Volksbanken Raiffeisenbanken
cooperative financial network

2017
Annual Report

DZ BANK Group

Contents

Wolfgang Kirsch (Chief Executive Officer)

Dear Shareholders,

In 2017, the DZ BANK Group generated profit before taxes of €1.81 billion. This profit was attributable to strong customer business and the sound operating performance delivered by most of the group companies. In addition, we successfully completed the post-merger integration activities at the end of the year, and therefore earlier than planned.

At the same time, the results for the year were affected by a negative contribution to earnings from DVB Bank, which increased allowances for losses on loans and advances for its maritime portfolio. Nonetheless, the group's profit before taxes was comfortably within our long-term target range of €1.5 billion to €2 billion, underlining the stability and earnings power of our broadly positioned financial services group.

This Annual Report describes the performance of the merged bank over a full year for the first time. The figures therefore only have limited comparability with the prior-year values.

The results in detail: The net interest income of the DZ BANK Group was €2.94 billion, reflecting the good level of growth in the retail and corporate banking business of our financial services group. Allowances for losses on loans and advances stood at €786 million and were primarily affected by the allocations to this line item at DVB Bank. We have already implemented comprehensive stabilization measures and are currently reviewing all strategic options for DVB. In all other operating segments, there were no notable changes in the level of allowances for losses on loans and advances. Net fee and commission income totaled €1.86 billion, with the performance of Union Investment remaining particularly encouraging. Gains and losses on trading activities came to a net gain of €506 million. The strong operating performance in DZ BANK AG's capital markets business was offset by negative effects arising from the valuation of own issues. Other gains and losses on valuation of financial instruments amounted to a net gain of €289 million and were influenced by positive valuation effects in the bond portfolio at DG HYP. Net income from insurance business was €907 million, primarily reflecting a rise in premiums earned in all segments of R+V with gains and losses on investments held by insurance companies remaining at a high level. Administrative expenses in the DZ BANK Group amounted to €3.87 billion. Significant components included investment in growth and expenses necessary to meet the requirements of digitization and regulation. Net income from the business combination with WGZ BANK amounted to a net expense of €91 million and included budgeted integration and migration expenses.

The positive business performance reflects the high level of commitment by the employees in the DZ BANK Group. My colleagues on the Board of Managing Directors and I would like to take this opportunity to express our sincere gratitude to them.

The DZ BANK Group's capital situation remains sound. As at December 31, 2017, the common equity Tier 1 capital ratio (applying the Capital Requirements Regulation (CRR) in full) was 13.9 percent (June 30, 2017: 13.0 percent). The decrease compared with the end of the previous year (December 31, 2016: 14.5 percent) was primarily due to changes to the regulatory treatment of investments in insurance companies as regards the calculation of capital.

Against this backdrop, we will propose a dividend unchanged on the previous year of 18 cents per share to the Annual General Meeting. This takes into account both the importance of capital management and the interests of our owners.

We anticipate that the tailwind from economic growth in our domestic market will continue in 2018. Our economists forecast that the German economy will expand by 2.2 percent. The DZ BANK Group has also enjoyed a satisfactory start to the year. Given the persistently challenging market and interest-rate environment, we believe a profit before taxes at the lower end of the long-term target range of €1.5 billion to €2 billion is realistic for 2018 as a whole.

We have a clear growth strategy in our core business aimed at consolidating our successful performance. We are therefore strengthening corporate banking by continuing to invest in the direct business and in joint credit business. We are also adding digital products and services to our portfolio and tapping into new sources of income. At the same time, we are sharpening our focus on enhancing cost efficiency. In this regard, we are exploiting the opportunities presented by digitization to create leaner internal processes. Following the completion of the integration, we can now further sharpen our focus on leveraging synergies.

In addition, we are continuing to press ahead with the work on our structural changes. These changes include the merger of DG HYP and WL BANK to become DZ HYP, which is progressing well. We are also carrying out the necessary preliminary work for the further development of our organizational structure which aims to make the management of our financial services group even more effective.

Over the past year, our organization has once again demonstrated both its significant resilience and its commitment to constant advancement. Building on these foundations, our aim in 2018 – the 200th anniversary of the birth of Friedrich Wilhelm Raiffeisen – is to strive for the continued commercial success of the cooperative financial network.

