstein
(Member of the Supervisory Board since June 22, 2016)
Spokesman of the Board of Managing Directors
Raiffeisenbank Frechen-Hürth eG

Dr. Peter Hanker
(Member of the Supervisory Board since June 22, 2016)
Spokesman of the Board of Managing Directors
Volksbank Mittelhessen eG

Andrea Hartmann
Employee
Bausparkasse Schwäbisch Hall AG

Pilar Herrero Lerma
Employee
DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

Dr. Dierk Hirschel
Head of the Economic Policy Division
ver.di Bundesverwaltung

Klaus Holderbach
(Member of the Supervisory Board until June 22, 2016)
Chief Executive Officer
Volksbank Franken eG

Bernd Hühn
(Member of the Supervisory Board
until June 22, 2016)
Chief Executive Officer
Volksbank Alzey-Worms eG

Renate Mack
Employee
DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

Rainer Mangels
Employee
R+V Rechtsschutz-
Schadenregulierungs-GmbH

Dieter Rembde
(Member of the Supervisory Board
until June 22, 2016)
Bank director (ret.)

Stephan Schack
Spokesman of the Board of
Managing Directors
Volksbank Raiffeisenbank eG, Itzehoe

Gregor Scheller
Chief Executive Officer
Volksbank Forchheim eG

Uwe Spitzbarth
Head of the Financial Services Division
ver.di Bundesverwaltung

Sigrid Stenzel
Regional Group Director
ver.di Bayern

Dr. Wolfgang Thomasberger
Chief Executive Officer
VR Bank Rhein-Neckar eG

Hans-Bernd Wolberg
(Member of the Supervisory Board
until June 22, 2016)
Chief Executive Officer
WGZ BANK AG
Westdeutsche Genossenschafts-Zentralbank
(until July 29, 2016)

Within DZ BANK

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Supervisory mandates held by members of the Board of Managing Directors and employees

As at December 31, 2016, members of the Board of Managing Directors and employees also held mandates on the statutory supervisory bodies of major companies. These and other notable mandates are listed below. Mandates in companies included in the consolidation are indicated with an asterisk (*).

Members of the Board of Managing Directors

Wolfgang Kirsch (Chief Executive Officer)	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, Chairman of the Supervisory Board (*)
	R+V Versicherung AG, Wiesbaden, Chairman of the Supervisory Board (*)
	Südzucker AG, Mannheim, Member of the Supervisory Board
	Union Asset Management Holding AG, Frankfurt am Main, Chairman of the Supervisory Board (*)
Hans-Bernd Wolberg (Deputy Chief Executive Officer)	WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, Chairman of the Supervisory Board (*)
Uwe Berghaus	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Member of the Supervisory Board (*) (since January 1, 2017)
	VR-LEASING AG, Eschborn, Deputy Chairman of the Supervisory Board (*)
Dr. Christian Brauckmann	Fiducia & GAD IT AG, Frankfurt am Main, Member of the Supervisory Board

Lars Hille	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, Member of the Supervisory Board (*)
	Cassa Centrale Banca – Credito Cooperativo del Nord Est S.p.A., Trento, Member of the Board of Directors
	Deutsche WertpapierService Bank AG, Frankfurt am Main, Member of the Supervisory Board
	DZ PRIVATBANK S.A., Strassen, Chairman of the Supervisory Board (*)
	TeamBank AG Nürnberg, Nuremberg, Chairman of the Supervisory Board (*)
	Union Asset Management Holding AG, Frankfurt am Main, Member of the Supervisory Board (*)
Wolfgang Köhler	DVB Bank SE, Frankfurt am Main, Member of the Supervisory Board (*)
	DZ PRIVATBANK S.A., Strassen, Member of the Supervisory Board (*)
	R+V Lebensversicherung AG, Wiesbaden, Member of the Supervisory Board (*)
Karl-Heinz Moll	DZ PRIVATBANK (Schweiz) AG, Zurich, Deputy Chairman of the Board of Directors (*)
	DZ PRIVATBANK S.A., Strassen, Deputy Chairman of the Supervisory Board (*)
	R+V Versicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	Union Asset Management Holding AG, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*)

Dr. Cornelius Riese	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, Member of the Supervisory Board (*)
	R+V Allgemeine Versicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	R+V Lebensversicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	VR-LEASING AG, Eschborn, Member of the Supervisory Board (*)
Michael Speth	BAG Bankaktiengesellschaft, Hamm, Member of the Supervisory Board
	WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, Member of the Supervisory Board (*)
Thomas Ullrich	Deutsche WertpapierService Bank AG, Frankfurt am Main, Chairman of the Supervisory Board
Frank Westhoff	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Chairman of the Supervisory Board (*)
	Deutsche WertpapierService Bank AG, Frankfurt am Main, Member of the Supervisory Board
	DVB Bank SE, Frankfurt am Main, Chairman of the Supervisory Board (*)
	TeamBank AG Nürnberg, Nuremberg, Deputy Chairman of the Supervisory Board (*)
Stefan Zeidler	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Member of the Supervisory Board (*) (until December 31, 2016)
	EDEKABANK AG, Hamburg, Member of the Supervisory Board
	VR-LEASING AG, Eschborn, Chairman of the Supervisory Board (*)

DZ BANK employees

Rolf Büscher	ReiseBank AG, Frankfurt am Main, Member of the Supervisory Board (*)
Dr. Luis-Esteban Chalmovsky	Banco Cooperativo Español S.A., Madrid, Member of the Board of Directors
Dr. Thomas Kettern	Raiffeisen-Warenzentrale Kurhessen-Thüringen GmbH, Kassel, Member of the Supervisory Board
Winfried Münch	AKA Ausfuhrkredit-Gesellschaft mbH, Frankfurt am Main, Member of the Supervisory Board
Claudio Ramsperger	Cassa Centrale Banca – Credito Cooperativo del Nord Est S.p.A., Trento, Member of the Board of Directors
Gregor Roth	ConCardis GmbH, Frankfurt am Main, Member of the Supervisory Board Deutsche WertpapierService Bank AG, Frankfurt am Main, Member of the Supervisory Board equensWorldline SE, Utrecht, Deputy Chairman of the Supervisory Board ReiseBank AG, Frankfurt am Main, Chairman of the Supervisory Board (*)
Dr. Kirsten Siersleben	DVB Bank SE, Frankfurt am Main, Member of the Supervisory Board (*)
Peter Tenbohlen	Deutsche WertpapierService Bank AG, Frankfurt am Main, Member of the Supervisory Board
Dagmar Werner	Banco Cooperativo Español S.A., Madrid, Member of the Board of Directors

In the DZ BANK Group

As at December 31, 2016, members of the Boards of Managing Directors and employees also held mandates on the statutory supervisory bodies of the following major companies in Germany. Mandates in companies included in the consolidation are indicated with an asterisk (*).

Reinhard Klein Chief Executive Officer Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Kreditservice GmbH, Schwäbisch Hall, Member of the Supervisory Board (*)
Gerhard Hinterberger Member of the Board of Managing Directors Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Kreditservice GmbH, Schwäbisch Hall, Member of the Supervisory Board (*)
Claudia Klug Employee Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Facility Management GmbH, Schwäbisch Hall, Chairwoman of the Supervisory Board

Dr. Friedrich Caspers
Chief Executive Officer
R+V Versicherung AG

Condor Allgemeine Versicherungs-AG, Hamburg,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

Condor Lebensversicherungs-AG, Hamburg,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

KRAVAG-ALLGEMEINE Versicherungs-AG,
Hamburg,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

KRAVAG-LOGISTIC Versicherungs-AG, Hamburg,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

Raiffeisendruckerei GmbH, Neuwied,
Member of the Supervisory Board
(until December 31, 2016)

R+V Allgemeine Versicherung AG, Wiesbaden,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

R+V Krankenversicherung AG, Wiesbaden,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

R+V Lebensversicherung AG, Wiesbaden,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

R+V Pensionsfonds AG, Wiesbaden,
Chairman of the Supervisory Board (*)
(until December 31, 2016)

Union Asset Management Holding AG,
Frankfurt am Main,
Member of the Supervisory Board (*)
(until December 31, 2016)

Frank-Henning Florian
Member of the Board of
Managing Directors
R+V Versicherung AG

CHEMIE Pensionsfonds AG, Munich,
Member of the Supervisory Board (*)

Protektor Lebensversicherungs-AG, Berlin,
Member of the Supervisory Board

TeamBank AG Nürnberg, Nuremberg,
Member of the Supervisory Board (*)

Heinz-Jürgen Kallerhoff Member of the Board of Managing Directors R+V Versicherung AG	R+V Direktversicherung AG, Wiesbaden, Deputy Chairman of the Supervisory Board (*) R+V Krankenversicherung AG, Wiesbaden, Deputy Chairman of the Supervisory Board (*)
Dr. Christoph Lamby Member of the Board of Managing Directors R+V Versicherung AG	KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) KRAVAG-LOGISTIC Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) R+V Pensionskasse AG, Wiesbaden, Member of the Supervisory Board (*)
Julia Merkel Member of the Board of Managing Directors R+V Versicherung AG	KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) R+V Pensionskasse AG, Wiesbaden, Member of the Supervisory Board (*)
Marc René Michallet Member of the Board of Managing Directors R+V Versicherung AG	CHEMIE Pensionsfonds AG, Munich, Member of the Supervisory Board (*) Condor Allgemeine Versicherungs-AG, Hamburg, Deputy Chairman of the Supervisory Board (*) Condor Lebensversicherungs-AG, Hamburg, Deputy Chairman of the Supervisory Board (*) KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) KRAVAG-LOGISTIC Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) R+V Pensionsfonds AG, Wiesbaden, Member of the Supervisory Board (*) Sprint Sanierung GmbH, Cologne, Deputy Chairman of the Supervisory Board

Dr. Norbert Rollinger Member of the Board of Managing Directors R+V Versicherung AG	R+V Direktversicherung AG, Wiesbaden, Chairman of the Supervisory Board (*) (until December 31, 2016) R+V Service Center GmbH, Wiesbaden, Chairman of the Supervisory Board (*) (until December 31, 2016) Sprint Sanierung GmbH, Cologne, Chairman of the Supervisory Board (until December 31, 2016)
Peter Weiler Member of the Board of Managing Directors R+V Versicherung AG	Condor Allgemeine Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) Condor Lebensversicherungs-AG, Hamburg, Member of the Supervisory Board (*) KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) KRAVAG-LOGISTIC Versicherungs-AG, Hamburg, Member of the Supervisory Board (*) R+V Direktversicherung AG, Wiesbaden, Member of the Supervisory Board (*) R+V Pensionsfonds AG, Wiesbaden, Deputy Chairman of the Supervisory Board (*) R+V Pensionskasse AG, Wiesbaden, Chairman of the Supervisory Board (*)
Alexander Boldyreff Chief Executive Officer TeamBank AG Nürnberg	SCHUFA Holding AG, Wiesbaden, Chairman of the Supervisory Board
Hans Joachim Reinke Chief Executive Officer Union Asset Management Holding AG	Union Investment Institutional GmbH, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*) Union Investment Privatfonds GmbH, Frankfurt am Main, Chairman of the Supervisory Board (*) Union Investment Real Estate GmbH, Hamburg, Deputy Chairman of the Supervisory Board (*) Union Investment Service Bank AG, Frankfurt am Main, Chairman of the Supervisory Board (*)

Alexander Schindler Member of the Board of Managing Directors Union Asset Management Holding AG	Quoniam Asset Management GmbH, Frankfurt am Main, Chairman of the Supervisory Board (*) Union Investment Institutional GmbH, Frankfurt am Main, Chairman of the Supervisory Board (*)
Jens Wilhelm Member of the Board of Managing Directors Union Asset Management Holding AG	Quoniam Asset Management GmbH, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*) (until December 31, 2016) Union Investment Privatfonds GmbH, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*) Union Investment Real Estate GmbH, Hamburg, Chairman of the Supervisory Board (*)
Dr. Andreas Zubrod Member of the Board of Managing Directors Union Asset Management Holding AG	Union Investment Service Bank AG, Frankfurt am Main, Deputy Chairman of the Supervisory Board
Dr. Reinhard Kutscher Chief Executive Officer Union Investment Real Estate GmbH	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Member of the Supervisory Board (*)
Sonja Albers Employee Union Asset Management Holding AG	Union Investment Service Bank AG, Frankfurt am Main, Member of the Supervisory Board (*)
Dr. Carsten Düerkop Member of the Board of Managing Directors WL BANK AG Westfälische Landschaft Bodenkreditbank	VR Mittelstandskapital Unternehmensbeteiligungs AG, Düsseldorf, Chairman of the Supervisory Board (until December 31, 2016)

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List of shareholdings

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
ABO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		26	-10
Adger Ocean KS (I)[1]	Oslo, Norway	0.00		n/a	n/a
Adger Ocean KS II[1]	Oslo, Norway	0.00		n/a	n/a
Adger Ocean KS III[1]	Oslo, Norway	0.00		n/a	n/a
AER Holding N.V.[1]	Willemstad, Curaçao	100.00		-22	0
AGIMA Aktiengesellschaft für Immobilien-Anlage[5]	Frankfurt am Main	100.00		84,025	0
Aquila Aircraft Leasing Ltd.[1]	Dublin, Ireland	0.00		35,071	-11,496
ARATOS GmbH[1]	Eschborn	100.00		85	60
ARATOS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	147	62
ARMIDA GmbH[1]	Eschborn	100.00		46	20
ARMIDA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	26	25
ASPASIA GmbH[1]	Eschborn	100.00		54	29
ASPASIA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	740	35
Assimoco S.p.A.[1]	Segrate (Mi), Italy	89.39		115,780	18,765
Assimoco Vita S.p.A.[1]	Segrate (Mi), Italy	82.14		121,626	4,982
Assimocopartner S.r.l. Unipersonale[1]	Segrate (Mi), Italy	100.00		132	-48
attrax S.A.[1]	Luxembourg, Luxembourg	100.00		41,817	20,174
Aufbau und Handelsgesellschaft mbH[1]	Stuttgart	94.90		525	0
AURIGA GmbH[1]	Eschborn	100.00		-931	-368
Autobahn 2003 Holdings LLC[1]	Wilmington, USA	0.00		2,410	0
AXICA Kongress- und Tagungszentrum Pariser Platz 3 GmbH[5]	Berlin	100.00		26	0
Bathgate Trading Opco LLC[1]	Majuro, Marshall Islands	0.00		1,734	333
Bausparkasse Schwäbisch Hall Aktiengesellschaft - Bausparkasse der Volksbanken und Raiffeisenbanken[5]	Schwäbisch Hall	96.91		1,812,302	0
Berwick Shipping LLC[1]	Majuro, Marshall Islands	0.00		4,415	-4,415
Beteiligungsgesellschaft Westend 1 mbH & Co. KG[1]	Frankfurt am Main	94.90		17,860	375
BFL Gesellschaft des Bürofachhandels mbH & Co. KG[1]	Eschborn	71.79	72.03	16,741	4,109
BFL Leasing GmbH[1]	Eschborn	100.00		15,924	5,992
BIG-Immobilien Gesellschaft mit beschränkter Haftung[1]	Frankfurt am Main	100.00		713	978
BIG-Immobilien GmbH & Co. Betriebs KG[1]	Frankfurt am Main	100.00		200	23,691
Bischoff GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	21	19
Bluebell Aircraft Leasing Ltd.[1]	Floriana, Malta	100.00	0.00	985	-18
Bonham Aircraft Leasing Ltd.[1]	George Town, Cayman Islands	0.00		159	-1,962
Braveheart Shipping Holdco LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Braveheart Shipping Opco LLC[1]	Majuro, Marshall Islands	0.00		4,341	-2,568
Bukit Merah Shipping Pte. Ltd.[1]	Singapore, Singapore	0.00		6	-21
Bulls Aircraft Leasing (Malta) Ltd.[1]	Floriana, Malta	100.00	0.00	n/a	n/a
Buzzard Aircraft Leasing Limited i. L.[1]	Dublin, Ireland	100.00	0.00	447	0
BWG Baugesellschaft Württembergischer Genossenschaften mbH[1]	Stuttgart	94.78		9,965	0
Calidris Shipping LLC[1]	Majuro, Marshall Islands	100.00	0.00	9,199	-1,376
CALYPSO GmbH[1]	Eschborn	100.00		-560	-90
Canadian Iron Ore Railcar Leasing LP[1]	Hamilton, Canada	100.00		n/a	n/a
CANOPOS GmbH[1]	Eschborn	100.00		27	2
CANOPOS GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		3	27
Capital Lease Limited[1]	Hong Kong, Hong Kong	0.00		74	-438
carexpert Kfz-Sachverständigen GmbH[1]	Walluf	60.00		4,333	1,261
CATHENA GmbH[1]	Eschborn	100.00		51	26
Centra Leasing Anlagen GmbH[1,5]	Eschborn	100.00		5,899	0
CHEMIE Pensionsfonds AG[1]	Munich	100.00		22,318	2,000
Chiefs Aircraft Holding (Malta) Limited[1]	Floriana, Malta	100.00	0.00	n/a	n/a
CHROMARIA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	38	37
CI CONDOR Immobilien GmbH[1,5]	Hamburg	100.00		25,500	0
CIORL Partner Ltd.[1]	Toronto, Canada	100.00		n/a	n/a
compertis Beratungsgesellschaft für betriebliches Vorsorgemanagement mbH[1]	Wiesbaden	100.00		3,880	750
Condor Allgemeine Versicherungs-Aktiengesellschaft[1,5]	Hamburg	100.00		41,762	0
Condor Dienstleistungs GmbH[1]	Hamburg	100.00		208	6
Condor Lebensversicherungs-Aktiengesellschaft[1,5]	Hamburg	94.99		48,589	0

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Container Investment Fund I LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Container Investment Fund II LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Cruise Ship InvestCo LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
DAC Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		64	38
DAC Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Lüneburg KG[1,6]	Eschborn	99.00	83.67	47	56
Dalian Deepwater Developer Ltd.[1]	St. Helier, Jersey	0.00		n/a	n/a
DCAL Aircraft Malta Ltd.[1]	Floriana, Malta	0.00		n/a	n/a
DEGEAKZENT Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		41	16
DEGEAKZENT Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	0.00	51.00	19	19
DEGEALPHA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	1
DEGEALPHA Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Hamm-Heessen KG[1]	Eschborn	90.00	66.67	3	0
DEGEARKADE Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	2
DEGEARKADE Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		3	62
DEGEASPEKT Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		30	2
DEGEASPEKT Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		3	35
DEGEASTURA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		61	35
DEGEASTURA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		-913	74
DEGEAVUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEAVUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		-386	-127
DEGEBALTA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		78	52
DEGEBALTA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	94.90	75.00	71	65
DEGECAMPUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		20	0
DEGECANDOR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	0
DEGECASTELL GmbH[1]	Eschborn	100.00		39	-35
DEGECEBER Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		28	2
DEGECEBER Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		3	20
DEGECEDO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		886	74
DEGECENSUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		57	32
DEGECENSUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		39	38
DEGECENUM Grundstücksverwaltungsgesellschaft mbH[1,5]	Eschborn	100.00		26	0
DEGECIVO Grundstücksverwaltungsgesellschaft mbH Berlin[1]	Berlin	100.00		28	3
DEGECOMO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	0
DEGECULA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		86	60
DEGECULA Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Sindelfingen KG[1]	Eschborn	6.00	75.50	96	75
DEGEDELTA Vermietungsgesellschaft für Betriebsvorrichtungen mbH[1]	Eschborn	100.00		29	0
DEGEDENAR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		26	0
DEGEDESTRA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	0
DEGEDOMUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		30	1
DEGEDOMUS Grundstücksverwaltungsgesellschaft mbH & Co. Gewerbeobjekte Süd KG[1,6]	Eschborn	100.00		3	14
DEGEFULVA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		36	11
DEGEIMPULS Grundstücksverwaltungsgesellschaft Objekt Hattingen mbH[1]	Eschborn	100.00		958	121
DEGEKONZEPT Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		34	8
DEGEMALVA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEMALVA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		3	39
DEGEMEDIUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	1
DEGEMEDIUS Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Voerde KG[1,6]	Eschborn	90.00	66.67	3	1
DEGEMENAR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEMENAR Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Lauingen KG[1]	Eschborn	2.00	66.67	-370	79
DEGEMINAX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		47	21