Kind regards,

Wolfgang Kirsch
Chief Executive Officer

Group management report

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

1 Business model

DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK) 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

Strengthening the market position of the cooperative banks is a key factor for the success of the Volksbanken Raiffeisenbanken cooperative financial network. The DZ BANK Group supports the pursuit of this objective within the framework of its network-focused corporate strategy based on the principles of subsidiarity, decentralization, and regional market responsibility. It is guided by its overarching mission as a network-oriented central institution and financial services group, within which its activities are shaped by a three-pronged strategy with a systematic focus on growth in accordance with the needs of the cooperative financial network, a continuation of the focusing of business activities, and integration within the network and with the cooperative banks.

Against a backdrop of advancing digitalization, the DZ BANK Group is working in collaboration with all the other players in the cooperative financial network to help reinforce the competitiveness of the cooperative banks as part of the major KundenFokus Privatkunden (retail customer focus) project led by the Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V., Berlin, (BVR) [National Association of German Cooperative Banks]. In this project, the various partners are jointly designing and implementing a target omnichannel structure. Product development closely involves the central IT service provider Fiducia & GAD IT AG, Karlsruhe and Münster, (Fiducia & GAD), which is making the necessary technical infrastructure available. However, the DZ BANK Group is also providing individual solutions such as VR-AltersvorsorgeCockpit, a pensions-related app that is currently unique in the market. Retail customers can use this app to calculate gaps in their individual pension provision quickly and easily. The implementation of the omnichannel strategy will be extended in 2018 to include the KundenFokus Firmenkunden (corporate customer focus) project.

2.1 DZ BANK

The technical aspects of the merger of DZ BANK and WGZ BANK into one cooperative central institution were completed in the year under review, accompanied by the successful conclusion of the migration to a uniform IT environment. Data relating to corporate customers, payment transactions, capital markets, and other internal systems was gradually integrated into the systems at DZ BANK over a period of twelve months. The implementation of the target organizational structure also made great progress, to the extent that all 28 departments of DZ BANK had been reorganized into the target structure by the end of the final stage of the implementation on January 1, 2018.

In the next step, DZ BANK aims to refine the governance structure along the lines of a holding company model. During the course of 2018, it will firstly set up a central advisory council – as specified in the merger agreement – to ensure that the primary banks' involvement in, and influence over, strategic decisions is safeguarded and expanded over the long term. Over the next two years, the responsibilities for the holding company activities and those for the corporate bank activities within DZ BANK will be separated from each other as far as possible. The configuration from a legal perspective requires further extensive preparations and checks to be carried out, particularly with regard to separating DZ BANK's individual functions into two legal entities. Decisions on this will need to be made from 2020 onward once the aforementioned measures have been implemented.

DZ BANK has also maintained its network-oriented corporate strategy in its business lines, as described below.

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. These services, together with the tools that DZ BANK offers the local cooperative banks to help them with their own-account investing, reporting and accounting, are continuously refined.

A new offering from DZ BANK in the year under review was the own-account-investing advisory mandate. This amounts to a comprehensive treasury management service for cooperative banks, facilitating integration between cooperative banks' own-account investing strategy and strategic bank management, coupled with the simultaneous implementation of regulatory requirements.

2.1.2 Corporate Banking

In the corporate banking market, DZ BANK operates both directly and on a decentralized basis through the local cooperative banks. It rigorously pursues a policy of regional focus, guaranteeing proximity to the local cooperative banks and the shared customers. In collaboration with its subsidiaries and international branches, DZ BANK offers its customers the entire range of corporate banking services. This relationship management approach has enabled the cooperative financial network to expand its share of the corporate lending market to 21 percent despite the fierce competition in a persistently challenging market environment. The aim is to increase this figure to 25 percent over the medium term.

DZ BANK, in partnership with the local cooperative banks, is increasingly turning to new technologies to help support this growth in its corporate banking business. For example, a target structure for the expansion of the omnichannel strategy was developed during the reporting year as part of the BVR-led KundenFokus Firmenkunden project. This project is addressing the challenges in the Corporate Banking business line and involves setting out and launching initiatives for the next few years.

DZ BANK is already offering some digital services for its corporate banking customers. For instance, it continued to develop the VR BusinessOnline channel during the year under review. This service enables online financing or investment inquiries from businesses to be passed to companies in the cooperative financial network, allowing the requests to be dealt with quickly and efficiently with a seamless transition between media. In the joint corporate banking business with the local cooperative banks, DZ BANK offers other digital solutions for the banks' relationship managers and their customers. One example is VR-GeschäftsNavigator, which has been designed by DZ BANK's Innovation LAB.