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DEGEMOBIL Vermietungsgesellschaft für Betriebsvorrichtungen mbH[1]	Eschborn	100.00		23	33
DEGEMOLTO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		58	33
DEGEMOLTO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	0.00	51.00	40	267
DEGEMONTES Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		214	188
DEGEMONTES Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	95.00	75.00	227	452
DEGEMOX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		28	1
DEGEMOX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		3	34
DEGENASUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		28	0
DEGENITOR Grundstücksverwaltungsgesellschaft mbH[1,5]	Eschborn	100.00		26	0
DEGEPALMA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEPALMA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		3	268
DEGEPEXUM Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	1
DEGEPEXUM Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	2.00	66.67	26	3
DEGEPRIMUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		55	30
DEGEPRIMUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	5.00	75.50	37	35
DEGEPROJEKT Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		376	100
DEGEPROLOG Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		26	0
DEGEPROMO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		32	1
DEGEPROMO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		-26	-2
DEGEREAL Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	-1
DEGEREMEX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	1
DEGEREMEX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	2.00	66.67	26	111
DEGEREX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		107	81
DEGERIA Beteiligungsgesellschaft mbH[1]	Eschborn	100.00		26	0
DEGERIMA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	0
DEGERIPA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		42	16
DEGERIPA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	76.00	-602	7
DEGERIXOR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	-1
DEGEROTA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		33	6
DEGERUMEX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		70	44
DEGERUMEX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	100.00		-73	92
DEGESAMOS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGESAMOS Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Neuss KG[1]	Eschborn	90.00	66.67	3	0
DEGESAPOR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	1
DEGESAPOR Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		3	39
DEGESERA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGESERA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	0.00	51.00	925	78
DEGESERVO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGESERVO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		-333	151
DEGESIDUX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		65	40
DEGESIDUX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1,6]	Eschborn	94.91	75.00	1,145	272
DEGESIGNUM Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		55	30
DEGESIGNUM Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	75.50	37	36
DEGESILEX Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		75	49
DEGESILEX Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Karlsfeld KG[1]	Eschborn	5.00	75.50	-1,202	374
DEGESILVA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	2
DEGESISTO Grundstücksverwaltungsgesellschaft mbH[1,5]	Eschborn	100.00		114	0
DEGESOLVO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DEGESOLVO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	1.18	6.67	-596	687
DEGESPRIO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		25	-1
DEGESTRENA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		68	42
DEGESUR Grundstücksverwaltungsgesellschaft mbH[1 5]	Eschborn	100.00		4,361	0
DEGETAMESIS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		52	26
DEGETAMESIS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	10.00	75.50	2,170	93
DEGETANTUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		44	18
DEGETANTUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[2 6]	Eschborn	100.00		-264	61
DEGETEMPUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		26	0
DEGETERRA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		41	16
DEGETERRA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	75.50	-621	85
DEGETIBUR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		51	25
DEGETIBUR Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	67.34	33	31
DEGETRACTUS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		69	44
DEGETRINUM Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		50	24
DEGETRINUM Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	75.50	24	29
DEGETUTOR Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEVIA Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	1
DEGEVIA Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Rhede Gronauer Strasse 21 KG[1 6]	Eschborn	90.00	66.67	3	0
DEGEVITRO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		48	22
DEGEVITRO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	100.00		28	454
DESPINA GmbH[1]	Eschborn	100.00		78	20
Deucalion Capital I (UK) Ltd.[1]	London, UK	0.00		n/a	n/a
Deucalion Capital II (MALTA) Limited[1]	Valletta, Malta	0.00		n/a	n/a
Deucalion Capital II (UK) Ltd.[1]	London, UK	0.00		n/a	n/a
Deucalion Capital II Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deucalion Capital VI Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deucalion Capital VII Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deucalion Capital VIII Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deucalion Capital XI Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deucalion Engine Leasing (Ireland) Ltd.[1]	Dublin, Ireland	0.00		n/a	n/a
Deucalion Ltd.[1]	George Town, Cayman Islands	0.00		n/a	n/a
Deutsche Genossenschafts-Hypothekenbank Aktiengesellschaft[3 5]	Hamburg	100.00		1,407,258	0
DEVIF-Fonds Nr. 150 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 2 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 250 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 500 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 528 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 60 Deutsche Gesellschaft für Investmentfonds[1]	Frankfurt am Main	0.00		n/a	n/a
DG Funding LLC	New York, USA	100.00		118,350	418
DG Holding Trust	New York, USA	100.00		71,281	548
DG LEASING GmbH[1]	Eschborn	100.00		26	0
DG Participacoes Ltda.[1]	São Paulo, Brazil	100.00		0	0
Dilax Beteiligungs Verwaltungsgesellschaft mbH[1]	Berlin	100.00		0	0
Dilax Beteiligungsgesellschaft mbH & Co. KG[1]	Berlin	92.39		3,146	-137
Dilax France SAS[1]	Valence, France	100.00		182	4
Dilax Intelcom AG[1]	Ermatingen, Switzerland	100.00		1,733	857
Dilax Intelcom GmbH[1]	Berlin	72.01		3,744	3
Dilax Intelcom Iberica S.L.U.[1]	Madrid, Spain	100.00		70	28
Dilax Management Investment Reserve GmbH[1]	Berlin	100.00		27	-3
Dilax Management Investment Verwaltungsgesellschaft mbH[1]	Berlin	100.00		23	-1
Dilax Management Investmentgesellschaft mbH & Co. KG[1]	Berlin	99.50		n/a	n/a
Dilax Systems Inc.[1]	Saint Lambert, Canada	100.00		428	144
Dilax Systems UK Ltd.[1]	London, UK	100.00		-353	-126
DOBAS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		29	4

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Drem Shipping LLC[1]	Majuro, Marshall Islands	0.00		1,346	1,346
DRITTE DG Vermietungsgesellschaft für Immobilien mbH[1 5]	Eschborn	100.00		26	0
DUNAVAGON s.r.o.[1]	Dunajská Streda, Slovakia	100.00	0.00	1,884	287
DURO Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		27	2
DV01 Szarazfoldi Jarmukolcsonzo rt[1]	Áporka, Hungary	0.00		1,823	-410
DVB Aviation Finance Asia Pte Ltd.[1]	Singapore, Singapore	100.00		2,845	1,614
DVB Bank America N.V.[1]	Willemstad, Curaçao	70.21		259,876	15,041
DVB Bank SE	Frankfurt am Main	95.47		371,397	-88,117
DVB Capital Markets LLC[1]	New York, USA	100.00		3,172	-334
DVB Container Finance America LLC[1]	Majuro, Marshall Islands	100.00		-1,233	25
DVB Group Merchant Bank (Asia) Ltd.[1]	Singapore, Singapore	100.00		391,372	5,173
DVB Holding (US) Inc.[1]	Greenwich, USA	100.00		1,778	0
DVB Holding GmbH[1 5]	Frankfurt am Main	100.00		13,000	0
DVB Investment Management N.V.[1]	Willemstad, Curaçao	100.00		237	0
DVB Service (US) LLC[1]	Wilmington, USA	100.00		704	1
DVB Transport Finance Limited[1]	London, UK	100.00		70,672	-2,771
DVG Deutsche Vermögensverwaltungs-Gesellschaft mit beschränkter Haftung[5]	Frankfurt am Main	100.00		82	0
DVL Deutsche Verkehrs-Leasing GmbH[1]	Eschborn	74.90		2,520	1
DZ BANK Capital Funding LLC I[2 4]	Wilmington, USA	100.00		300,933	6,912
DZ BANK Capital Funding LLC II[2 4]	Wilmington, USA	100.00		500,718	6,933
DZ BANK Capital Funding LLC III[2 4]	Wilmington, USA	100.00		350,303	4,488
DZ BANK Capital Funding Trust I	Wilmington, USA	0.00	100.00	300,001	7,014
DZ BANK Capital Funding Trust II	Wilmington, USA	0.00	100.00	500,001	7,035
DZ BANK Capital Funding Trust III	Wilmington, USA	0.00	100.00	350,001	4,522
DZ BANK IRELAND PUBLIC LIMITED COMPANY[3]	Dublin, Ireland	100.00		390,098	25,148
DZ BANK Perpetual Funding (Jersey) Limited[4]	St. Helier, Jersey	0.00	100.00	260,579	2,146
DZ BANK Perpetual Funding Issuer (Jersey) Limited	St. Helier, Jersey	0.00		0	0
DZ BANK Sao Paulo Representacao Ltda.[2]	São Paulo, Brazil	100.00		321	98
DZ Beteiligungsgesellschaft mbH Nr. 11[5]	Frankfurt am Main	100.00		6,620	0
DZ Beteiligungsgesellschaft mbH Nr. 14[5]	Frankfurt am Main	100.00		51	0
DZ Beteiligungsgesellschaft mbH Nr. 18[5]	Frankfurt am Main	100.00		64,726	0
DZ Beteiligungsgesellschaft mbH Nr. 21[5]	Frankfurt am Main	100.00		25	0
DZ Beteiligungsgesellschaft mbH Nr. 22	Frankfurt am Main	100.00		23	-2
DZ Beteiligungsgesellschaft mbH Nr. 23[5]	Frankfurt am Main	100.00		25	0
DZ Beteiligungsgesellschaft mbH Nr. 24	Frankfurt am Main	100.00		22	-3
DZ FINANCE Ireland Limited	Dublin, Ireland	100.00		8,357	-39,195
DZ FINANCIAL MARKETS LLC	New York, USA	100.00		3,684	-62
DZ Gesellschaft für Grundstücke und Beteiligungen mbH[5]	Frankfurt am Main	100.00		1,461	0
DZ Immobilien + Treuhand GmbH[5]	Münster	94.50		1,348	0
DZ Polska Spólka Akcyjna w likwidacji	Warsaw, Poland	100.00		66,834	167
DZ PRIVATBANK (Schweiz) AG[1]	Zurich, Switzerland	100.00		162,729	-27,171
DZ PRIVATBANK S.A.[3]	Strassen, Luxembourg	90.65		628,269	11,382
DZ PRIVATBANK Singapore Ltd.[1]	Singapore, Singapore	100.00		8,996	-175
DZ Versicherungsvermittlung Gesellschaft mbH[5]	Frankfurt am Main	100.00		51	0
DZ Vierte Beteiligungsgesellschaft mbH[5]	Frankfurt am Main	100.00		276,687	0
e@syCredit Marketing und Vertriebs GmbH[1]	Nuremberg	100.00		26	0
Eagle Aircraft Leasing Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
ENDES Grundstücksverwaltungsgesellschaft mbH[1 5]	Eschborn	100.00		26	0
Englische Strasse 5 GmbH[1]	Wiesbaden	90.00		19,114	605
EPI Grundstücksverwaltungsgesellschaft mbH[1 5]	Eschborn	100.00		560	0
EXERT Grundstücksverwaltungsgesellschaft mbH[1 5]	Eschborn	100.00		26	0
Falcon Aircraft Leasing Limited i. L.[1]	Dublin, Ireland	0.00		n/a	n/a
Finassimoco S.p.A.[1]	Segrate (Mi), Italy	57.03		0	0
Finch Aircraft Leasing Limited[1]	Dublin, Ireland	0.00		14	-21
FKS-NAVIGIUM GmbH[1]	Eschborn	100.00		-381	-143
FLORIN GmbH[1]	Eschborn	100.00		53	28
FLORIN GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	-29	35
Fundamenta-Lakáskassza Lakás-takarékpénztár Zrt.[1]	Budapest, Hungary	51.25		180,263	19,883
Fundamenta-Lakáskassza Pénzügyi Közvetítő Kft.[1]	Budapest, Hungary	100.00		4,978	3,936
GAF Active Life 1 Renditebeteiligungs-GmbH & Co. KG[1]	Nidderau	96.55		56,448	-1,696
GAF Active Life 2 Renditebeteiligungs-GmbH & Co. KG[1]	Nidderau	94.98		153,810	5,478
Gandari Shipping Pte. Ltd.[1]	Singapore, Singapore	0.00		61	-6
GbR Dortmund Westenhellweg 39–41[1]	Wiesbaden	94.00	100.00	40,330	3,045

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
GBS Beteiligungsgesellschaft mbH[1]	Munich	100.00		n/a	n/a
GENO Broker GmbH[5]	Frankfurt am Main	100.00		12,000	0
GENO-Beteiligungsgesellschaft mbH	Düsseldorf	100.00		1,150	2
Genossenschaftlicher Informations Service GIS GmbH	Frankfurt am Main	100.00		4,124	85
Glen Campbell Opco LLC[1]	Majuro, Marshall Islands	0.00		0	0
Glencoe Shipping Holdco LLC[1]	Majuro, Marshall Islands	0.00		19	1
GMS Management und Service GmbH[1]	Nidderau	100.00		90	40
Goldberg Zweite Grundstücksverwaltungsgesellschaft Sütex mbH & Co. KG[1,6]	Eschborn	94.50	88.00	76	283
Green Eagle Investments N.V.[1]	Willemstad, Curaçao	0.00		n/a	n/a
Grundstücksverwaltungsgesellschaft Sütex mbH[1]	Eschborn	100.00		24	0
GWG 1. Wohn GmbH & Co. KG[1]	Stuttgart	100.00		2,000	371
GWG 2. Wohn GmbH & Co. KG[1]	Stuttgart	100.00		3,000	622
GWG 3. Wohn GmbH & Co. KG[1]	Stuttgart	100.00		7,000	1,385
GWG 4. Wohn GmbH & Co. KG[1]	Stuttgart	100.00		9,000	823
GWG Beteiligungsgesellschaft mbH[1]	Stuttgart	100.00		25	2
GWG Gesellschaft für Wohnungs- und Gewerbebau Baden-Württemberg AG[1]	Stuttgart	91.41		273,282	10,582
GWG ImmoInvest GmbH[1]	Stuttgart	94.90		6,410	756
GWG Wohnpark Sendling GmbH[1]	Stuttgart	94.00		2,783	405
GZ-Immobilien-Management GmbH & Co. Objekt KG	Frankfurt am Main	100.00		-712	-2
GZ-Trust Consult GmbH i. L.	Stuttgart	100.00		492	-5
HANSEATICA Sechzehnte Grundbesitz Investitionsgesellschaft mbH & Co. KG[1]	Berlin	100.00		22,868	851
Havel Nordost Zweite Grossmobilien GmbH[1]	Eschborn	100.00		41	16
Havel Nordost Zweite Grossmobilien GmbH & Co. Vermietungs KG[1]	Zehdenick	0.00	52.00	21	904
Hawk Aircraft Leasing Limited[1]	Dublin, Ireland	0.00		n/a	n/a
Hibiscus Aircraft Leasing Limited[1]	Floriana, Malta	0.00		n/a	n/a
Highlanders Aircraft Leasing (IRL) Ltd.[1]	Dublin, Ireland	100.00	0.00	n/a	n/a
Hollandse Scheepshypotheekbank N.V.[1]	Rotterdam, Netherlands	100.00		707	0
Hudson Services LLC[1]	Majuro, Marshall Islands	0.00		301	-1,978
HumanProtect Consulting GmbH[1]	Cologne	100.00		213	71
Ibon Leasing Limited[1]	George Town, Cayman Islands	100.00		1	1
Immobilien-Gesellschaft 'DG Bank-Turm, Frankfurt am Main, Westend' mbH & Co. KG des genossenschaftlichen Verbundes[1]	Frankfurt am Main	95.97		170,710	8,132
Immobilien-Verwaltungsgesellschaft 'DG BANK-Turm, Frankfurt am Main, Westend' mbH	Frankfurt am Main	100.00		51	16
IMPETUS Bietergesellschaft mbH[5]	Düsseldorf	100.00		54,063	0
Intermodal Investment Fund IX LLC[1]	Majuro, Marshall Islands	100.00		n/a	n/a
IPConcept (Luxemburg) S.A.[1]	Strassen, Luxembourg	100.00		6,761	3,181
IPConcept (Schweiz) AG[1]	Zurich, Switzerland	100.00		4,977	503
Iron Maple Rail Ltd.[1]	Vancouver, Canada	100.00		n/a	n/a
ITF International Transport Finance Suisse AG[1]	Zurich, Switzerland	100.00		19,789	-26,348
Ivanhoe Shipping Opco LLC[1]	Majuro, Marshall Islands	0.00		-3,529	-1,607
IZD-Beteiligung S.à.r.l.[1]	Luxembourg, Luxembourg	99.50		21,852	-13
JASPIS GmbH[1]	Eschborn	100.00		40	15
JASPIS GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		7	19
KALAMOS GmbH[1]	Eschborn	100.00		56	31
KALAMOS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	-1,361	-10
Kalsubai Shipping and Offshore Private Ltd.[1]	Mumbai, India	0.00		n/a	n/a
KBIH Beteiligungsgesellschaft für Industrie und Handel mbH	Frankfurt am Main	100.00		20,464	6,937
KISSELBERG Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		10	-1
KISSELBERG Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	66.67	8,691	1,650
KRAVAG Umweltschutz und Sicherheitstechnik GmbH[1]	Hamburg	100.00		223	19
KRAVAG-ALLGEMEINE Versicherungs-Aktiengesellschaft[1]	Hamburg	100.00		95,966	7,229
KRAVAG-LOGISTIC Versicherungs-Aktiengesellschaft[1]	Hamburg	51.00		185,920	19,310
KTP Beteiligungs GmbH & Co. KG[1]	Frankfurt am Main	100.00		n/a	n/a
KTP Verwaltungs GmbH[1]	Frankfurt am Main	100.00		n/a	n/a
KV MSN 27602 AIRCRAFT LIMITED[1]	Dublin, Ireland	0.00		n/a	n/a
Landes Bangladesh Ltd.[1]	Dhaka, Bangladesh	100.00		n/a	n/a
Landes Canada Inc.[1]	Granby, Quebec, Canada	100.00		3,309	600
Landes de Mexico, S. de R.L. de C.V.[1]	Aguascalientes, AGS., Mexico	100.00		72	0
Landes Holding GmbH[1]	Isny im Allgäu	84.47		6,665	-712
Landes Hong Kong Limited[1]	Kwun Tong, Kowloon, Hong Kong	100.00		540	-351
Landes Lederwarenfabrik GmbH[1]	Isny im Allgäu	100.00		6,691	-512

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Lantana Aircraft Leasing Limited[1]	Floriana, Malta	0.00		n/a	n/a
Leith Shipping LLC[1]	Majuro, Marshall Islands	0.00		-1,149	-1,149
LEKANIS GmbH[1]	Eschborn	100.00		40	15
LEKANIS GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		20	58
Linton Shipping LLC[1]	Majuro, Marshall Islands	0.00		5	5
LISENE GmbH[1]	Eschborn	100.00		41	16
LISENE GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	20	19
LITOS GmbH[1]	Eschborn	100.00		40	15
LITOS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	-26	25
LogPay Financial Services GmbH[1,5,6]	Eschborn	100.00		3,750	0
LogPay Fuel Italia S.R.L.[1]	Bolzano, Italy	100.00		21	3
LogPay Fuel Spain S.L.U.[1]	Barcelona, Spain	100.00		165	124
LogPay Mobility Services GmbH[1]	Eschborn	100.00		20	-2
LogPay Transport Services GmbH[1,5,6]	Eschborn	100.00		550	0
Maple Leaf Shipping Holdco LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Martens & Prahl Hannover-Contor Versicherungsmakler GmbH[1]	Hannover	55.41		n/a	n/a
MD Aviation Capital Pte. Ltd.[1]	Singapore, Singapore	0.00		221,169	8,610
MDAC 1 Pte Ltd.[1]	Singapore, Singapore	0.00		19,897	67
MDAC 11 Pte Ltd.[1]	Singapore, Singapore	0.00		21,023	667
MDAC 2 Pte Ltd.[1]	Singapore, Singapore	0.00		19,611	80
MDAC 3 Pte Ltd.[1]	Singapore, Singapore	0.00		25,061	6,171
MDAC 4 Pte Ltd.[1]	Singapore, Singapore	0.00		11,587	-809
MDAC 5 Pte. Ltd.[1]	Singapore, Singapore	0.00		15,005	767
MDAC 6 Pte Ltd.[1]	Singapore, Singapore	0.00		60,260	2,116
MDAC 7 (Ireland) Ltd.[1]	Dublin, Ireland	0.00		171	43
MDAC 8 Pte Ltd.[1]	Singapore, Singapore	0.00		5,727	-748
MDAC 9 Pte Ltd.[1]	Singapore, Singapore	0.00		4,559	242
MDAC Malta Ltd.[1]	Floriana, Malta	0.00		n/a	n/a
MI-Fonds 384 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 388 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 391 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 392 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F 57 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F 59 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds J01 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds J03 Metzler Investment GmbH[1]	Frankfurt am Main	0.00		n/a	n/a
MINTAKA GmbH[1]	Eschborn	100.00		44	19
MINTAKA GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		-97	-11
MODULUS GmbH[1]	Eschborn	100.00		49	24
MODULUS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	30	28
Morgenstern Miet + Leasing GmbH[1]	Eschborn	95.00		26	0
Mount Pleasant Shipping Pte. Ltd.[1]	Singapore, Singapore	0.00		n/a	n/a
Mount Rinjani Shipping Pte. Ltd.[1]	Singapore, Singapore	0.00		n/a	n/a
Mount Santubong Ltd.[1]	Labuan, Malaysia	0.00		n/a	n/a
MS 'GEORG SCHULTE' Schifffahrtsgesellschaft mbH & Co. KG i.L.[1]	Hamburg	78.77		-7,719	-20,218
MS 'Mumbai Trader' GmbH & Co. KG[1]	Bremen	0.00		n/a	n/a
MSN1164 Freighter Ltd.[1]	Dublin, Ireland	0.00		10,976	2,642
MSU Management-, Service- und Unternehmensberatung GmbH[1]	Landau in der Pfalz	74.00		731	230
NALINUS GmbH i.L.[1]	Frankfurt am Main	100.00		128	-1
Nedship Shipping B.V.[1]	Schiphol, Netherlands	100.00		1,799	-108
NELO Dritte GmbH[1]	Eschborn	100.00		46	21
NELO Dritte GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	27	96
NELO Fünfte GmbH[1]	Eschborn	100.00		44	18
NELO Fünfte GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	24	22
NELO Zweite GmbH[1]	Eschborn	100.00		139	114
NELO Zweite GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	137	136
Netherlands Shipmortgage Corporation Ltd.[1]	Hamilton, Bermuda	100.00		0	0
NF Nordstrand GmbH & Co. Heidenkampsweg 100 Nord KG[1]	Norderfriedrichskoog	94.00	49.00	-3,689	136
NF Nordstrand GmbH & Co. Heidenkampsweg 100 Süd KG[1]	Norderfriedrichskoog	94.00	49.00	-2,791	59
NFC Labuan Shipleasing I Ltd.[1]	Labuan, Malaysia	0.00		n/a	n/a
NFC Shipping Fund C LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
NFC Shipping Fund II LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
NOMAC AIRCRAFT LEASING (IRL) Ltd. i.L.[1]	Dublin, Ireland	0.00		n/a	n/a

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
NOVA Achte GmbH[1]	Eschborn	100.00		46	21
NOVA Neunte GmbH[1]	Eschborn	100.00		40	15
NOVA Siebte GmbH[1]	Eschborn	100.00		41	16
NOVA Siebte GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	21	19
NTK Immobilien GmbH[1]	Hamburg	100.00		41	0
NTK Immobilien GmbH & Co. Management KG[2]	Hamburg	100.00		813	331
Ocean Container II[1]	Oslo, Norway	0.00		n/a	n/a
Ocean Giant LLC[1]	Majuro, Marshall Islands	0.00		476	476
Old Winterport Corp.[1]	Portland, USA	100.00		n/a	n/a
Pascon GmbH[1]	Wiesbaden	100.00		25	0
Paul Ernst Versicherungsvermittlungs mbH[1]	Hamburg	51.00		61	6
PAVONIS GmbH[1]	Eschborn	100.00		57	32
PCAM Issuance II SA Issue RV AVL 001[1]	Luxembourg, Luxembourg	0.00		n/a	n/a
PDZ Personaldienste & Zeitarbeit GmbH[5]	Darmstadt	100.00		60	0
Pension Consult-Beratungsgesellschaft für Altersvorsorge mbH[1]	Munich	100.00		1,283	95
Philip Trading Opco LLC[1]	Majuro, Marshall Islands	0.00		328	10,469
Phoenix Beteiligungsgesellschaft mbH[5]	Düsseldorf	100.00		108,349	0
POHACONO GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	7	47
Puffin Aircraft Leasing Ltd.[1]	Dublin, Ireland	0.00		n/a	n/a
Quoniam Asset Management GmbH[1]	Frankfurt am Main	88.00	100.00	25,403	15,562
Quoniam Funds Selection SICAV - Global Credit Libor EUR I[1]	Luxembourg, Luxembourg	0.00		n/a	n/a
R+V Allgemeine Versicherung Aktiengesellschaft[1,5]	Wiesbaden	95.00		774,177	0
R+V Deutschland Real (RDR)[1]	Hamburg	0.00		n/a	n/a
R+V Dienstleistungs GmbH[1]	Wiesbaden	100.00		631	4
R+V Direktversicherung AG[1,5]	Wiesbaden	100.00		13,320	0
R+V Erste Anlage GmbH[1]	Wiesbaden	100.00		1,073	1
R+V INTERNATIONAL BUSINESS SERVICES Ltd., Dublin[1]	Dublin, Ireland	100.00		1,053	-1,986
R+V KOMPOSIT Holding GmbH[1,5]	Wiesbaden	100.00		1,801,622	0
R+V Krankenversicherung AG[1]	Wiesbaden	100.00		68,485	5,500
R+V Kureck Immobilien GmbH[1]	Wiesbaden	100.00		37	2
R+V Leben Wohn GmbH & Co. KG[1]	Wiesbaden	100.00		67,781	374
R+V Lebensversicherung Aktiengesellschaft[1,5]	Wiesbaden	100.00		434,981	0
R+V Luxembourg Lebensversicherung S.A.[1]	Strassen, Luxembourg	100.00		311,449	33,947
R+V Mannheim P2 GmbH[1]	Wiesbaden	94.00		59,929	1,942
R+V Pensionsfonds AG[1]	Wiesbaden	100.00		26,003	1,850
R+V Pensionskasse AG[1]	Wiesbaden	100.00		105,772	400
R+V Personen Holding GmbH[1,5]	Wiesbaden	100.00		732,589	0
R+V Rechtsschutz-Schadenregulierungs-GmbH[1]	Wiesbaden	100.00		115	32
R+V Service Center GmbH[1,5]	Wiesbaden	100.00		2,869	0
R+V Service Holding GmbH[1,5]	Wiesbaden	100.00		171,910	0
R+V Treuhand GmbH[1]	Wiesbaden	100.00		36	-5
R+V Versicherung AG[5]	Wiesbaden	92.08		2,149,774	0
RAS Grundstücksverwaltungsgesellschaft mbH[1]	Eschborn	100.00		21	-34
RC II S.a.r.l.[1]	Luxembourg, Luxembourg	90.00		9,497	361
ReiseBank Aktiengesellschaft[1,5]	Frankfurt am Main	100.00		19,267	0
RISALIS GmbH[1]	Eschborn	100.00		39	14
RISALIS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	19	17
RUBINOS GmbH[1]	Eschborn	100.00		87	62
RUV Agenturberatungs GmbH[1]	Wiesbaden	100.00		383	116
RV-CVIII Holdings, LLC[1]	Camden, USA	100.00		42,888	1,162
S2 Shipping and Offshore Ptd Ltd.[1]	Singapore, Singapore	0.00		n/a	n/a
SAREMA GmbH[1]	Eschborn	100.00		50	25
SAREMA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	52.00	32	367
Scheepvaartschappij Ewout B.V.[1]	Rotterdam, Netherlands	0.00		n/a	n/a
Schuster Versicherungsmakler GmbH[1]	Bielefeld	51.00		326	163
Schuster Versicherungsservice GmbH[1]	Bielefeld	100.00		28	0
Schwäbisch Hall Facility Management GmbH[1]	Schwäbisch Hall	51.00		4,007	120
Schwäbisch Hall Kreditservice GmbH[1,5]	Schwäbisch Hall	100.00		27,775	0
Schwäbisch Hall Wohnen GmbH Gesellschaft für wohnwirtschaftliche Dienstleistungen[1]	Schwäbisch Hall	100.00		636	2
SECURON Versicherungsmakler GmbH[1]	Munich	51.00		788	409
Shamrock Trading Opco LLC[1]	Majuro, Marshall Islands	0.00		-4,055	-978
Shark Aircraft Leasing (Ireland) Limited i. L.[1]	Dublin, Ireland	0.00		n/a	n/a

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
SHT Schwäbisch Hall Training GmbH[1]	Schwäbisch Hall	100.00		5,428	448
SIIM Fund I (Shipping and Intermodal Investment Management Fund)[1]	Majuro, Marshall Islands	0.00		n/a	n/a
SIIM Fund II (Shipping and Intermodal Investment Management Fund II) LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
SIIM Marlin Holdings LLC[1]	Majuro, Marshall Islands	63.81		n/a	n/a
SIKINOS GmbH[1]	Eschborn	100.00		232	207
SINALOA Aircraft Leasing Limited[1]	Floriana, Malta	0.00		n/a	n/a
Sprint Sanierung GmbH[1]	Cologne	100.00		31,611	608
SRF I Limited[1]	Floriana, Malta	0.00		n/a	n/a
SRF II Limited[1]	Floriana, Malta	0.00		n/a	n/a
SRF III Limited[1]	Floriana, Malta	0.00		n/a	n/a
Stani Trading Opco LLC[1]	Majuro, Marshall Islands	0.00		486	9,400
Stephenson Capital Limited[1]	George Town, Cayman Islands	0.00		n/a	n/a
Stormers Aircraft Leasing (Malta) Ltd.[1]	Floriana, Malta	100.00	0.00	n/a	n/a
Taigetos Funding LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Taigetos II LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Taigetos III LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
TeamBank AG Nürnberg[2,5]	Nuremberg	92.34		639,699	0
TEGANON GmbH[1]	Eschborn	100.00		27	2
TEGANON GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		3	20
Terra Maris I LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Tiger Aircraft Leasing (UK) Limited[1]	London, UK	0.00		n/a	n/a
TILIAS GmbH[1]	Eschborn	100.00		44	19
TILIAS GmbH & Co. Immobilien KG[1]	Eschborn	50.00	76.00	24	23
TOPAS GmbH[1]	Eschborn	100.00		49	24
TOPAS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	30	29
TUKANA GmbH[1]	Eschborn	100.00		43	18
TUKANA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	22	21
Twenty Holding Private Limited[1]	Singapore, Singapore	0.00		n/a	n/a
UI Vario: 2 issued by Union Investment Luxembourg S.A.[1]	Luxembourg, Luxembourg	0.00		n/a	n/a
UII Issy 3 Moulins SARL[1]	Paris, France	100.00		8	-2
UII Verwaltungsgesellschaft mbH[1]	Hamburg	100.00		25	0
UIN Union Investment Institutional Fonds Nr. 560[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 578[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 635[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 669[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 715[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 716[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 772[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 817[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 825[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 833[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 834[1]	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 839[1]	Frankfurt am Main	0.00		n/a	n/a
UIR FRANCE 1 S.a.r.l.[1]	Paris, France	100.00		33	2
UIR FRANCE 2 S.a.r.l.[1]	Paris, France	100.00		35	2
UIR Verwaltungsgesellschaft mbH[1]	Hamburg	100.00		90	4
UMB Unternehmens-Managementberatungs GmbH[1]	Wiesbaden	100.00		1,452	528
UMBI GmbH[1]	Wiesbaden	100.00		77	5
UniInstitutional European Mixed Trend[1]	Luxembourg, Luxembourg	0.00		n/a	n/a
UniInstitutional Global Bonds Select[1]	Luxembourg, Luxembourg	0.00		n/a	n/a
UniObligacje High Yield FIZ[1]	Warsaw, Poland	0.00		n/a	n/a
Union Asset Management Holding AG[2]	Frankfurt am Main	96.50		705,432	327,431
Union Investment Austria GmbH[1]	Vienna, Austria	100.00		13,328	-1,582
Union Investment Financial Services S.A.[1]	Luxembourg, Luxembourg	100.00		17,584	1,630
Union Investment Institutional GmbH[1,5,6]	Frankfurt am Main	100.00		68,970	0
Union Investment Institutional Property GmbH[1,6]	Hamburg	90.00		19,667	5,707
Union Investment Luxembourg S.A.[1]	Luxembourg, Luxembourg	100.00		222,737	76,590
Union Investment Privatfonds GmbH[1,5,6]	Frankfurt am Main	100.00		285,942	0
Union Investment Real Estate Asia Pacific Pte. Ltd.[1]	Singapore, Singapore	100.00		1,928	736
Union Investment Real Estate Austria AG[1]	Vienna, Austria	94.50		7,215	0
Union Investment Real Estate France S.A.S.[1]	Paris, France	100.00		2,934	1,315
Union Investment Real Estate GmbH[2,6]	Hamburg	94.50		162,227	52,900
Union Investment Service Bank AG[1,5,6]	Frankfurt am Main	100.00		42,115	0

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Union Investment Towarzystwo Funduszy Inwestycyjnych S.A.[1]	Warsaw, Poland	100.00		29,047	6,620
Union IT-Services GmbH[1 5 6]	Frankfurt am Main	100.00		3,485	0
Union Service-Gesellschaft mbH[1 5 6]	Frankfurt am Main	100.00		7,079	0
UniStrategia Opcja na Zysk[1]	Warsaw, Poland	0.00		n/a	n/a
Unterstützungskasse der Condor Versicherungsgesellschaften GmbH[1]	Hamburg	66.67		26	0
URA Verwaltung GmbH[1]	Vienna, Austria	100.00		n/a	n/a
US Owner Trust N564RP[1]	Wilmington, USA	0.00		10,976	2,642
VAUTID (SHANGHAI) Wear Resistant Material Trading Co. Ltd.[1]	Shanghai, China	100.00		1,088	317
VAUTID Austria GmbH[1]	Marchtrenk, Austria	100.00		682	54
VAUTID GmbH[1]	Ostfildern	82.51		5,567	641
VAUTID INDIA PRIVATE LIMITED[1]	Mumbai, India	100.00		n/a	n/a
Vautid North America, Inc.[1]	Carnegie, USA	0.00	100.00	-334	5
VisualVest GmbH[1 6]	Frankfurt am Main	100.00		7,525	-5,157
VMB Vorsorgemanagement für Banken GmbH[1]	Overath	90.00		58	-8
vohtec Qualitätssicherung GmbH[1]	Aalen	74.57	74.58	10,488	2,115
VR BKE Beratungsgesellschaft für Klima & Energie GmbH i.L.[1]	Wiesbaden	66.67		243	0
VR Consultingpartner GmbH[2]	Frankfurt am Main	100.00		2,468	-521
VR Corporate Finance GmbH	Düsseldorf	100.00		832	-3,764
VR DISKONTBANK GmbH[1 5]	Eschborn	100.00		101,147	0
VR Equity Gesellschaft für regionale Entwicklung in Bayern mbH[1]	Frankfurt am Main	100.00		2,393	-107
VR Equitypartner Beteiligungskapital GmbH & Co. KG UBG[2]	Frankfurt am Main	100.00		35,986	0
VR Equitypartner GmbH[3]	Frankfurt am Main	100.00		90,630	21,560
VR Equitypartner Management GmbH[1]	Frankfurt am Main	100.00		377	-64
VR FACTOREM GmbH[1 5]	Eschborn	100.00		39,385	0
VR GbR[2]	Frankfurt am Main	100.00		193,105	0
VR Hausbau AG[1]	Stuttgart	94.48		2,750	0
VR HYP GmbH[1]	Hamburg	100.00		25	0
VR ImmoConsult GmbH[1]	Düsseldorf	51.00		373	73
VR Kreditservice GmbH[1 5]	Hamburg	100.00		25	0
VR Real Estate GmbH[1]	Hamburg	100.00		25	0
VR WERT Gesellschaft für Immobilienbewertung mbH[1 5]	Hamburg	100.00		50	0
VR-IMMOBILIEN-LEASING GmbH[1 5]	Eschborn	100.00		14,123	0
VR-LEASING ABYDOS GmbH[1]	Eschborn	100.00		56	31
VR-LEASING ABYDOS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	-66	57
VR-LEASING AKANTHUS GmbH[1]	Eschborn	100.00		27	2
VR-LEASING AKANTHUS GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	21
VR-LEASING Aktiengesellschaft[5]	Eschborn	100.00		211,070	0
VR-LEASING ALDEBARA GmbH[1]	Eschborn	100.00		42	17
VR-LEASING ALDEBARA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	-434	-17
VR-LEASING AMETRIN GmbH[1]	Eschborn	100.00		27	2
VR-LEASING AMETRIN GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	29
VR-LEASING ARINA GmbH[1]	Eschborn	100.00		48	23
VR-LEASING ARINA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	29	28
VR-LEASING ARKI GmbH[1]	Eschborn	100.00		51	26
VR-LEASING ARKI GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	32	31
VR-LEASING ASINE GmbH[1]	Eschborn	100.00		47	22
VR-LEASING ASINE GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	-250	17
VR-LEASING ASOPOS GmbH[1]	Eschborn	100.00		27	2
VR-LEASING ASOPOS GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	16
VR-LEASING ATRIA GmbH[1]	Eschborn	100.00		40	15
VR-LEASING ATRIA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	55.00	20	19
VR-LEASING AVENTURIN GmbH[1]	Eschborn	100.00		40	15
VR-LEASING AVENTURIN GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	22	18
VR-LEASING BETA GmbH[1]	Eschborn	100.00		27	2
VR-LEASING BETA GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	23
VR-Leasing Beteiligungs GmbH[1]	Eschborn	100.00		77,242	3,671
VR-LEASING DELOS GmbH[1]	Eschborn	100.00		27	2
VR-LEASING DELOS GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	25
VR-LEASING DIVO GmbH[1]	Eschborn	100.00		55	30
VR-LEASING DIVO GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	40	37
VR-LEASING DOBAS GmbH & Co. Immobilien KG[1]	Eschborn	100.00		5	47
VR-LEASING ERIDA GmbH[1]	Eschborn	100.00		40	3
VR-LEASING ERIDA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	-231	-163