Through an equity investment in fintech company TrustBills GmbH, DZ BANK has, since the end of 2017, also offered corporate customers of the cooperative financial network access to an online auction platform that enables registered participants to buy or sell trade receivables.

The internationalization of the German economy and the rise in the associated demand for international business services is presenting further opportunities for growth in corporate banking. With this in mind, DZ BANK opened a representative office in Jakarta in February 2017, facilitating an even more comprehensive range of support for corporate customers in the Indonesian market, particularly in terms of trade and export finance. In the year under review, DZ BANK entered into a strategic partnership with China Development Bank, the largest state-owned development bank in the People's Republic of China. The agreement encompasses the financing of businesses in each other's market, trade and project finance business, and collaboration in capital markets business.

2.1.3 Retail Banking

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. These include a comprehensive range of investment services, intelligent liability products to strengthen and support the cooperative banks' market presence and balance sheets, as well as consulting services, market data, research, and trading/advisory/e-business platforms.

To leverage income synergies following the merger of the cooperative central institutions, DZ BANK stepped up marketing in the West sales region in the reporting year by extending the range of products and services in the local cooperative banks' securities business for customer account. It also focused on tapping into further potential income from business for customer account through a greater level of collaboration with DZ PRIVATBANK S.A., Strassen, (DZ PRIVATBANK S.A.; subgroup abbreviated to DZ PRIVATBANK).

DZ BANK is steadily expanding its digital options for providing information and generating sales in order to support the omnichannel approach of the cooperative financial network. It is enabling customers to benefit not only from conventional banking but also from digital access to their bank via mobile login, online tools (such as VR-ProfiBroker and VR-ProfiTrader), and the DZ BANK derivatives portal.

2.1.4 Capital Markets

DZ BANK's expertise in capital markets business encompasses sales and advisory services in relation to investment and risk management products covering the interest rate, credit, equities, and currency asset classes. These services are provided for cooperative banks, institutional clients in Germany and abroad, and corporate customers in both primary and secondary markets. Research services round off the comprehensive offering.

On behalf of the cooperative financial network, Group Treasury also carries out the cash-pooling function and ensures access to global liquidity markets as well as to liquidity provided by central banks. In addition, Treasury acts as the product portfolio manager for secured and unsecured money market business, currency swaps and forwards, and the issue of short-term commercial paper.

DZ BANK is steadily expanding its capital markets products and services to respond to changing customer demand and to make better use of both the existing customer base and the broader range of customers resulting from the merger of the central institutions. The implementation of regulatory requirements is also becoming increasingly important, for example in view of the provisions introduced under Directive 2014/65/EU on markets in financial instruments (MiFID II).

2.1.5 Transaction Banking

In the Transaction Banking business line, DZ BANK provides efficient, high-performance platforms that boost the competitiveness of the cooperative financial network. As the center of excellence for transaction banking, DZ BANK has the objective of helping the cooperative banks and the entities in the DZ BANK Group to exploit the potential offered by the market. To this end, it offers products and services covering payments, payments services, and acquiring, together with securities processing, depositary, and settlement services in connection with capital market products.

The present market circumstances – shaped by shifts in customer needs, innovative technologies, changes in legal requirements, and new market players – are increasingly transforming transaction banking and the role of banks. DZ BANK constantly analyzes the trends, assessing how it can benefit from the changes and position itself in the new market environment. In this context, a key requirement is to continuously expand the range of products and services.

Besides refining the functions of the paydirekt payments system, the inhouse Innovation LAB has recently developed and brought to market two payments-related value-added products: VR-FinanzGuide and VR-ExtraPlus, aimed at corporate customers and retail customers respectively. Further initiatives are concerned with the development of mobile payments using smartphones and with the expansion of the acquirer business. DZ BANK is also preparing to sign up to the pan-European instant payment system.

The focus in the securities, capital markets, and depositary services business in the year under review was on implementing regulatory requirements. DZ BANK supported the local cooperative banks in this regard, mainly by extending the range of services in relation to transaction-based reporting. It also continued to expand the depositary business, with assets under depositary reaching a record level.