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR-LEASING FABIO GmbH[1]	Eschborn	100.00		36	11
VR-LEASING FABIO GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	15	14
VR-LEASING FACTA GmbH[1]	Eschborn	100.00		25	0
VR-LEASING FAGURA GmbH & Co. Erste Immobilien KG[1 6]	Eschborn	100.00		3	17
VR-LEASING FAGURA GmbH & Co. Sechste Immobilien KG[1]	Eschborn	6.00	76.00	27	19
VR-LEASING FAGURA GmbH & Co. Siebte Immobilien KG[1]	Eschborn	6.00	68.00	27	25
VR-LEASING FARINA GmbH[1]	Eschborn	100.00		38	12
VR-LEASING FARINA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	16	15
VR-LEASING FERRIT GmbH & Co. Erste Immobilien KG[1]	Eschborn	6.00	76.00	862	92
VR-LEASING FERRIT GmbH & Co. Fünfte Immobilien KG[1]	Eschborn	6.00	76.00	20	18
VR-LEASING FERRIT GmbH & Co. Zweite Immobilien KG[1]	Eschborn	0.00	52.00	-367	66
VR-LEASING FLAVUS GmbH[1]	Eschborn	100.00		40	15
VR-LEASING FLAVUS GmbH & Co. Immobilien KG[1]	Eschborn	100.00		-1,518	-37
VR-LEASING FORTUNA GmbH[1]	Eschborn	100.00		25	0
VR-LEASING FRONTANIA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	1,022	99
VR-LEASING FULVIUS GmbH[1]	Eschborn	100.00		48	23
VR-LEASING Hauptverwaltung GmbH & Co. KG[1]	Eschborn	94.80	76.00	6,860	0
VR-LEASING IKANA GmbH[1]	Eschborn	100.00		54	29
VR-LEASING IKANA GmbH & Co. Immobilien KG[1 6]	Eschborn	6.00	76.00	4	31
VR-LEASING Immobilien-Holding GmbH & Co. KG[1 6]	Eschborn	0.00	51.00	231	94
VR-LEASING IRIS GmbH[1]	Eschborn	100.00		38	13
VR-LEASING IRIS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	17	16
VR-LEASING ISORA GmbH[1]	Eschborn	100.00		40	15
VR-LEASING ISORA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	19	18
VR-LEASING KOSMOS GmbH[1 5]	Eschborn	100.00		89	0
VR-LEASING LEROS GmbH[1]	Eschborn	100.00		42	17
VR-LEASING LEROS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	20	18
VR-LEASING LIMNOS GmbH[1]	Eschborn	100.00		42	17
VR-LEASING LIMNOS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	22	21
VR-LEASING LOTIS GmbH[1]	Eschborn	100.00		58	33
VR-LEASING LOTIS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	41	39
VR-LEASING LYRA GmbH[1]	Eschborn	100.00		54	29
VR-LEASING LYRA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	39	41
VR-LEASING MADIUM GmbH[1]	Eschborn	100.00		113	88
VR-LEASING MADIUM GmbH & Co. Immobilien KG[1 6]	Eschborn	100.00		103	106
VR-LEASING MADRAS GmbH[1]	Eschborn	100.00		25	-1
VR-LEASING MADURA GmbH[1]	Eschborn	100.00		15	-10
VR-LEASING MAGADIS GmbH[1]	Eschborn	100.00		71	46
VR-LEASING MAGADIS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	42	58
VR-LEASING MALAKON GmbH[1]	Eschborn	100.00		36	10
VR-LEASING MALAKON GmbH & Co. Immobilien KG[1]	Eschborn	15.00	75.50	3,181	213
VR-LEASING MANEGA GmbH[1]	Eschborn	100.00		38	13
VR-LEASING MANEGA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	75.50	-11	23
VR-LEASING MANIOLA GmbH[1]	Eschborn	100.00		39	13
VR-LEASING MANIOLA GmbH & Co. Immobilien KG[1]	Eschborn	11.20	51.00	2,460	145
VR-LEASING MARKASIT GmbH[1]	Eschborn	100.00		26	1
VR-LEASING MARKASIT GmbH & Co. Immobilien KG[1]	Eschborn	100.00		-38	46
VR-LEASING MAROS GmbH[1]	Eschborn	100.00		42	17
VR-LEASING MAROS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	21	20
VR-LEASING MARTES GmbH[1]	Eschborn	100.00		39	13
VR-LEASING MARTES GmbH & Co. Immobilien KG[1]	Eschborn	14.50	51.00	1,830	112
VR-LEASING MAXIMA GmbH[1]	Eschborn	100.00		26	1
VR-LEASING MENTHA GmbH[1]	Eschborn	100.00		35	9
VR-LEASING MENTHA GmbH & Co. Immobilien KG[1]	Eschborn	22.00	51.00	787	52
VR-LEASING MENTUM GmbH[1]	Eschborn	100.00		47	22
VR-LEASING MENTUM GmbH & Co. Immobilien KG[1]	Eschborn	7.80	51.00	4,535	435
VR-LEASING MERGUS GmbH[1]	Eschborn	100.00		44	19
VR-LEASING MERGUS GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	23	23
VR-LEASING METIS GmbH[1]	Eschborn	100.00		25	-7
VR-LEASING METRO GmbH & Co. Objekte Rhein-Neckar KG[1]	Eschborn	100.00		-590	202
VR-LEASING MILETOS GmbH[1]	Eschborn	100.00		45	20
VR-LEASING MILETOS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	25	24
VR-LEASING MILIUM GmbH[1]	Eschborn	100.00		40	15

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR-LEASING MILIUM GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	19	18
VR-LEASING MILVUS GmbH[1]	Eschborn	100.00		26	0
VR-LEASING MORIO GmbH[1]	Eschborn	100.00		25	0
VR-LEASING MUNDA GmbH[1]	Eschborn	100.00		27	2
VR-LEASING MUNDA GmbH & Co. Immobilien KG[1]	Eschborn	100.00		3	55
VR-LEASING MUSCAN GmbH[1]	Eschborn	100.00		35	9
VR-LEASING MUSCAN GmbH & Co. Immobilien KG[1]	Eschborn	19.10	51.00	941	60
VR-LEASING MUSTELA GmbH[1]	Eschborn	100.00		53	28
VR-LEASING NALANDA GmbH[1]	Eschborn	100.00		44	18
VR-LEASING NALANDA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	75.50	20	22
VR-LEASING NAPOCA GmbH[1]	Eschborn	100.00		39	14
VR-LEASING NAPOCA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	51.00	57	143
VR-LEASING NATANTIA GmbH[1]	Eschborn	100.00		53	26
VR-LEASING NAVARINO GmbH[1]	Eschborn	100.00		66	41
VR-LEASING NAVARINO GmbH & Co. Immobilien KG[1]	Eschborn	100.00		-472	153
VR-LEASING NEKTON GmbH[1]	Eschborn	100.00		26	0
VR-LEASING NESTOR GmbH[1]	Eschborn	100.00		48	23
VR-LEASING NESTOR GmbH & Co. Immobilien KG[1]	Eschborn	6.00	75.50	22	29
VR-LEASING NETTA GmbH[1]	Eschborn	100.00		56	25
VR-LEASING NETTA GmbH & Co. Immobilien KG[1,6]	Eschborn	94.00	51.00	14	32
VR-LEASING NOVA Fünfte GmbH[1]	Eschborn	100.00		55	30
VR-LEASING NOVA Vierte GmbH[1]	Eschborn	100.00		56	31
VR-LEASING ONDATRA GmbH[1]	Eschborn	100.00		55	30
VR-LEASING ONDATRA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	37	35
VR-LEASING ONYX GmbH[1]	Eschborn	100.00		40	14
VR-LEASING ONYX GmbH & Co. Immobilien KG[1]	Eschborn	100.00		-132	1,195
VR-LEASING OPAVA GmbH[1]	Eschborn	100.00		26	1
VR-LEASING OPAVA GmbH & Co. Immobilien KG[1]	Eschborn	100.00		-2,382	591
VR-LEASING OPHIR GmbH[1]	Eschborn	100.00		31	5
VR-LEASING OPHIR GmbH & Co. Immobilien KG[1]	Eschborn	100.00	83.66	-7,433	638
VR-LEASING OPTIMA GmbH[1]	Eschborn	100.00		74	48
VR-LEASING OPTIMA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	-87	82
VR-LEASING ORDO GmbH[1]	Eschborn	100.00		41	15
VR-LEASING OSMERUS GmbH[1]	Eschborn	100.00		72	46
VR-LEASING PAROS GmbH[1]	Eschborn	100.00		122	97
VR-LEASING PAROS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	73	242
VR-LEASING POCO GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	-6	34
VR-LEASING REGELSCHULE GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	19	18
VR-LEASING RUSSLAND Holding GmbH[1]	Eschborn	100.00		538	0
VR-LEASING SALIX GmbH[1]	Eschborn	100.00		75	50
VR-LEASING SALIX GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	61	60
VR-LEASING SALONA GmbH[1]	Eschborn	100.00		33	8
VR-LEASING SALONA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	75.50	9	37
VR-LEASING SALVIA GmbH[1]	Eschborn	100.00		215	189
VR-LEASING SAMARA GmbH[1]	Eschborn	100.00		86	60
VR-LEASING SAMARA GmbH & Co. Immobilien KG[1]	Eschborn	100.00		73	81
VR-LEASING SANAGA GmbH[1]	Eschborn	100.00		47	22
VR-LEASING SANAGA GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		27	26
VR-LEASING SANIDOS GmbH[1]	Eschborn	100.00		43	18
VR-LEASING SANIDOS GmbH & Co. Immobilien KG[1]	Eschborn	4.00	52.00	26	25
VR-LEASING SARITA GmbH[1]	Eschborn	100.00		42	17
VR-LEASING SARITA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	21	20
VR-LEASING SASKIA GmbH[1]	Eschborn	100.00		42	17
VR-LEASING SASKIA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	21	20
VR-LEASING SEPIA GmbH[1]	Eschborn	100.00		35	10
VR-LEASING SEPIA GmbH & Co. Immobilien KG[1]	Eschborn	4.00	52.00	815	14
VR-LEASING SIGUNE GmbH[1]	Eschborn	100.00		42	17
VR-LEASING SIGUNE GmbH & Co. Immobilien KG[1]	Eschborn	6.00	68.00	22	21
VR-LEASING SIMA GmbH[1]	Eschborn	100.00		49	24
VR-LEASING SIMA GmbH & Co. Immobilien KG[1]	Eschborn	0.00	51.00	30	28
VR-LEASING SINABIS GmbH[1]	Eschborn	100.00		34	9
VR-LEASING SINABIS GmbH & Co. Immobilien KG[1]	Eschborn	6.00	75.50	14	11
VR-LEASING SIRIUS GmbH[1]	Eschborn	100.00		27	2

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR-LEASING SIRIUS GmbH & Co. Immobilien KG[1,6]	Eschborn	100.00		3	29
VR-LEASING SOLIDUS Dreizehnte GmbH[1]	Eschborn	100.00		46	20
VR-LEASING SOLIDUS Dreizehnte GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	26	25
VR-LEASING SOLIDUS Elfte GmbH[1]	Eschborn	100.00		46	20
VR-LEASING SOLIDUS Elfte GmbH & Co. Immobilien KG[1]	Eschborn	94.00	76.00	26	25
VR-LEASING SOLIDUS Erste GmbH[1]	Eschborn	100.00		24	-1
VR-LEASING SOLIDUS Fünfte GmbH[1]	Eschborn	100.00		29	4
VR-LEASING SOLIDUS Neunte GmbH[1]	Eschborn	100.00		35	10
VR-LEASING SOLIDUS Neunte GmbH & Co. Immobilien KG[1]	Eschborn	0.00	52.00	2,614	589
VR-LEASING SOLIDUS Neunzehnte GmbH[1]	Eschborn	100.00		44	19
VR-LEASING SOLIDUS Neunzehnte GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	24	23
VR-LEASING SOLIDUS Sechzehnte GmbH[1]	Eschborn	100.00		41	16
VR-LEASING SOLIDUS Sechzehnte GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	21	19
VR-LEASING SOLIDUS Siebte GmbH[1]	Eschborn	100.00		24	-1
VR-LEASING SOLIDUS Vierzehnte GmbH[1]	Eschborn	100.00		41	16
VR-LEASING SOLIDUS Zweite GmbH[1]	Eschborn	100.00		52	27
VR-LEASING SOLIDUS Zweite GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	33	11
VR-LEASING SOLIDUS Zwölfte GmbH[1]	Eschborn	100.00		47	22
VR-LEASING TELLUR GmbH[1]	Eschborn	100.00		46	21
VR-LEASING TELLUR GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	26	25
VR-LEASING ZAWISLA GmbH & Co. Immobilien KG[1]	Eschborn	6.00	76.00	25	15
Wadi Funding LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Wadi Woraya I LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Wadi Woraya III LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Wasps Aircraft Leasing (Ireland) Limited i. L.[1]	Dublin, Ireland	0.00		n/a	n/a
Waverley Shipping Opco LLC[1]	Majuro, Marshall Islands	0.00		-5,014	-3,036
WBS Wohnwirtschaftliche Baubetreuungs- und Servicegesellschaft mbH[1]	Stuttgart	94.90		16,068	2,344
Weinmann GmbH & Co. Objekt Eichwald KG[1,6]	Eschborn	100.00		3	49
WGZ Immobilien + Management GmbH[5]	Münster	100.00		35	0
WGZ ImmobilienKontor GmbH[1]	Münster	100.00		61	0
WGZ ImmobilienKontor GmbH & Co. KG[1]	Münster	55.00		72	149
WL BANK AG Westfälische Landschaft Bodenkreditbank[3,5]	Münster	90.92		355,084	0
ZPF Asia Pacific Pte. Ltd.[1]	Singapore, Singapore	100.00		n/a	n/a
ZPF Holding GmbH i. L.[1]	Siegelsbach	95.58		21	-680
ZPF Industrial Furnaces (Taicang) Co. Ltd.[1]	Taicang, China	100.00		n/a	n/a
ZPF Services GmbH i. L.[1]	Heilbronn	100.00		61	36
ZPF Therm Maschinenbau GmbH i. L.[1]	Siegelsbach	100.00		5,371	-338

JOINT VENTURES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
38321 & 38329 Aircraft Leasing (Cayman) Ltd.[1]	Grand Cayman, Cayman Islands	50.00	0.00	10,976	2,642
AerCap Partners I Ltd.[1]	Shannon, Ireland	50.00	0.00	n/a	n/a
AerCap Partners II Ltd.[1]	Shannon, Ireland	0.00		n/a	n/a
BAU + HAUS Management GmbH[1]	Wiesbaden	50.00		11,209	869
BEA Union Investment Management Limited[1]	Hong Kong, Hong Kong	49.00		59,233	7,715
Ceskomoravska stavebni sporitelna a. s.[1]	Prague, Czech Republic	45.00		360,695	40,848
D8 Product Tankers I LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
D8 Product Tankers Investments LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Deucalion MC Engine Leasing (Ireland) Ltd.[1]	Dublin, Ireland	0.00		8,786	719
Deutsche WertpapierService Bank AG	Frankfurt am Main	50.00		182,463	11,128
DGVR Alpha Mobilien-Verwaltungsgesellschaft mbH[1]	Eschborn	50.00		25	0
DUO PLAST Holding GmbH[1]	Lauterbach	47.43		14,474	1,614
DZ BANK Galerie im Städel Kunstverwaltungsgesellschaft mbH	Frankfurt am Main	50.00		18	-1
GMS Holding GmbH[1]	Paderborn	58.89	45.00	9,711	711
Herakleitos 3050 LLC[1]	Majuro, Marshall Islands	50.00		n/a	n/a
Intermodal Investment Fund IV LLC[1]	Majuro, Marshall Islands	0.00		24,133	3,387
Intermodal Investment Fund VIII LLC[1]	Majuro, Marshall Islands	50.00	0.00	6,984	948
IZD-Holding S.à.r.l.[1]	Luxembourg, Luxembourg	50.30	50.00	42,861	-390
Leuna Tenside Holding GmbH[1]	Leuna	50.00		9,430	-1,659
MS Oceana Schifffahrtsgesellschaft mbH & Co. KG[1]	Hamburg	50.00	0.00	7,041	-595
MS Octavia Schifffahrtsgesellschaft mbH & Co. KG[1]	Hamburg	50.00	0.00	5,695	-1,063
Norafin Verwaltungs GmbH[1]	Mildenau	44.72		n/a	n/a
Prvá stavebná sporitel'na, a. s.[1]	Bratislava, Slovakia	32.50		240,150	22,747
R+V Kureck Immobilien GmbH Grundstücksverwaltung Braunschweig[1]	Wiesbaden	50.00		8,119	363
Raiffeisen Banca Pentru Locuinte S.A.[1]	Bucharest, Romania	33.32		15,538	222
TAG ASSET Management LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
TrustBills GmbH	Hamburg	25.00		66	-9
VB-Leasing International Holding GmbH[1]	Vienna, Austria	50.00		79,469	1,298
Versicherungs-Vermittlungsgesellschaft des Sächsischen Landesbauernverbandes mbH[1]	Dresden	50.00		200	22
Versicherungs-Vermittlungsgesellschaft mbH des Bauernverbandes Mecklenburg-Vorpommern e. V. (VVB)[1]	Neubrandenburg	50.00		156	11
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Brandenburg (VVB)[1]	Teltow	50.00		33	4
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Sachsen-Anhalt e. V. (VVB)[1]	Magdeburg	50.00		50	7
Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse) Ltd.[1]	Tianjin, China	24.90		362,713	25,993

ASSOCIATES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
8F Leasing S.A.[1]	Contern, Luxembourg	0.00		n/a	n/a
A330 Parts Ltd.[1]	Newark, USA	0.00		10,976	2,642
Aer Lucht Limited[1]	Dublin, Ireland	0.00		n/a	n/a
Artemis Gas 1 Shipping Inc.[1]	Piraeus, Greece	0.00		n/a	n/a
Aviateur Capital Limited[1]	Dublin, Ireland	20.00		2,052	214
Bankenkonsortium der Zenit GmbH, GbR	Mülheim an der Ruhr	33.30		0	0
bbv-service Versicherungsmakler GmbH[1]	Munich	25.20		1,822	454
Box TopCo AS[1]	Oslo, Norway	0.00		n/a	n/a
Cassa Centrale Banca - Credito Cooperativo del Nord Est Società per Azioni	Trento, Italy	25.00	26.47	225,508	14,807
Celestyal Cruises Ltd.[1]	Strovolos, Cyprus	49.00	33.33	n/a	n/a
Danae Gas Shipping Inc[1]	Majuro, Marshall Islands	0.00		n/a	n/a
Dr. Förster Holding GmbH[1]	Neu-Isenburg	20.06		n/a	n/a
Epic Pantheon International Gas Shipping Ltd.[1]	Tortola, Virgin Islands	0.00		n/a	n/a
ERR Rail Rent Vermietungs GmbH[1]	Vienna, Austria	9.00		n/a	n/a
European Convenience Food GmbH[1]	Borken	45.19		-2,232	-2,273
European Property Beteiligungs-GmbH[1]	Frankfurt am Main	38.90	33.20	1,028	-22
GGB-Beratungsgruppe GmbH	Stuttgart	23.13		-1,123	-1,858
GHM Holding GmbH[1]	Regenstauf	40.00		17,236	-25
GHM MPP Reserve GmbH[1]	Regenstauf	50.00		361	-3
GHM MPP Verwaltungs GmbH[1]	Regenstauf	50.00		28	0
Global Asic GmbH[1]	Dresden	30.80		13,987	85,510
Global Offshore Services B.V.[1]	Amsterdam, Netherlands	32.00	0.00	n/a	n/a
Goldeck Zetti Beteiligungsgesellschaft mbH[1]	Leipzig	39.23		25,744	-1,938
Gram Car Carriers Holdings Pte. Ltd.[1]	Singapore, Singapore	0.00		n/a	n/a
Hör Technologie GmbH[1]	Weiden i.d.OPf.	61.54	49.99	7,907	1,109
Kapitalbeteiligungsgesellschaft für die mittelständische Wirtschaft in Nordrhein-Westfalen mbH - KBG -	Neuss	23.60		2,284	560
KCM Bulkers Ltd.[1]	Tortola, Virgin Islands	0.00		n/a	n/a
KOTANI JV CO. BV[1]	Amsterdam, Netherlands	0.00		81,406	11,627
KTP Holding GmbH[1]	Bous	37.36		24,098	4,643
Mandarin Containers Limited[1]	Tortola, Virgin Islands	0.00		n/a	n/a
Modex Holding Limited (BVI)[1]	Tortola, Virgin Islands	0.00		n/a	n/a
MON A300 Leasing Ltd.[1]	George Town, Cayman Islands	0.00		79	1,692
MON Engine Parts Inc.[1]	Wilmington, USA	20.00		3,658	322
Mount Faber KS[1]	Oslo, Norway	0.00		n/a	n/a
MSEA Aframax Holdings LLC[1]	Majuro, Marshall Islands	0.00		n/a	n/a
MSEA Marlin Holdings LLC[1]	Majuro, Marshall Islands	48.95		n/a	n/a
MSN 1272&1278 Aircraft Leasing[1]	Grand Cayman, Cayman Islands	20.00		n/a	n/a
n3k Informatik GmbH[1]	Heilbronn	58.33	49.99	n/a	n/a
Neida Holding AG[1]	Appenzell, Switzerland	35.00		-1,426	-2,707
Ostertag Holding GmbH[1]	Walddorfhäslach	54.68	49.90	n/a	n/a
Piller Entgrattechnik GmbH[1]	Ditzingen	40.00		8,751	1,478
PI-SM GmbH[1]	Ehringshausen	32.30		n/a	n/a
SCL GmbH[1]	Butzbach	49.00		6,544	760
Sementis GmbH Stephan Behr Vermögensverwaltung[1]	Eisenach	24.90	0.00	12,174	13
Service-Direkt Telemarketing Verwaltungsgesellschaft mbH	Weinheim	32.83		5,467	1
SRF Railcar Leasing Limited[1]	Cashel, Ireland	100.00	0.00	n/a	n/a
TAP Ltd.[1]	Hamilton, Bermuda	38.05		n/a	n/a
TES Holding Ltd.[1]	Bridgend, UK	40.00		30,702	-5,263
Touax Rail Finance 3 Ltd.[1]	Bracetown, Ireland	0.00		n/a	n/a
Treuhand- und Finanzierungsgesellschaft für Wohnungs- und Bauwirtschaft mit beschränkter Haftung. Treufinanz	Düsseldorf	33.14		2,453	-240
TREVA Entertainment GmbH i. L.[1]	Hamburg	32.70		1,269	-529
United MedTec Holding GmbH[1]	Bückeburg	41.01		9,521	330
VR Mittelstandskapital Unternehmensbeteiligungs AG[2]	Düsseldorf	39.26		11,293	-2,015
Weisshaar Holding GmbH[1]	Frankfurt am Main	84.94	49.92	25	0
Wessel-Werk Beteiligungsverwaltung GmbH i. L.[1]	Karlsruhe	45.00		-2,088	-1,527
WÜRTT. GENO-HAUS GmbH & Co. KG	Stuttgart	29.70		38,823	1,543
Zarges Tubesca Finance GmbH[1]	Weilheim	26.67		18	11

SHAREHOLDINGS OF 20% OR MORE

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
ANDROS GmbH & Co. Immobilien KG[1]	Gilching	20.00	8.00	0	99
Assiconf S.r.l.[1]	Turin, Italy	20.00		80	6
ASSICRA Servizi Assisurativi Banche di Credito Cooperativo Abruzzo e Molise S.r.l.[1]	Pescara, Italy	25.00		376	28
ATRION Immobilien GmbH & Co. KG[1]	Grünwald	31.63		45,241	4,808
BCC RISPARMIO & PREVIDENZA S.G.R.P.A.[1]	Milan, Italy	25.00		38,393	12,806
BLE Bau- und Land-Entwicklungsgesellschaft Bayern GmbH[1]	Munich	20.00		300	-40
BRASIL FLOWERS S.A.[1]	Barbacena, Brazil	45.00		n/a	n/a
Burghofspiele GmbH[1]	Eltville	20.00		61	-14
Bürgschaftsbank Brandenburg GmbH	Potsdam	25.31		26,328	1,340
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	30.38		16,150	194
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	29.73		14,949	93
Bürgschaftsbank Thüringen GmbH	Erfurt	22.13		23,397	910
CardProcess GmbH	Karlsruhe	39.80		30,693	272
CMMT Partners L.P[1]	Camden, USA	26.64	0.00	n/a	n/a
Corpus Sireo Health Care III[1]	Luxembourg, Luxembourg	33.90	0.00	n/a	n/a
Corpus Sireo Health Care IV[1]	Luxembourg, Luxembourg	99.60	0.00	n/a	n/a
Credit Suisse Global Infrastructure SCA SICAR[1]	Luxembourg, Luxembourg	30.09		348,090	117,121
Dacos Software GmbH[1]	Saarbrücken	29.96		n/a	n/a
DZ BANK Mikrofinanzfonds eG[2]	Frankfurt am Main	30.82	0.45	249	2
Finatem II GmbH & Co. KG[1]	Frankfurt am Main	20.20		23,213	-2,691
FREUNDE DER EINTRACHT FRANKFURT Aktiengesellschaft[1]	Frankfurt am Main	32.05		2,893	3
GbR Ottmann GmbH & Co. Südhausbau KG, München VR Hausbau AG, Stuttgart (GbR 'Ackermannbogen.de-Wohnen am Olympiapark')[1]	Munich	50.00		62	-4
GENO-Haus Stuttgart Beteiligungs GmbH	Stuttgart	33.33		29	0
GENO-Haus Stuttgart GmbH & Co. KG Verwaltungsgesellschaft	Stuttgart	45.45		13	0
GENOPACE GmbH[1]	Berlin	22.49		0	0
German Equity Partners III GmbH & Co. KG[1]	Frankfurt am Main	24.19		13,431	11,106
Gesellschaft für ernährungswirtschaftliche Beteiligungen mbH	Ochsenfurt	49.90		5,628	199
Global Infrastructure Partners III-C2, L.P.[1]	New York, USA	28.14	0.00	n/a	n/a
Golding Mezzanine SICAV IV[1]	Munsbach, Luxembourg	49.98		11,863	1,851
GTIS Brazil II S-Feeder LP[1]	Edinburgh, UK	100.00	0.00	21,902	-10,196
Hermann-Löns-Grundstücks- und Entwicklungs GbR[1]	Bergisch-Gladbach	50.00		176	176
HGI Immobilien GmbH[1]	Frankfurt am Main	50.00		112	10
HGI Immobilien GmbH & Co. GB I KG[1]	Frankfurt am Main	73.91	73.21	15,081	814
Kredit-Garantiegemeinschaft des bayerischen Handwerks Gesellschaft mit beschränkter Haftung	Munich	20.00		4,846	0
Kreditgarantiegemeinschaft in Baden-Württemberg Verwaltungs-GmbH	Stuttgart	20.00		1,023	0
Laetitia Grundstücksverwaltungsgesellschaft mbH & Co. Vermietungs-KG	Pullach	39.00		-3,190	8
Locanis AG[1]	Unterföhring	41.28		0	-2,966
Macquarie Asia Infrastructure Fund EU Feeder L.P[1]	London, UK	100.00	0.00	n/a	n/a
MB Asia Real Estate Feeder (Scot.) L.P.[1]	Edinburgh, UK	39.20	0.00	7,796	-1,772
Medico 12 GmbH & Co. KG[1]	Frankfurt am Main	99.98		2,058	-692
Mercateo Beteiligungsholding AG[1]	Taufkirchen	32.83		3,986	-262
P 21 GmbH - Power of the 21st Century i. L.[1]	Brunnthal	27.00	22.23	n/a	n/a
paydirekt GmbH	Frankfurt am Main	33.33		16,490	6,526
Q, Inc.[1]	San Francisco, USA	63.17		n/a	n/a
Schroder Italien Fonds GmbH & Co. KG[1]	Frankfurt am Main	23.08	19.74	728	-2,286
Schroder Property Services B.V.[1]	Amsterdam, Netherlands	30.00		141	40
Seguros Generales Rural S.A. de Seguros y Reaseguros[1]	Madrid, Spain	30.00		250,393	18,313
Technology DZ Venture Capital Fund I GmbH & Co. KG i. L.[1]	Munich	68.29		9,785	1,735
TF H III Technologiefonds Hessen Gesellschaft mit beschränkter Haftung	Wiesbaden	25.00		1,787	-18
TF H Technologie-Finanzierungsfonds Hessen Gesellschaft mit beschränkter Haftung (TF H GmbH) i. L.	Frankfurt am Main	33.33		574	0
Tishman Speyer Brazil Feeder (Scots/D), L.P.[1]	Edinburgh, UK	100.00		28,326	3,284
Tishman Speyer European Strategic Office Fund Feeder, L.P.[1]	London, UK	97.18		19,895	7,249
TXS GmbH[1]	Ellerau	24.50		200	665
VAUTID & HUIFENG (WUHU) Wear Resistant Material Co. Ltd.[1]	Wuhu, China	50.00		1,040	358
VAUTID Arabia Coating & Treatment of Metals LLC[1]	Ras Al Khaimah, United Arab Emirates	24.50	0.00	213	-41
VAUTID-SHAH HARDFACE Pvt. Ltd.[1]	Navi Mumbai, India	37.49		1,798	2,160
VBI Beteiligungs GmbH[1]	Vienna, Austria	24.50		70,472	-377,713
VR FinanzDienstLeistung GmbH	Berlin	24.50		2,181	313
VR-LEASING FIXUM GmbH[1]	Eschborn	100.00		37	12
VR-NetWorld GmbH[2]	Bonn	43.48		4,162	207
VV Immobilien GmbH & Co. United States KG[1]	Munich	25.00		7	80
ZhangJiaGang Vautid Yao Yu Wear Resistance Material Co., Ltd.[1]	Yangshe Town, China	50.00		n/a	n/a

MORE THAN 5% OF VOTING RIGHTS (LARGE CORPORATIONS)

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Banco Cooperativo Español S.A.	Madrid, Spain	12.02		421,484	37,357
Concardis GmbH	Eschborn	19.60		74,914	24,202
DEPFA BeteiligungsHolding II Gesellschaft mit beschränkter Haftung[1]	Düsseldorf	10.00		266	79,458
EDEKABANK Aktiengesellschaft	Hamburg	8.35		89,935	3,649
equensWorldline SE	Utrecht, Netherlands	11.89		319,931	-839
EURO Kartensysteme GmbH	Frankfurt am Main	19.60		329,788	66
PANELLINIA BANK SOCIETE ANONYME (under special liquidation)	Athens, Greece	8.42	5.28	50,143	-12,637
Protektor Lebensversicherungs-AG[1]	Berlin	5.27		92,900	1,824
Raiffeisendruckerei GmbH[1]	Neuwied	7.88		34,933	959
SCHUFA Holding AG[1]	Wiesbaden	17.94		58,073	20,747

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
ABE Clearing S.A.S a Capital Variable	Paris, France	1.85		15,604	4,791
AERS Consortio AG[1]	Stuttgart	16.50		125	-19
AKA Ausfuhrkredit-Gesellschaft mit beschränkter Haftung	Frankfurt am Main	0.31		212,967	16,035
Akademie Badischer Volksbanken und Raiffeisenbanken GmbH[1]	Karlsruhe	0.03		0	0
Almack Mezzanine I LP[1]	London, UK	9.82		6	64,126
Assicoop-Assicurazioni Cooperative S.r.l.[1]	Catania, Italy	0.41		n/a	n/a
assistance partner GmbH & Co. KG[1]	Munich	5.01	0.00	1,100	94
Bank Polskiej Spółdzielczosci Spólka Akcyjna	Warsaw, Poland	1.32		146,269	862
BayBG Bayerische Beteiligungsgesellschaft mbH	Munich	9.38		214,026	13,695
Bayerische Raiffeisen-Beteiligungs-Aktiengesellschaft[2]	Beilngries	1.85		829,633	29,718
BayWa Aktiengesellschaft[1]	Munich	0.10		647,563	36,307
Berliner Volksbank eG[1]	Berlin	0.00	0.10	847,845	17,335
Bernhauser Bank eG[1]	Filderstadt	0.01		n/a	n/a
Beteiligungs-Aktiengesellschaft der bayrischen Volksbanken[1]	Pöcking	1.49		231,090	6,489
BGG Bayerische Garantiegesellschaft mit beschränkter Haftung für mittelständische Beteiligungen	Munich	13.15		46,377	2,325
Blackrock Renewable Income Europe[1]	London, UK	7.69		n/a	n/a
Blackstone Real Estate Partners Europe III L.P.[1]	New York, USA	2.06	0.00	70	644,548
Blackstone Real Estate Partners International I.E. L.P.[1]	New York, USA	9.77		17	3,051
Börse Düsseldorf AG[2]	Düsseldorf	9.99		52,747	473
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	10.00		3,574	236
Bürgschaftsbank Bremen GmbH	Bremen	4.86		6,290	370
Bürgschaftsbank Hessen GmbH	Wiesbaden	15.87		18,167	930
Bürgschaftsbank Nordrhein-Westfalen GmbH Kreditgarantiegemeinschaft	Neuss	15.75		33,043	1,419
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	14.31		16,380	65
Bürgschaftsbank Sachsen GmbH	Dresden	14.66	16.59	38,150	2,300
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	11.79		38,646	217
Bürgschaftsbank zu Berlin-Brandenburg GmbH[1]	Berlin	3.11		10,798	554
BürgschaftsGemeinschaft Hamburg GmbH	Hamburg	6.36		23,964	965
Cash Logistik Security AG[1]	Düsseldorf	4.10		4,357	801
Celt S.A.[1]	Kraków, Poland	4.44	0.00	990	-300
Centrast S.A.[1]	Warsaw, Poland	0.64		3,431	-972
ChipVision Design Systems AG i. L.[1]	Oldenburg	16.30		n/a	n/a
CLS Group Holdings AG	Lucerne, Switzerland	0.69		523,087	73
Coop Sistem S.p.A.[1]	Rome, Italy	1.97		n/a	n/a
Corporativo Opción Sante Fe II S.A. DE C.V.[1]	Mexico City, Mexico	0.00		16,123	1,264
Cruz Martins & Wahl Lda.[1]	Lousado, Portugal	10.00		7,431	1,249
Cube Optics AG[1]	Mainz	14.16		n/a	n/a
Curzon Capital Partners III LP[1]	London, UK	11.99	0.00	n/a	n/a
Curzon Capital Partners IV LP[1]	London, UK	10.73	0.00	0	0
DEGEACTA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	5.20	24.50	n/a	n/a

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DEGENAVIS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Eschborn	6.00	24.50	n/a	n/a
DEGESAVE Achte GmbH & Co. Immobilien KG[1]	Hamburg	5.20	24.00	n/a	n/a
DePfa Beteiligungsholding III Gesellschaft mit beschränkter Haftung[1]	Düsseldorf	0.40		342	25,753
Deutsche Bauernsiedlung – Deutsche Gesellschaft für Landentwicklung (DGL) mbH[1]	Frankfurt am Main	16.26		0	0
Deutsche Börse Commodities GmbH	Frankfurt am Main	16.20	14.48	3,626	1,073
Deutsche Energie-Agentur GmbH (DEnA)	Berlin	8.00		4,527	-1,255
Deutscher Genossenschafts-Verlag eG[2]	Wiesbaden	1.48	1.28	70,702	3,527
DG ANLAGE Holland-Fonds 'Nieuwegein, 's-Hertogenbosch' GmbH & Co. KG (DGI 48)	Frankfurt am Main	0.57		0	-491
DG IMMOBILIEN MANAGEMENT Gesellschaft mbH	Frankfurt am Main	5.01		3,704	-228
DG Immobilien-Anlagegesellschaft 'Berlin, Pariser Platz 3' Dr. Neumann & Prüske KG (DGI 43) i. L.	Frankfurt am Main	6.24		11,265	75,337
DG Immobilien-Anlagegesellschaft Nr. 31 'Berlin-Mitte, Holzmarktstr. 15–18' Schütze & Dr. Neumann KG i. L.	Frankfurt am Main	0.06		2,980	1
DG Immobilien-Anlagegesellschaft Nr. 32 'Chemnitz, Essen' Schütze & Dr. Neumann KG i. L.	Frankfurt am Main	0.18		0	1,848
DG Immobilien-Anlagegesellschaft Nr. 34 'Berlin, Darmstadt, Frankfurt' Schütze & Dr. Neumann KG i. L.	Frankfurt am Main	0.06		0	-3,309
DG Immobilien-Anlagegesellschaft Nr. 35 'Berlin, Frankfurt' Prüske & Dr. Neumann KG i. L.	Frankfurt am Main	0.07		2,859	895
DG Immobilien-Anlagegesellschaft Nr. 36 'Seniorenresidenz Oberursel' Kreft & Dr. Neumann KG i. L.	Frankfurt am Main	0.26		0	-93
DG Immobilien-Anlagegesellschaft Nr. 37 'Berlin-Wegedornstrasse' GbR mit quotaler Haftung i. L.	Frankfurt am Main	0.66		0	4,350
DG IMMOBILIEN-Objektgesellschaft 'Stuttgart, Industriestrasse' Kreft & Dr. Neumann KG (DGI 49) i. L.	Frankfurt am Main	0.98		0	2,354
DIFA BELGIQUE 1 S.A.[1]	Brussels, Belgium	0.18		n/a	n/a
DIFA BELGIQUE 2 S.A.[1]	Brussels, Belgium	1.00		n/a	n/a
DIFA BELGIQUE 3 S.A.[1]	Brussels, Belgium	0.01		n/a	n/a
Domus Beteiligungsgesellschaft der Privaten Bausparkassen mbH Berlin[1]	Berlin	14.13		17	-1
Dritte Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Hamburg	5.00	24.00	n/a	n/a
EIG Energy Fund XVI (Scotland) L.P.[1]	Edinburgh, UK	14.02	0.00	195,563	-2,750
Euro Capital S.A.S.[1]	Metz, France	6.67		32,736	1,659
European Property Investors Special Opportunities, L.P.[1]	London, UK	6.35	0.00	23,003	0
European Property Investors, L.P.[1]	London, UK	6.50		0	0
EXTREMUS Versicherungs-Aktiengesellschaft[1]	Cologne	5.00		65,690	500
Familiengenossenschaft Münsterland eG	Münster (Westphalia)	1.09		61	-16
Fiducia & GAD IT AG[2]	Frankfurt am Main	0.35		409,743	-338
FIDUCIA Mailing Services eG[2]	Karlsruhe	0.18		83	0
Flugplatz Schwäbisch Hall GmbH[1]	Schwäbisch Hall	2.00		49	0
Fundus-Baubetreuung Rathaus-Center Pankow Immobilien-Anlagen 35 KG[1]	Disternich	3.88	0.00	n/a	n/a
Fünfte Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Hamburg	6.00	24.50	n/a	n/a
GAD Beteiligungs GmbH & Co. KG[2]	Münster	2.32		117,992	3,010
GBK Holding Gmbh & Co. KG[1]	Kassel	0.03		470,693	10,226
GDV Dienstleistungs-GmbH & Co. KG[1]	Hamburg	5.73	5.70	19,893	-68
German Equity Partners IV GmbH & Co. KG[1]	Frankfurt am Main	4.36		60,934	-2,863
GLADBACHER BANK Aktiengesellschaft von 1922	Mönchengladbach	17.53		37,928	1,398
GMS Mitarbeiter Beteiligungsgesellschaft UG & Co.KG[1]	Münster	4.00	3.95	1,007	-6
Golding Mezzanine SICAV III[1]	Munsbach, Luxembourg	1.30		199,401	39,212
Grand Hotel Heiligendamm GmbH & Co. KG Fundus Fonds Nr. 34[1]	Disternich	1.90	0.00	n/a	n/a
Grundstücksgesellschaft Räpplenstrasse – Gesellschaft des bürgerlichen Rechts	Stuttgart	0.00	50.00	19	-1
HANDWERKSBAU NIEDERRHEIN AKTIENGESELLSCHAFT	Düsseldorf	10.15		21,792	1,492
Hannover-Contor Versicherungsmakler GmbH[1]	Hannover	9.00		153	167
immigon portfolioabbau ag	Vienna, Austria	3.79		466,379	316,440
Interessengemeinschaft Frankfurter Kreditinstitute GmbH	Frankfurt am Main	7.01		23,960	8,278
IT Förder- und Beteiligungs eG	Münster	2.90		6,876	1,313
IVS Immobilien GmbH[1]	Schiffweiler	6.00		26	0
K in Kortrijk S.A.[1]	Brussels, Belgium	0.00		n/a	n/a