Economies of scale and ongoing efficiency optimization also continued to be of great significance in the other segments. In this context, DZ BANK is undertaking further expansion of its network of strategic partnerships.

2.2 BSH

Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, (Bausparkasse Schwäbisch Hall; subgroup abbreviated to BSH) is the competence center for consumer home finance in the DZ BANK Group and focuses on the core businesses of home savings and home finance. The strategic objective of BSH is to safeguard its position as profitable market leader in building society operations in Germany, working in close collaboration with the cooperative banks on a decentralized basis. With this objective in mind, BSH strives constantly to develop innovative, customer-oriented home savings products and solutions. The persistently low interest rates mean that home finance has continued to gain importance as a second pillar of the business alongside home savings, allowing BSH to further diversify its sources of income. The home finance business includes building loans granted directly by BSH and its activities as an intermediary on behalf of cooperative banks in connection with real estate loans.

BSH has successfully implemented a cost-cutting program over the last two years and is using the savings to finance action plans aimed at enhancing productivity and profitability. These plans include the targeted upgrading of the IT environment and the digitalization of the BSH business.

2.3 DG HYP/WL BANK

Commercial real estate finance is a cornerstone of the banking industry and represents a core business of the cooperative financial network.
Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, (DG HYP) and WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK) provide support for the local cooperative banks as specialists in this area of business in the DZ BANK Group.

In March 2017, the DZ BANK Group announced that it was planning to reorganize its real estate activities following the merger of the central institutions. In this context, DG HYP and WL BANK entered into merger discussions and signed a joint memorandum of understanding on June 22, 2017. The strategic objectives of this move are to pool existing expertise and eliminate the duplication of work, to ensure customers are served by a single organization and, above all, to create greater benefits for the cooperative banks.

It is planned to operate the joint real estate bank under the brand name DZ HYP within the DZ BANK family of brands and ensure it continues to serve all four of the current customer segments – small business and self-employed customers, the housing industry, local authorities, and retail customers. The new entity is to have registered offices in both Hamburg and Münster, and be headed up by the current Chief Executive Officers of the two banks, who will be appointed as Co-Chief Executive Officers. The aim is to complete the merger by the middle of 2018 following resolutions by the necessary Annual General Meetings.

The purpose of merging the two entities into a joint real estate bank under the DZ HYP brand is to bolster the existing position of the cooperative financial network in the real estate market.

2.4 DVB

DVB Bank SE, Frankfurt am Main, (DVB Bank; subgroup abbreviated to DVB) is a specialist niche provider in the area of transport finance, focusing on the international transport market, which can be broken down into shipping, aviation, offshore, and land transport segments.

In view of the challenges currently presented by the shipping and offshore markets, DVB is continuing to devote a great deal of time and energy to managing risk in these segments. Its diversified credit portfolio is a key component of the risk policy.

In the year under review, the tough market conditions were reflected in a requirement for significantly higher allowances for losses on loans and advances. Against this backdrop, DZ BANK and DVB also entered into a control and profit transfer agreement in the second half of 2017; the agreement applied retroactively from January 1, 2017. In addition, DZ BANK completed its previously advised squeeze-out at DVB with the entry of the transaction in the commercial register on August 17, 2017, thereby increasing its flexibility when implementing 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 center of excellence and solutions provider for the private banking, lending and fund services, and treasury/brokerage businesses. The services that it provides complement those of the other entities in the cooperative financial network.

With 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.

It is addressing the changing requirements of customers and partner banks arising from the low interest rates, regulation, and digitalization by implementing a comprehensive package of measures focused on enhancing efficiency and productivity, further advancing advisor specialization, expanding attractive investment and credit solutions, and introducing even greater integration between the range of services and sales activities at cooperative banks.

Based on its complementary, high-quality expertise in asset management, funds, and financing, DZ PRIVATBANK aims to steadily increase the market share of the cooperative financial network in the high-net-worth segment, covering both retail and corporate customers.

2.6 R+V

R+V Versicherung AG, Wiesbaden, (R+V Versicherung; subgroup abbreviated to R+V) offers its customers a comprehensive range of insurance and pension products, and is one of the leading providers in the German market. It operates in the life, non-life, health, and reinsurance sectors.