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Kapsch IT Service for finance and industries GmbH[1]	Vienna, Austria	2.00		n/a	n/a
Karen Notebook S.A.[1]	Warsaw, Poland	2.17		624	34
KLAAS MESSTECHNIK GmbH[1]	Seelze-Harenberg	15.00		28	0
KLV BAKO Vermittlungs-GmbH	Karlsruhe	10.00		206	9
Konsortium der Absatzfinanzierungsinstitute plettac-assco GbR	Wuppertal	0.00	4.08	0	0
Kreditgarantiegemeinschaft der Freien Berufe Baden-Württemberg Verwaltungs GmbH	Stuttgart	4.76		153	0
Kreditgarantiegemeinschaft der Industrie, des Verkehrsgewerbes und des Gastgewerbes Baden-Württemberg Verwaltungs-GmbH	Stuttgart	15.28		1,300	0
Kreditgarantiegemeinschaft des bayerischen Gartenbaues GmbH	Munich	9.07		679	0
Kreditgarantiegemeinschaft des Gartenbaues Baden-Württemberg Verwaltungs-GmbH	Stuttgart	12.00		138	0
Kreditgarantiegemeinschaft des Handels Baden-Württemberg Verwaltungs-GmbH	Stuttgart	10.05		1,022	0
Kreditgarantiegemeinschaft des Handwerks Baden-Württemberg Verwaltungs-GmbH	Stuttgart	10.05		1,001	0
Kreditgarantiegemeinschaft des Hotel- und Gaststättengewerbes in Bayern GmbH	Munich	12.00		4,359	0
Kreditgarantiegemeinschaft für den Handel in Bayern GmbH	Munich	7.19		6,317	0
Kunststiftung Baden-Württemberg GmbH[1]	Stuttgart	0.50		2,916	4
Immo Feest en Cultuurpaleis Oostende SA[1]	Brussels, Belgium	0.00		n/a	n/a
Macquarie European Infrastructure Fund 4 L.P.[1]	St. Peter Port, Guernsey	5.70	0.00	1,392,438	7,874
MBG H Mittelständische Beteiligungsgesellschaft Hessen GmbH	Frankfurt am Main	16.26		10,045	131
MBG Mittelständische Beteiligungsgesellschaft Baden-Württemberg Gesellschaft mit beschränkter Haftung	Stuttgart	9.94		60,881	4,452
MBG Mittelständische Beteiligungsgesellschaft Rheinland-Pfalz mbH	Mainz	9.80	11.11	12,376	1,708
MBG Mittelständische Beteiligungsgesellschaft Schleswig-Holstein mbH	Kiel	14.59	15.22	33,438	2,316
MergeOptics GmbH i. L.[1]	Berlin	19.72		n/a	n/a
Mittelständische Beteiligungsgesellschaft Berlin-Brandenburg mbH	Potsdam	8.89		16,323	1,329
Mittelständische Beteiligungsgesellschaft Mecklenburg-Vorpommern mbH	Schwerin	16.00		13,485	880
Mittelständische Beteiligungsgesellschaft Niedersachsen (MBG) mbH	Hannover	19.92		12,236	759
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	9.38		42,265	2,949
Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt (MBG) mbH	Magdeburg	19.84		22,716	816
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	10.28		22,517	997
MORIO GmbH & Co. Immobilien KG[1]	Wegberg	6.00	24.00	n/a	n/a
Münchener Hypothekenbank eG[2]	Munich	1.79		1,282,363	22,239
Munster S.A.[1]	Luxembourg, Luxembourg	0.11		n/a	n/a
NELO Vierte GmbH & Co. Immobilien KG[1]	Waldems	6.00	48.00	2	0
Niedersächsische Bürgschaftsbank (NBB) GmbH	Hannover	17.68		23,190	1,182
Norddeutsche Genossenschaftliche Beteiligungs-Aktiengesellschaft[1]	Hannover	0.87		1,318,813	62,336
Oberbergische Aufbau-Gesellschaft mit beschränkter Haftung	Gummersbach	7.32		1,588	-81
Odewald & Compagnie GmbH & Co. Dritte Beteiligungsgesellschaft für Vermögensanlagen KG[1]	Berlin	4.01		n/a	n/a
Odewald & Compagnie GmbH & Co. KG[1]	Berlin	1.50		n/a	n/a
Opción Jamantab S.A. DE C.V.[1]	Mexico City, Mexico	0.00		2,819	708
Opción Santa Fe III S.A. DE C.V.[1]	Mexico City, Mexico	0.00		12,258	264
ÖPP Deutschland Beteiligungsgesellschaft mit beschränkter Haftung	Berlin	2.97		7,838	-75
Partners Group Global Mezzanine 2007 S.C.A., SICAR[1]	Luxembourg, Luxembourg	2.26		188,409	50,020
PAXOS GmbH & Co. KG[1]	Pullach i. Isartal	6.00	9.80	n/a	n/a
Prosa Beteiligungs GmbH & Co. KG[1]	Frankfurt am Main	15.63		n/a	n/a
Prosolis GmbH The Solution House i. L.[1]	Fulda	6.00		603	-870
PSD Bank RheinNeckarSaar eG[1]	Stuttgart	0.01		n/a	n/a
Raiffeisen Waren-Zentrale Rhein-Main eG	Cologne	2.47		120,597	2,145
Raiffeisen-Kassel A-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	358
Raiffeisen-Kassel B-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	358
RREEF Pan-European Infrastructure Feeder GmbH & Co. KG[1]	Eschborn	17.70		404,145	-195
RW Holding AG[1]	Düsseldorf	1.23		884,620	28,140
S.W.I.F.T. Society for Worldwide International Financial Telecommunication[2]	La Hulpe, Belgium	0.31		407,374	19,498
Saarländische Wagnisfinanzierungsgesellschaft mbH	Saarbrücken	2.59		6,402	92
SALEG Sachsen-Anhaltinische Landesentwicklungs GmbH[1]	Magdeburg	1.15		13,960	492
Sana Kliniken AG[1]	Munich	0.69		697,581	71,340
Schroder European Property Investment No. 1 S.A.[1]	Senningerberg, Luxembourg	10.00		1,552	-186

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Schulze-Delitzsch-Haus, eingetragene Genossenschaft[2]	Bonn	2.34		1,050	76
Sechste Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Hamburg	6.00	24.50	n/a	n/a
Sechzehnte Gamma Trans Leasing Verwaltungs-GmbH & Co. Finanzierungs-Management KG i. L.[1]	Nidderau	16.51		10,320	5,335
SGB-Bank Spólka Akcyjna	Poznan, Poland	0.47		159,782	11,094
Sireo Immobilienfonds No. 1 GmbH & Co. KG[1]	Frankfurt am Main	0.05		137,177	4,824
Société de la Bourse de Luxembourg S.A.[1]	Luxembourg, Luxembourg	0.06		n/a	n/a
Süddeutsche Zuckerrübenverwertungs-Genossenschaft eG	Ochsenfurt	4.44	4.55	143,646	1,015
Target Partners Capital GmbH & Co. KG[1]	Munich	10.00	10.01	535	0
Technisches Kontor für Versicherungen GmbH[1]	Düsseldorf	10.00	0.00	53	27
Technologiezentrum Schwäbisch Hall GmbH[1]	Schwäbisch Hall	4.17	5.56	508	45
The Co-operators Group Ltd.[1]	Guelph, Canada	3.60		690,102	21,224
True Sale International GmbH	Frankfurt am Main	7.69		4,763	71
U.S. Central Federal Credit Union i. L.	Austin, USA	0.00		25,128,330	-1,933
Ufficio Centrale Italiano di Assistenza Assicurativa Automobilisti in Circolazione Internazionale -U.C.I. Societe consortie a R.L.[1]	Milan, Italy	0.09		n/a	n/a
Vereinigte Volksbank eG[1]	Sindelfingen	0.01		n/a	n/a
Vierte Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG[1]	Hamburg	6.00	24.50	n/a	n/a
Visa Inc.	San Francisco, USA	0.00		28,254,119	5,991,290
Volksbank Backnang eG[1]	Backnang	0.01		n/a	n/a
Volksbank Einlagensicherung eG[1]	Vienna, Austria	0.69		n/a	n/a
Volksbank Filder eG[1]	Filderstadt	0.01		n/a	n/a
Volksbank Haftungsgenossenschaft eG[1]	Vienna, Austria	0.40		n/a	n/a
Volksbank Heilbronn eG[1]	Heilbronn	0.01		n/a	n/a
Volksbank Kirchheim-Nürtingen eG[1]	Nürtingen	0.01		n/a	n/a
Volksbank Plochingen eG[1]	Plochingen	0.01		n/a	n/a
Volksbank Region Leonberg eG[1]	Leonberg	0.01		n/a	n/a
Volksbank Strohgäu eG[1]	Gerlingen	0.01		n/a	n/a
Volksbank Wien-Baden AG	Vienna, Austria	0.08		288,112	4,417
Vorgebirgs-Residenz Bonn-Endenich GmbH & Co. Kommanditgesellschaft	Unterschleissheim	5.00		102	0
VR VertriebsService GmbH	Gladbeck	5.00		931	21
VR-Bank Asperg-Markgröningen eG[1]	Möglingen	0.01		n/a	n/a
VR-Bank Schwäbisch Hall eG[1]	Schwäbisch Hall	0.01		111,749	3,106
VR-BankenService GmbH	Schloss Holte – Stukenbrock	5.00		1,055	80
WESTFLEISCH Finanz AG[1]	Münster	0.51		65,047	2,131
WRW Wohnungswirtschaftliche Treuhand Rheinland-Westfalen Gesellschaft mit beschränkter Haftung i. L.	Düsseldorf	2.73		2,580	-3,744
ZG Raiffeisen eG	Karlsruhe	1.59	0.03	88,548	2,980
ZT Management Holding GmbH[1]	Weilheim	19.52		-40,566	-29,627

1 Held indirectly.
2 Including shares held indirectly.
3 A letter of comfort exists.
4 A subordinated letter of comfort exists.
5 Profit-and-loss transfer agreement.
6 The company makes use of the exemptions provided for under section 264b HGB.
n/a = no figures available.

Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the group in accordance with German principles of proper accounting, and the group management report includes a fair review of the development and performance of the business and the position of the group, together with a description of the material opportunities and risks associated with the expected development of the group.

Frankfurt am Main, March 7, 2017

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

The Board of Managing Directors

Kirsch	Wolberg	Berghaus	Dr. Brauckmann
Hille	Köhler	Moll	Dr. Riese
Speth	Ullrich	Westhoff	Zeidler

Audit opinion (translation)

We have audited the consolidated financial statements prepared by DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, comprising the income statement, the statement of comprehensive income, the balance sheet, the statement of changes in equity, the statement of cash flows, and the notes to the consolidated financial statements, together with the group management report, for the fiscal year from January 1 to December 31, 2016. The preparation of the consolidated financial statements and the group management report in accordance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB ["Handelsgesetzbuch": "German Commercial Code"] is the responsibility of the parent company's management. Our responsibility is to express an opinion on the consolidated financial statements and the group management report based on our audit.

We conducted our audit of the consolidated financial statements in accordance with Sec. 317 HGB and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer [German Institute of Public Auditors] (IDW). Those standards require that we plan and perform the audit such that misstatements materially affecting the presentation of the net assets, financial position and results of operations in the consolidated financial statements in accordance with the applicable financial reporting framework and in the group management report are detected with reasonable assurance. Knowledge of the business activities and the economic and legal environment of the Group and expectations as to possible misstatements are taken into account in the determination of audit procedures. The effectiveness of the accounting-related internal control system and the evidence supporting the disclosures in the consolidated financial statements and the group management report are examined primarily on a test basis within the framework of the audit. The audit includes assessing the annual financial statements of those entities included in consolidation, the determination of entities to be included in consolidation, the accounting and consolidation principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements and the group management report. We believe that our audit provides a reasonable basis for our opinion.

Our audit has not led to any reservations.

In our opinion, based on the findings of our audit, the consolidated financial statements comply with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315a (1) HGB and give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. The group management report is consistent with the consolidated financial statements, complies with the legal requirements, and as a whole provides a suitable view of the Group's position and suitably presents the opportunities and risks of future development.

Eschborn/Frankfurt am Main, March 10, 2017

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Dr. Freiling	Dombek
Wirtschaftsprüfer	Wirtschaftsprüferin
(German Public Auditor)	(German Public Auditor)

Report of the Supervisory Board

Helmut Gottschalk, Chairman of the Supervisory Board of DZ BANK AG

The start of 2016 was marked by strong skepticism about the economy triggered by the collapse of the price of crude oil and market turmoil in China. Stock indices fell worldwide; the DAX, for example, lost around 20 percent. A stabilizing oil price coupled with central bank policy – in the US, the Fed initially refrained from further key interest-rate hikes while, in the eurozone, the ECB announced additional fiscal stimulus – then brought calm to the markets. However, the UK's vote to leave the EU resulted in more uncertainty in the middle of the year. Strong demand for safe investments caused yields on ten-year US Treasuries and German government bonds to drop to record low levels, with yields on Bunds entering negative territory for the first time. The markets settled down again toward the end of the summer and in the autumn. Equity markets held steady after their recovery, and long-term yields went back up on both sides of the Atlantic. The election of Donald Trump as US president, combined with hopes of additional economic stimulus, contributed to the rallying of share prices at the end of the year. At the same time, an interest-rate rise in the US and the extension of bond buying in the eurozone reinforced the monetary policy decisions and pushed the euro/US dollar exchange rate to a 14-year low. These macroeconomic developments created the general economic framework for the work of the Supervisory Board in 2016.

Merger of the two cooperative central institutions

A key focus for the bank, and thus for the activities of the Supervisory Board, was the merger of WGZ BANK into DZ BANK in 2016. This merger marked the completion on July 29, 2016 of the steady process of consolidation of the cooperative central institutions and brought

together the strategic and operating strengths of the two banks for the benefit of the entire cooperative financial network, based on a successful business model and complementary market territories. The Supervisory Board and its committees discussed the merger at a number of meetings and closely monitored the overall process. As part of this, the Supervisory Board again deliberated on the future strategic direction of DZ BANK in 2016. Once the central institutions have been successfully integrated, the plan is to refine the governance structure toward a holding company structure by the end of the decade.

General focus and business performance

As part of its remit, the Supervisory Board discussed the capital situation of DZ BANK and the associated regulatory environment in detail on several occasions. In particular, it looked at the impact of the regulatory initiatives to finalize Basel III as well as other regulatory changes with significance for DZ BANK. Another emphasis of the work of the Supervisory Board was the strategic focus of DZ BANK. In 2016, the Supervisory Board examined this both in terms of the merger and from the perspective of DZ BANK as a network-oriented central institution and financial services group. The overarching strategy is marked by a high degree of continuity and only underwent a few minor changes. These primarily resulted from the merger of DZ BANK and WGZ BANK with effect from July 29, 2016 and were predominantly aimed at maintaining and further sharpening the strategic focus of both DZ BANK and its subsidiaries. As in previous years, the Supervisory Board held its special strategy meeting, at which it discussed the strategy and its ongoing implementation in detail and unanimously lent its support to the strategy.

The DZ BANK Group's success in pursuing its strategy was again reflected in its strong business performance in 2016, as had been the case in previous years. It was able to use the encouraging net profit generated in 2016 to further strengthen its capital base. Overall, the retention of profit laid the foundations for continued adequate compliance with the increased regulatory capital requirements.

Supervisory Board and committees

In 2016, the Supervisory Board of DZ BANK monitored the management activities of the Board of Managing Directors in accordance with applicable legal provisions and the Articles of Association and decided on items of business presented to it that required approval. The Supervisory Board was assisted in discharging its responsibilities through its Nominations Committee, Remuneration Control Committee, Audit Committee, Risk Committee, and Mediation Committee pursuant to section 27 (3) of the German Codetermination Act (MitbestG).
In line with the requirements of the German Banking Act (KWG), the Supervisory Board conducted a self-evaluation on February 25, 2016. It found that the structure, size, composition, and performance of the Supervisory Board and the knowledge, skills, and experience of the individual Supervisory Board members and the Supervisory Board as a whole fulfilled the requirements laid down by law and in the Articles of Association. The target for the proportion of female Supervisory Board members of between 15 and 20 percent, which had been agreed in the resolution adopted on April 2, 2014 as part of the strategy to promote the nomination of women, who are under-represented on the DZ BANK Supervisory Board, and had been achieved ahead of schedule on May 28, 2015 as a result of changes to the employee representatives on the Supervisory Board, continued to be met in 2016.

The Supervisory Board has adequate financial and personnel resources at its disposal to be able to support new members in becoming familiar with their role and to provide the training that is necessary to maintain members' required level of expertise. DZ BANK offers to cover the costs of a modular training program that is run by an external provider and tailored specifically to the needs of Supervisory Board members. Each Supervisory Board member can select modules depending on their individual requirements. As in the previous year, training was also provided internally to the Supervisory Board on subjects relating to the monitoring and control of banking activities and the associated reporting and control processes.

There were no indications of fundamental and far-reaching conflicts of interests affecting Supervisory Board members. Where indications of conflicts of interests arose in individual cases, the affected members of the Supervisory Board refrained from voting. For example, Mr. Hans-Bernd Wolberg did not vote in the resolution on his appointment as a new member of the Board of Managing Directors in connection with the merger.

Cooperation with the Board of Managing Directors

The Board of Managing Directors provided the Supervisory Board with regular, timely, and comprehensive written and oral reports on the position and performance of the bank and the group as well as on general business developments. The Board of Managing Directors also informed the Supervisory Board about the ongoing implementation of DZ BANK's strategy as a network-oriented central institution and financial services group, the capital situation, and the operational and strategic planning of both the bank and the group. The Supervisory Board was constantly updated about the profitability of the bank and the group. Furthermore, the Board of Managing Directors provided the Supervisory Board with regular reports about significant loan and investment exposures.

The Supervisory Board discussed the aforementioned issues with the Board of Managing Directors, advised it, and monitored its management activities. In particular, the Supervisory Board focused on the strategy and capital situation of DZ BANK, including with regard to merger-related changes and current regulatory challenges. It also thoroughly examined the risk position of the bank and the group, the development of systems and procedures used to manage market, counterparty, and operational risks, and other material banking-specific risks. The Supervisory Board was always involved in decisions of fundamental importance.

Changes to the Board of Managing Directors

In a resolution dated March 23, 2016, the Supervisory Board appointed Mr. Hans-Bernd Wolberg, Mr. Uwe Berghaus, Dr. Christian Brauckmann, Mr. Karl-Heinz Moll, and Mr. Michael Speth as members of the Board of Managing Directors of DZ BANK with effect from the merger of WGZ BANK into DZ BANK. Mr. Wolberg was also appointed Deputy Chairman of the Board of Managing Directors. DZ BANK's Board of Managing Directors has thus grown from seven to twelve members.

Meetings of the Supervisory Board and its committees

The Supervisory Board held six meetings in 2016. Members of the Supervisory Board and its committees regularly attended the meetings held and participated in the written resolutions adopted by the Supervisory Board and committees in 2016. Average attendance was around 97 percent. No member of the Supervisory Board had an attendance record of less than 66 percent.

At its meetings, the Supervisory Board received and discussed reports from the Board of Managing Directors on current business performance and the capital situation of DZ BANK and the DZ BANK Group. It also examined the single-entity financial statements and management report of DZ BANK as well as the consolidated financial statements and group management report for the year ended December 31, 2015 and approved them in line with the Audit Committee's resolution recommendation. The Supervisory Board also discussed the appointment of the auditor of the single-entity financial statements and the auditor of the consolidated financial statements for 2016, the auditor for the group's half-year financial report and other interim financial statements and, in this context, the independence of the auditor. In line with the Audit Committee's resolution recommendation, the Supervisory Board also recommended that the Annual General Meeting reappoint Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart (EY) as auditor.
A particular focus of the Supervisory Board's work in the first half of 2016 was the planned merger of DZ BANK and WGZ BANK. The Supervisory Board regularly checked the progress on this project. It also appointed the members of the Board of Managing Directors of the former WGZ BANK as members of DZ BANK's Board of Managing Directors and adopted resolutions on their service contracts and pension arrangements, on the signing of the merger agreement with WGZ BANK, and on the updates to the various rules and regulations – including the schedule of responsibilities for the Board of Managing Directors. It also proposed candidates to the Annual General Meeting for election to the Supervisory Board. Furthermore, the Supervisory Board adopted resolutions on the election of a Supervisory Board Chairman and his two Deputies, on the election of additional members to various committees, and on proposed resolutions regarding the election of the committees' Chairs and their Deputies.
The Supervisory Board also examined the operational and strategic planning. This included acknowledging and discussing the recovery plan, which is a legal requirement for banks that have been identified as having the potential to endanger the banking system. The Supervisory Board deliberated on and approved various requests in connection with transactions requiring its consent, such as long-term equity investments and loans. These included approval of an income subsidy for DVB Bank and the opening of a new representative office in Jakarta. In addition, the Supervisory Board considered the consequences of the UK's vote for Brexit and carefully studied a statement from the ECB on the thematic review of risk governance and risk appetite.
It also discussed the evaluation of the Board of Managing Directors and Supervisory Board before making decisions in line with the Nominations Committee's recommendation. Following changes to legal precedent, the Supervisory Board resolved on adjustments to the structure of future pension entitlements of the Board of Managing Directors ('standard

pension entitlements') at DZ BANK and of existing pension entitlements. It examined the appropriateness of the remuneration for members of the Board of Managing Directors as well as the 2016 target achievement/planning for the Board of Managing Directors, which became necessary as a result of the merger-related changes to the allocation of responsibilities. The Supervisory Board also scrutinized the structure of the employee remuneration systems, reviewed HR matters relating to 2015, and adopted resolutions – where necessary – in line with the Remuneration Control Committee's recommendation. Finally, the Supervisory Board regularly received and discussed reports on the work of the committees from their Chairs.

Each committee also met on a number of occasions in 2016. During this period, the Nominations Committee held two meetings, the Remuneration Control Committee four meetings, the Audit Committee four meetings, and the Risk Committee five meetings. The Mediation Committee did not need to meet in 2016.
The Nominations Committee mainly discussed the evaluation of the Board of Managing Directors and Supervisory Board, the appointment of members of the Board of Managing Directors of the former WGZ BANK to DZ BANK's Board of Managing Directors, and the nomination of candidates for the upcoming Supervisory Board election during the 2016 Annual General Meeting before making recommendations on these matters to the Supervisory Board.

At its meetings, the Remuneration Control Committee focused on remuneration issues and, where necessary, proposed resolutions to the Supervisory Board. The main issues were the variable remuneration of the Board of Managing Directors – primarily setting the amounts for 2015 and defining the individual and collective targets for 2016 – and the setting of the overall amount of variable remuneration at DZ BANK (section 15 in conjunction with section 7 InstitutsVergV). Following changes to legal precedent, the committee also discussed the required adjustments to the standard pension entitlements at DZ BANK and to existing pension entitlements as well as other matters relating to the contracts of the new members of the Board of Managing Directors before making recommendations to the Supervisory Board. Moreover, the Remuneration Control Committee reappointed its Chairman and Deputy Chairman in line with the Supervisory Board's recommendation and studied the 2016 target achievement/planning for the Board of Managing Directors, which became necessary as a result of the merger-related changes to the allocation of responsibilities, before proposing resolutions on these matters to the Supervisory Board. The committee also examined the structure of the employee remuneration systems (section 3 (1) sentence 2 InstitutsVergV) and the remuneration control report that had been presented by the remuneration officer (section 24 (3) InstitutsVergV) and acknowledged these. The committee reviewed and thus established the appropriateness of the remuneration for the Board of Managing Directors at DZ BANK (section 15 (2) InstitutsVergV) and then recommended that the Supervisory Board acknowledge the result of the appropriateness test. Finally, the Remuneration Control Committee received information from the remuneration officer about, and discussed, the new regulatory requirements, their impact on DZ BANK, and progress with their implementation at DZ BANK.

The topics covered in the Audit Committee meetings were as follows: the audit of the single-entity financial statements and management report of DZ BANK as well as the consolidated financial statements and group management report for the year ended December 31, 2015 by EY; the half-year financial report of DZ BANK Group for the six months ended June 30, 2016 and the review of this by the auditor EY; the audit report on the securities and investment services business in 2015/2016; the auditor's areas of focus for 2016; and key findings from

the current audit. In this context, it also monitored the financial reporting process. The committee also discussed the appointment of the auditor of the single-entity financial statements and the auditor of the consolidated financial statements for 2016, the auditor for the group's half-year financial report and other interim financial statements and, in this context, the independence of the auditor. It then proposed a resolution on this matter to the Supervisory Board. The report of the Supervisory Board to the Annual General Meeting for 2015 was also the subject of an Audit Committee meeting. Where necessary, the committee proposed resolutions to the Supervisory Board in regard to the aforementioned points. The Audit Committee appointed its Chairman in line with the Supervisory Board's recommendation. It also examined the business performance and the capital/profitability situation, including effects under commercial law relating to the merger. The committee studied and discussed regulatory audits in the DZ BANK Group, particularly the sectoral approach, the resolution planning required by the regulator, and the latest tax and regulatory developments. Other matters looked at by the Audit Committee were the project portfolio, especially the Finance/Risk project portfolio and the migration, the reports as at December 31, 2015 and June 30, 2016 from Internal Audit and the results of the quality assessments of the work of Internal Audit at DZ BANK and in the DZ BANK Group, the annual compliance report, and the IT strategy of DZ BANK and the DZ BANK Group. In this context, the committee also monitored the effectiveness of the internal control system and the audit system. Finally, the Audit Committee deliberated at length on the requirements resulting from audit reforms. It issued guidance on engaging the auditor for non-audit services in the future and discussed the monitoring of the awarding of contracts for non-audit services and the upper limit on fees for such services.

At its meetings, the Risk Committee dealt with various requests for long-term equity investments and loans before adopting resolutions and – where necessary – making resolution recommendations to the Supervisory Board. In addition, the Risk Committee focused on the review of the lending business, which had been brought forward, regulatory and organizational matters in connection with the audit of the annual financial statements for the year ended December 31, 2015, the change in specific loan loss allowances, and the assessment of the report on the MaRisk audit by the banking supervisor 'Risk Management – Credit and Counterparty Risk in Corporate Banking'. The committee also examined the current aggregate risk and credit risk situation, risk strategies, the results of the economic and reverse stress tests, and the MaSan indicators, and in doing so monitored the effectiveness of the risk management system. In addition, the Risk Committee looked at the risk early-warning system of DZ BANK and the DZ BANK Group and at new harmonized processes to identify risks at an early stage and to reflect the restructuring. Moreover, the Risk Committee appointed its Chairman in line with the Supervisory Board's recommendation. It discussed conditions in the customer business, the methods for determining credit risk, and the structural limits, country limits, and limit lists for banks and insurers. The Risk Committee also scrutinized and discussed current issues/transactions relating to long-term equity investments, the wind-down of the portfolio of bonds from public-sector entities in Portugal, Italy, Greece, and Spain, the 'CORAL' program for asset-backed commercial paper (ABCP), and the progress on the Internal Capital Adequacy Assessment Process (ICAAP) for the DZ BANK Group financial conglomerate, including R+V. Furthermore, the committee studied the impact of declining commodity prices on DZ BANK's portfolio, business performance at DVB Bank, and the performance of the impaired shipping portfolios of DZ BANK AG in the years 2009 to 2015. Finally, the Risk Committee reviewed the remuneration systems and established that the requirements of section 7 InstitutsVergV were met in terms of the current overall amount of variable remuneration.

The Board of Managing Directors notified the Supervisory Board in writing or by telephone of important events between Supervisory Board meetings. In urgent cases, the Risk Committee decided on significant transactions by adopting resolutions in writing. The Supervisory Board Chairman, the Chief Executive Officer of DZ BANK, the Chairs of the Supervisory Board committees, and the relevant members of the Board of Managing Directors also regularly held discussions ahead of key decisions and important transactions.

Cooperation with the auditors

The auditor EY, who issued a declaration of independence to the Supervisory Board, confirmed that the single-entity financial statements – together with the bookkeeping system – and the management report of DZ BANK as well as the consolidated financial statements and the group management report submitted by the Board of Managing Directors for the 2016 financial year complied with the applicable legal provisions. EY issued an unqualified opinion for each of these sets of financial statements. The audit reports were submitted to the members of the Supervisory Board, who discussed and advised on them in detail at their meetings. In addition, the Chairman of the Supervisory Board and the Chairs of the Supervisory Board committees maintained a well-established, intensive dialog with the auditors. The Supervisory Board agrees with the findings of the audit.

Adoption of the financial statements

The Supervisory Board and its Audit Committee scrutinized the single-entity financial statements and management report of DZ BANK as well as the consolidated financial statements and group management report at their meetings. The Chairman of the Audit Committee provided the Supervisory Board with detailed information about the committee's extensive deliberations on the single-entity financial statements and management report of DZ BANK as well as the consolidated financial statements and group management report. Representatives of the auditors attended the Supervisory Board meeting convened to adopt the financial statements as well as the preparatory meetings held by the Audit Committee and by the Risk Committee so that they could report in detail on the material findings of their audit. They were also available to answer questions from the members of the Supervisory Board. The Supervisory Board did not raise any objections to the financial statements. The Supervisory Board approved the single-entity financial statements of DZ BANK and the consolidated financial statements prepared by the Board of Managing Directors for the year ended December 31, 2016 at its meeting on March 29, 2017 in line with the Audit Committee's resolution recommendation. The financial statements have therefore been adopted. The Supervisory Board examined and approved the Board of Managing Directors' proposal for the appropriation of distributable profit.

Changes to the Supervisory Board

With effect from the end of the Annual General Meeting of DZ BANK on June 22, 2016, Mr. Klaus Holderbach, Mr. Bernd Hühn, Mr. Dieter Rembde, and Mr. Hans-Bernd Wolberg stepped down from the Supervisory Board of DZ BANK. The Supervisory Board would like to thank Mr. Holderbach, Mr. Hühn, Mr. Rembde, and Mr. Wolberg for their many years of service. Mr. Werner Böhnke, Mr. Martin Eul, Mr. Uwe Goldstein, and Dr. Peter Hanker were newly elected to the Supervisory Board with effect from the end of the Annual General Meeting on June 22, 2016.

The Supervisory Board wishes to thank the Board of Managing Directors and all employees of the DZ BANK Group for their valuable contribution in 2016, particularly in view of the special efforts that were required in connection with the successful merger of DZ BANK and WGZ BANK.

Frankfurt am Main, March 29, 2017

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank,
Frankfurt am Main

Helmut Gottschalk
Chairman of the Supervisory Board

DZ BANK advisory councils

Members of the Financial Services Advisory Council for the DZ BANK Group

Chairman (until December 2016):
Andreas Hof
Chief Executive Officer
VR Bank
Main-Kinzig-Büdingen eG
Büdingen

Deputy Chairman (until December 2016):
Eberhard Heim
Chief Executive Officer
Volksbank Tübingen eG
Tübingen
(until December 2016)

Representatives of the cooperative banks:

Wolfgang Altmüller
Chief Executive Officer
VR meine Raiffeisenbank eG
Altötting
(until December 2016)

Ulf Brothuhn
Chief Executive Officer
Bremische Volksbank eG
Bremen

Richard Erhardsberger
Chief Executive Officer
VR-Bank Vilsbiburg eG
Vilsbiburg
(until December 2016)

Josef Frauenlob
Chief Executive Officer
Volksbank Raiffeisenbank
Oberbayern Südost eG
Bad Reichenhall
(since February 2016)

Klaus Geurden
Chief Executive Officer
Volksbank Krefeld eG
Krefeld
(since January 2017)

Timm Häberle
Chief Executive Officer
VR-Bank Neckar-Enz eG
Bönnigheim
(since January 2017)

Martin Heinzmann
Spokesman of the Board of
Managing Directors
Volksbank Kinzigtal eG
Wolfach

Heinz Hüning
Chief Executive Officer
Volksbank Heiden eG
Heiden
(since January 2017)

Thomas Janssen
Member of the Board of
Managing Directors
Volksbank Braunlage eG
Braunlage
(until December 2016)

Franz-Josef Jaumann
Chief Executive Officer
Volksbank Trossingen eG
Trossingen
(until December 2016)

Thomas Jorberg
Spokesman of the Board of
Managing Directors
GLS Gemeinschaftsbank eG
Bochum
(since January 2017)

Klaus Krömer
Member of the Board of
Managing Directors
Emsländische Volksbank eG
Meppen

Andreas Lorenz
Chief Executive Officer
Volksbank Karlsruhe eG
Karlsruhe

Rudolf Müller
Spokesman of the Board of
Managing Directors
Volksbank Kur- und Rheinpfalz eG
Speyer
(until December 2016)

Christoph Ochs
Chief Executive Officer
VR Bank Südpfalz eG
Landau
(since January 2017)

Richard Riedmaier
Chief Executive Officer
Volksbank Raiffeisenbank Bayern
Mitte eG
Ingolstadt
(since January 2017)

Manfred Roth
Chief Executive Officer
VR Bank Weimar eG
Weimar

Reinhard Schlottbom
(personal representative for
the member from the
Sparda-Bank Group)
Chief Executive Officer
PSD Bank Westfalen-Lippe eG
Münster
(until December 2016)

Martin Schmitt
Chief Executive Officer
Kasseler Bank eG
Kassel
(until December 2016)

Thomas Sterthoff
Chief Executive Officer
Volksbank Bielefeld-Gütersloh eG
Gütersloh
(since January 2017)

Klaus Treimer
Spokesman of the Board of Managing Directors
VR Bank Ostholstein Nord – Plön eG
Neustadt in Holstein

Rudolf Veitz
Member of the Board of Managing Directors
Raiffeisenbank Holzheim eG
Holzheim
(until December 2016)

Dr. Gerhard Walther
Chief Executive Officer
VR-Bank Mittelfranken West eG
Ansbach
(since January 2017)

Professor Jürgen Weber
Chief Executive Officer
Sparda-Bank Hessen eG
Frankfurt am Main

Representatives of the BVR and its special committees:

Dr. Wolfgang Baecker
Chief Executive Officer
VR-Bank Westmünsterland eG
Coesfeld

Jürgen Brinkmann
Chief Executive Officer
Volksbank eG
Braunschweig Wolfsburg
Wolfsburg

Uwe Fröhlich
President
Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (BVR)
Berlin

Peter Geuss
Chief Executive Officer
VR Bank
Starnberg-Herrsching-Landsberg eG
Starnberg
(until December 2016)

Wilhelm Höser
Spokesman of the Board of Managing Directors
Westerwald Bank eG
Volks- und Raiffeisenbank
Hachenburg
(since February 2017)

Olaf Kilimann
Chief Executive Officer
Volksbank Marl-Recklinghausen eG
Marl
(since February 2017)

Dr. Veit Luxem
(member coopted as Chairman of the BVR Association Council)
Chief Executive Officer
Volksbank Erkelenz eG
Erkelenz

Rosemarie Miller-Weber
Chief Executive Officer
Leutkircher Bank – Raiffeisen- und Volksbank – eG
Leutkirch im Allgäu
(until December 2016)

Horst Weyand
Chief Executive Officer
Volksbank Rhein-Nahe-Hunsrück eG
Bad Kreuznach
(since February 2017)

Members of the Banking Advisory Council of DZ BANK AG for Baden-Württemberg

Chairman (since March 2016):
Hermann Sonnenschein
Member of the Board of
Managing Directors
Volksbank Göppingen eG
Göppingen

Deputy Chairman
(since March 2016):
Uwe Barth
Spokesman of the Board of
Managing Directors
Volksbank Freiburg eG
Freiburg im Breisgau

Michael Baumann
Member of the Board of
Managing Directors
BBBank eG
Karlsruhe
(until September 2016)

Jürgen Beerkircher
Member of the Board of
Managing Directors
Volksbank Backnang eG
Backnang

Thomas Bierfreund
Member of the Board of
Managing Directors
VR Bank eG
Steinlach-Wiesaz-Härten
Mössingen

Marco Bigeschi
Member of the Board of
Managing Directors
Raiffeisenbank Aidlingen eG
Aidlingen
(since January 2016)

Ulf Bleckmann
Member of the Board of
Managing Directors
Volksbank Dreiländereck eG
Lörrach

Andreas Böhler
Spokesman of the Board of
Managing Directors
Volksbank Kraichgau
Wiesloch-Sinsheim eG
Wiesloch

Bernhard Carl
Spokesman of the Board of
Managing Directors
Volksbank Kurpfalz eG
Heidelberg
(since January 2016)

Oliver Conradi
Chief Executive Officer
Heidenheimer Volksbank eG
Heidenheim an der Brenz

Claus Edelmann
Member of the Board of
Managing Directors
Volksbank Strohgäu eG
Korntal-Münchingen
(since September 2016)

Jürgen Fricke
Chief Executive Officer
Volksbank Vorbach-Tauber eG
Weikersheim

Helmut Haberstroh
Spokesman of the Board of
Managing Directors
Raiffeisenbank Aichhalden-
Hardt-Sulgen eG
Hardt

Gerd Haselbach
Spokesman of the Board of
Managing Directors
Raiffeisenbank im Kreis Calw eG
Neubulach
(since January 2016)

Jürgen Held
Chief Executive Officer
Volksbank Region Leonberg eG
Leonberg
(since January 2016)

Martin Hettich
Chief Executive Officer
Sparda-Bank
Baden-Württemberg eG
Stuttgart
(since January 2016)

Andreas Hoffmann
Chief Executive Officer
Volksbank Bruhrain-
Kraich-Hardt eG
Oberhausen-Rheinhausen

Klaus Hofmann
Member of the Board of
Managing Directors
Raiffeisenbank
Ehingen-Hochsträß eG
Ehingen (Donau)

Jürgen Hornung
Spokesman of the Board of
Managing Directors
VR-Bank Ellwangen eG
Ellwangen (Jagst)

Gottfried Joos
Chief Executive Officer
Volksbank Dornstetten eG
Dornstetten

Georg Kibele
Member of the Board of
Managing Directors
Leutkircher Bank –
Raiffeisen- und Volksbank – eG
Leutkirch im Allgäu

Robert Kling
Member of the Board of
Managing Directors
Volksbank Albstadt eG
Albstadt

Reiner Lachenmeier
Member of the Board of
Managing Directors
Raiffeisenbank Südhardt eG
Durmersheim
(since January 2016)

Norbert Lange
Chief Executive Officer
Volksbank Müllheim eG
Müllheim
(since January 2016)

Wolfgang Mauch
Chief Executive Officer
Volksbank
Kirchheim-Nürtingen eG
Nürtingen

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Member of the Board of
Managing Directors
Volksbank Allgäu-West eG
Isny im Allgäu

Jürgen Pinnisch
Member of the Board of
Managing Directors
Volksbank Heilbronn eG
Heilbronn

Thomas Pörings
Chief Executive Officer
Volksbank Baden-Baden
Rastatt eG
Baden-Baden

Adelheid Raff
Chief Executive Officer
Volksbank Zuffenhausen eG
Stuttgart

Ekkehard Saueressig
Chief Executive Officer
Volksbank Neckartal eG
Eberbach

Roland Schäfer
Chief Executive Officer
Volksbank Bruchsal-Bretten eG
Bretten

Gerolf Scherer
Spokesman of the Board of
Managing Directors
Raiffeisenbank Riss-Umlach eG
Warthausen
(since January 2016)

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Member of the Board of
Managing Directors
VR-Bank Weinstadt eG
Weinstadt
(until September 2016)

Dietmar Schmid
Member of the Board of
Managing Directors
Echterdinger Bank eG
Leinfelden-Echterdingen
(since January 2016)

Helmut Schweiss
Member of the Board of
Managing Directors
Raiffeisenbank Vordere Alb eG
Hülben

Bernhard Slavetinsky
Chief Executive Officer
PSD Bank Karlsruhe-Neustadt eG
Karlsruhe
(since January 2016)

Markus Trautwein
Chief Executive Officer
Raiffeisenbank Oberstenfeld eG
Oberstenfeld
(until September 2016)

Andreas Tyrra
Member of the Board of
Managing Directors
Volksbank eG
Überlingen
(since January 2016)

Jürgen Wankmüller
Chief Executive Officer
Volksbank Wilferdingen-Keltern eG
Remchingen

Roger Winter
Member of the Board of
Managing Directors
Volksbank eG
Constance

Members of the Banking Advisory Council of DZ BANK AG for Bavaria

Chairman:
Wolfgang Völkl
Spokesman of the Board of Managing Directors
Volksbank Regensburg eG
Regensburg

Deputy Chairman:
Claus Jäger
Chief Executive Officer
Raiffeisenbank Aschaffenburg eG
Aschaffenburg

Konrad Baueregger
Spokesman of the Board of Managing Directors
Raiffeisenbank Trostberg-Traunreut eG
Traunreut
(since January 2016)

Walter Beller
Chief Executive Officer
VR-Bank Werdenfels eG
Garmisch-Partenkirchen

Wolfhard Binder
Chief Executive Officer
Raiffeisen-Volksbank Ebersberg eG
Grafing b. München

Dieter Bordihn
Member of the Board of Managing Directors
Kulmbacher Bank eG Raiffeisen-Volksbank
Kulmbach

Alexander Brehm
Member of the Board of Managing Directors
Volksbank Forchheim eG
Forchheim
(since January 2016)

Johann Büchler
Chief Executive Officer
PSD Bank Nürnberg eG
Nuremberg
(since January 2016)

Günter Dreher
Chief Executive Officer
Raiffeisenbank Kirchweihtal eG
Pforzen
(since January 2016)

Joachim Erhard
Member of the Board of Managing Directors
Volksbank Raiffeisenbank Würzburg eG
Würzburg

Wolfgang Gebhard
Member of the Board of Managing Directors
Volksbank Raiffeisenbank Bayern Mitte eG
Ingolstadt

Rainer Geis
Member of the Board of Managing Directors
Volksbank Raiffeisenbank Bad Kissingen-Bad Brückenau eG
Bad Kissingen

Albert Griebl
Member of the Board of Managing Directors
VR-Bank Rottal-Inn eG
Pfarrkirchen

Hansjörg Hegele
Chief Executive Officer
Raiffeisenbank Tölzer Land eG
Bad Tölz

Karl-Heinz Hempel
Member of the Board of Managing Directors
Volksbank Raiffeisenbank Dachau eG
Dachau

Josef Hofbauer
Deputy Chief Executive Officer
Raiffeisenbank Neumarkt i.d.OPf. eG
Neumarkt i.d.OPf.

Rainer Hönl
Member of the Board of Managing Directors
VR-Bank Donau-Mindel eG
Dillingen a.d. Donau
(until June 2016)

Edmund Kainer
Chief Executive Officer
Raiffeisenbank Seebachgrund eG
Heßdorf

Gottfried Kneissl
Chief Executive Officer
Raiffeisenbank Pfeffenhausen-Rottenburg-Wildenberg eG
Pfeffenhausen

Michael Kruck
Spokesman of the Board of Managing Directors
Raiffeisen-Volksbank Donauwörth eG
Donauwörth

Anton Lautenbacher
Chief Executive Officer
VR Bank München Land eG
Oberhaching
(since January 2016)

Johannes Lechner
Member of the Board of Managing Directors
Sparda-Bank Ostbayern eG
Regensburg
(since January 2016)

Albert Lorenz
Chief Executive Officer
Raiffeisenbank Bad Abbach-Saal eG
Bad Abbach

Bernd Müller
Member of the Board of
Managing Directors
Volksbank Lindenberg eG
Lindenberg i. Allgäu

Dr. Walter Müller
Member of the Board of
Managing Directors
Volksbank Raiffeisenbank
Rosenheim-Chiemsee eG
Rosenheim

Heinrich Reisenleiter
Chief Executive Officer
Raiffeisenbank Bad Windsheim eG
Bad Windsheim

Hermann Schacherbauer
Member of the Board of
Managing Directors
Raiffeisenbank
Ortenburg-Kirchberg v.W. eG
Ortenburg
(since January 2016)

Dr. Markus Schappert
Member of the Board of
Managing Directors
Volksbank-Raiffeisenbank
Bayreuth eG
Bayreuth
(since January 2016)

René Schinke
Member of the Board of
Managing Directors
VR-Bank Memmingen eG
Memmingen
(since January 2016)

Norbert Schug
Member of the Board of
Managing Directors
VR Bank Hof eG
Hof
(since January 2016)

Dr. Wolfgang Seel
Chief Executive Officer
VR-Bank Neu-Ulm eG
Weißenhorn
(since January 2016)

Christian Senff
Spokesman of the Board of
Managing Directors
Raiffeisen-Volksbank Ebern eG
Ebern

Peter Siegel
Member of the Board of
Managing Directors
VR Bank Kitzingen eG
Kitzingen

Heinrich Stumpf
Member of the Board of
Managing Directors
Augusta-Bank eG
Raiffeisen-Volksbank
Augsburg

Dr. Gerhard Walther
Chief Executive Officer
VR-Bank Mittelfranken West eG
Ansbach
(since January 2016)

Edmund Wanner
Chief Executive Officer
Volksbank Straubing eG
Straubing

Bernhard Werner
Spokesman of the Board of
Managing Directors
Raiffeisenbank im Naabtal eG
Nabburg

Wilfried Wiedemann
Chief Executive Officer
Raiffeisenbank Weißenburg-
Gunzenhausen eG
Weißenburg i. Bay.

Walter Wittmann
Member of the Board of
Managing Directors
VR GenoBank DonauWald eG
Deggendorf
(since January 2016)

Bernhard Wolf
Member of the Board of
Managing Directors
Raiffeisenbank Weiden eG
Weiden i.d.OPf.

Members of the Banking Advisory Council of DZ BANK AG for Central Germany

Chairman (since March 2016):
Christoph Kothe
Spokesman of the Board of Managing Directors
Leipziger Volksbank eG
Leipzig

Deputy Chairman (since March 2016):
Matthias Martiné
Spokesman of the Board of Managing Directors
Volksbank Darmstadt-Südhessen eG
Darmstadt
(since January 2016)

Mathias Beers
Chief Executive Officer
Vereinigte Volksbank eG Dillingen · Dudweiler · Sulzbach/Saar
Sulzbach
(until November 2016)

Jürgen Bien
Member of the Board of Managing Directors
Raiffeisenbank eG Großenlüder
Großenlüder

Achim Brunner
Chief Executive Officer
Raiffeisenbank Oberursel eG
Oberursel (Taunus)

Hans-Joachim Buchen
Member of the Board of Managing Directors
Volksbank Daaden eG
Daaden

Sven Fiedler
Member of the Board of Managing Directors
Volksbank Raiffeisenbank Niederschlesien eG
Görlitz

Jens Fischer
Member of the Board of Managing Directors
PSD Bank Hessen-Thüringen eG
Eschborn
(since January 2016)

Gerhard Gales
Member of the Board of Managing Directors
Bank 1 Saar eG
Saarbrücken

Mathias Geisert
Member of the Board of Managing Directors
RV Bank Rhein-Haardt eG
Lambsheim
(since January 2016)

Dr. Matthias Hildner
Chief Executive Officer
Wiesbadener Volksbank eG
Wiesbaden

Michael Hohmann
Member of the Board of Managing Directors
Raiffeisenbank eG
Baunatal
(since January 2016)

Thomas Katzenmayer
Chief Executive Officer
Evangelische Bank eG
Kassel

Horst Klumb
Chief Executive Officer
vr bank Südthüringen eG
Suhl

Thomas Köhler
Spokesman of the Board of Managing Directors
Volksbank Butzbach eG
Butzbach

Klaus Königs
Member of the Board of Managing Directors
VR Bank Biedenkopf-Gladenbach eG
Biedenkopf
(since January 2016)

Alexander Kostal
Member of the Board of Managing Directors
Volksbank Kaiserslautern eG
Landstuhl

Norbert Lautenschläger
Chief Executive Officer
Volksbank Lauterbach-Schlitz eG
Lauterbach (Hessen)
(since January 2016)

Bernd Lehmann
Member of the Board of Managing Directors
Raiffeisen- und Volksbank Dahn eG
Dahn
(since January 2016)

Klaus Merz
Chief Executive Officer
Volksbank Rhein-Lahn-Limburg eG
Limburg
(since January 2016)

Frank Möller
Member of the Board of Managing Directors
Raiffeisenbank eG
Wolfhagen

Andreas Pfeil
Member of the Board of
Managing Directors
Raiffeisen-Volksbank
Saale-Orla eG
Pößneck

Hubert Röbig
Deputy Spokesman of the
Board of Managing Directors
VR Genossenschaftsbank
Fulda eG Volksbank
Raiffeisenbank seit 1862
Fulda
(until December 2016)

Manfred Rumpf
Spokesman of the Board of
Managing Directors
Raiffeisenbank eG
Rodenbach

Ewald Saathoff
Member of the Board of
Managing Directors
Volksbank Pirna eG
Pirna
(since January 2016)

Frank Schäfer
Member of the Board of
Managing Directors
Volksbank Hunsrück-Nahe eG
Simmern

Rainer Schäfer-Prösser
Member of the Board of
Managing Directors
Volksbank Heuchelheim eG
Heuchelheim

Heinz-Peter Schamp
Member of the Board of
Managing Directors
Mainzer Volksbank eG
Mainz

Kai-Uwe Schulz
Member of the Board of
Managing Directors
Volksbank Riesa eG
Riesa
(since January 2016)

Karin Schwartz
Member of the Board of
Managing Directors
Sparda-Bank Südwest eG
Mainz
(since January 2016)

Edgar Soester
Chief Executive Officer
Volksbank Westliche Saar plus eG
Saarlouis
(since December 2016)

Odo Steinmann
Member of the Board of
Managing Directors
Volksbank Rhein-Nahe-
Hunsrück eG
Bad Kreuznach

Karlo Uhlein
Spokesman of the Board of
Managing Directors
Raiffeisenbank eG
Offenbach/M.-Bieber
Offenbach am Main

Peter van Moerbeeck
Member of the Board of
Managing Directors
Vereinigte Volksbank
Raiffeisenbank eG
Wittlich

Martin Wagner
Member of the Board of
Managing Directors
VR Bank Weimar eG
Weimar

Christoph Wunderlich
Member of the Board of
Managing Directors
Raiffeisenbank Schaafheim eG
Schaafheim

Members of the Banking Advisory Council of DZ BANK AG for North/East Germany

Chairman (since March 2016):
Michael Engelbrecht
Chief Executive Officer
Volksbank Jever eG
Jever

Deputy Chairman (since March 2016):
Georg Schäfer
Member of the Board of
Managing Directors
Volksbank-Raiffeisenbank
im Kreis Rendsburg eG
Osterrönfeld
(since January 2016)

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Managing Directors
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Uelzen

Stefan Awick
Member of the Board of
Managing Directors
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Bösel
(since January 2016)

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Member of the Board of
Managing Directors
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Forst

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Managing Directors
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Bargteheide
(since January 2016)

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Managing Directors
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Söhlde

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Managing Directors
Raiffeisenbank eG
Hagenow

Ralph Carstensen
Member of the Board of
Managing Directors
Raiffeisenbank eG
Todenbüttel

Ralf Everts
Member of the Board of
Managing Directors
Raiffeisen-Volksbank Fresena eG
Norden

Thoralf Flaake
Member of the Board of
Managing Directors
Volksbank Wittenberg eG
Lutherstadt Wittenberg
(since January 2016)

Stefan Frahm
Member of the Board of
Managing Directors
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Ostholstein Nord-Plön eG
Lensahn

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Chief Executive Officer
Ostfriesische Volksbank eG
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Member of the Board of
Managing Directors
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Managing Directors
Volksbank Niedergrafschaft eG
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Managing Directors
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Managing Directors
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(since January 2016)

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Managing Directors
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Zeven
(since January 2016)

Reimund Kempkes
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(since January 2016)

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(since January 2016)

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Managing Directors
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Managing Directors
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(since January 2016)

Markus Strahler
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Frankfurt am Main
Frankfurt am Main

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Managing Directors
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Mönchengladbach
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Mack KG
Rust

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Principal shareholdings of DZ BANK

BANKS

Name & registered office	Group company[1]	Shareholding (%)
Bausparkasse Schwäbisch Hall Aktiengesellschaft – Bausparkasse der Volksbanken und Raiffeisenbanken –, Schwäbisch Hall	•	96.9
Ceskomoravska stavebni sporitelna a.s., Prague		45.0
Fundamenta-Lakáskassza Zrt., Budapest	•	51.2
Prvá stavebná sporitel'na a.s., Bratislava		32.5
Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse) Ltd., Tianjin		24.9
Schwäbisch Hall Kreditservice AG, Schwäbisch Hall	•	100.0
Banco Cooperativo Español S.A., Madrid		12.0
Deutsche Genossenschafts-Hypothekenbank AG, Hamburg[2]	•	100.0
Deutsche WertpapierService Bank AG, Frankfurt am Main		50.0
DVB Bank SE, Frankfurt am Main	•	95.5
DZ BANK Ireland plc, Dublin[2]	•	100.0
DZ PRIVATBANK S.A., Strassen, Luxembourg[2]	•	90.7
DZ PRIVATBANK (Schweiz) AG, Zurich	•	100.0
ReiseBank AG, Frankfurt am Main (indirect)	•	100.0
TeamBank AG Nürnberg, Nuremberg	•	92.3
WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster[2]	•	90.9

1 Consolidated in accordance with IAS 27 and total shareholding held by DZ BANK or relevant parent.
2 Letter of comfort from DZ BANK.

Percentages in accordance with IFRS from the perspective of the relevant subgroup parent company.

OTHER SPECIALIZED SERVICE PROVIDERS

Name & registered office	Group company[1]	Shareholding (%)
VR Equitypartner GmbH, Frankfurt am Main[2]	•	100.0
Equens SE, Utrecht		11.9
VR-LEASING Aktiengesellschaft, Eschborn	•	100.0
BFL LEASING GmbH, Eschborn	•	71.7
VR DISKONTBANK GmbH, Eschborn	•	100.0
VR FACTOREM GmbH, Eschborn	•	100.0
VR-IMMOBILIEN-LEASING GmbH, Eschborn	•	100.0

1 Consolidated in accordance with IAS 27 and total shareholding held by DZ BANK or relevant parent.
2 Letter of comfort from DZ BANK.

ASSET MANAGEMENT COMPANIES

Name & registered office	Group company[1]	Shareholding (%)
Union Asset Management Holding AG, Frankfurt am Main	•	95.7
Quoniam Asset Management GmbH, Frankfurt am Main	•	100.0[2]
R+V Pensionsfonds AG, Wiesbaden (together with R+V Versicherung AG)	•	25.1
Union Investment Institutional GmbH, Frankfurt am Main	•	100.0
Union Investment Institutional Property GmbH, Hamburg	•	90.0
Union Investment Luxembourg S.A., Luxembourg	•	100.0
Union Investment Privatfonds GmbH, Frankfurt am Main	•	100.0
Union Investment Real Estate GmbH, Hamburg	•	94.5

1 Consolidated in accordance with IAS 27 and total shareholding held by DZ BANK or relevant parent.
2 Share of voting power.

INSURANCE COMPANIES

Name & registered office	Group company[1]	Shareholding (%)
R+V Versicherung AG, Wiesbaden	•	92.1
Condor Allgemeine Versicherungs-Aktiengesellschaft, Hamburg	•	100.0
Condor Lebensversicherungs-Aktiengesellschaft, Hamburg	•	95.0
KRAVAG-Allgemeine Versicherungs-Aktiengesellschaft, Hamburg	•	76.0
KRAVAG-LOGISTIC Versicherungs-Aktiengesellschaft, Hamburg	•	51.0
R+V Allgemeine Versicherung Aktiengesellschaft, Wiesbaden	•	95.0
R+V Krankenversicherung AG, Wiesbaden	•	100.0
R+V Lebensversicherung AG, Wiesbaden	•	100.0
R+V Pensionsfonds AG, Wiesbaden (together with Union Asset Management Holding AG)	•	74.9

1 Consolidated in accordance with IAS 27 and total shareholding held by DZ BANK or relevant parent.

Percentages in accordance with IFRS from the perspective of the relevant subgroup parent company.

Editorial information

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Hans-Bernd Wolberg (Deputy Chief Executive Officer)
Uwe Berghaus
Dr. Christian Brauckmann
Lars Hille
Wolfgang Köhler
Karl-Heinz Moll
Dr. Cornelius Riese
Michael Speth
Thomas Ullrich
Frank Westhoff (up to and including April 30, 2017)
Stefan Zeidler

This annual report is available in
electronic form on our website at
www.annualreport.dzbank.com.

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