In the year under review, R+V launched an ambitious modernization and growth program referred to as 'Wachstum durch Wandel' (growth through change) with the goal of lifting premium income in Germany (including reinsurance) from the most recent figure of €15 billion per year to €20 billion per year by the firm's centenary in 2022. To this end, R+V is focusing increasingly on leveraging business potential in the cooperative financial network, expanding cross-selling, and accelerating the development of multichannel sales.

It is also carrying out detailed work on forward-looking projects and on transposing its successful business model to a digital environment. In this context, R+V participated in a driverless-cars research project at Frankfurt Airport in the reporting year. It aimed to use this project to gather initial information on future transportation and assemble data to be used as a sound basis for developing new approaches to vehicle insurance.

2.7 TeamBank

TeamBank AG Nürnberg, Nuremberg, (TeamBank) is a consumer finance provider working in close collaboration with around 85 percent of cooperative banks. 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. Its overarching strategic aim is to secure new customers for the cooperative financial network. In addition, TeamBank operates in collaboration with the cooperative banks in the Austrian market, where it also offers consumer finance.

By providing and networking innovative products and services in a digital ecosystem, TeamBank is helping to develop the presence of the cooperative financial network in a dynamic market environment. A key component is the seamless cross-media payment process 'Ratenkauf by easyCredit', which offers customers a simple and uniformly designed installment purchase function, both in e-commerce and at the point of sale. TeamBank has also developed the finance app fymio, a service for retail customers that uses a projection to warn of a potential financial squeeze at an early stage and automatically offer intelligent solutions.

2.8 UMH

Union Asset Management Holding AG, Frankfurt am Main, (Union Asset Management Holding; subgroup abbreviated to UMH) is the central asset manager in the cooperative financial network and offers investment solutions for retail customers and institutional clients. In both areas of business, it is aiming for further, sustainable expansion in the volume of assets under management.

In terms of business with retail clients, UMH is one of the two largest and most successful asset managers in Germany. It is targeting further growth in this business, for example by maintaining its focus area strategy in relevant segments of demand.

As far as institutional clients are concerned, UMH is the central asset manager for the entities in the cooperative financial network and at the same time one of the leading providers in the non-cooperative sector. It is also aiming to generate further growth in this area of business by improving its positioning as an active risks/returns manager, consolidating its positioning as a sustainability manager, and developing new product solutions tailored to the changing regulatory environment.

2.9 VR LEASING

VR-LEASING Aktiengesellschaft, Eschborn, (VR-LEASING AG; subgroup abbreviated to VR LEASING) launched a program in mid-2017 to transform itself into a digital provider of finance for the self-employed and small businesses. As a result of this change, VR LEASING will focus its business activities in the future entirely on the cooperative banks and on the provision of finance for the self-employed and small business customer segment.

It offers its customers leasing, hire purchase, and credit solutions, together with digital services and intelligent data analysis, thereby supporting the omnichannel sales of the local cooperative banks. Current examples of such solutions and services are the online ordering channel, in which business customers of the cooperative banks can take out a loan of up to €60,000 in a process that is entirely online, and SmartBuchhalter, a web-based accounting application that enables self-employed individuals, freelancers, and small businesses to obtain a simple overview of their financial position. Further projects, such as the launch of a new facility running in real time for the financing of assets with a value of up to €200,000, are already being planned.

Changes in the other areas of business also form part of this transformation process. For example, henceforward, VR LEASING will aim to work in collaboration with a partner in any business involving the financing of individual assets with a value of more than €750,000. Where VR LEASING is involved in business activities other than sales via banks – centralized settlement and the subsidiary BFL Leasing GmbH – it will start negotiations to sell off these activities because they have no connection with the cooperative financial network.

The change in VR LEASING's corporate strategy, especially the decision to dispose of certain areas of business, will be accompanied by a reduction in the number of employees.

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 largely 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** is the highest-level management and coordination committee in the DZ BANK Group. The objectives of this committee are to strengthen the competitiveness of the DZ BANK Group and to coordinate fundamental product and sales issues.

FIG. 1 – MANAGEMENT COMMITTEES IN THE DZ BANK GROUP

The committee ensures coordination between the key entities in the DZ BANK Group to achieve consistent management of opportunities and risks, allocate capital, deal with strategic issues, and leverage synergies. The members of this committee comprise the Board of Managing Directors of DZ BANK, the General Executive Manager of DZ BANK, and the chief executive officers of BSH, DG HYP, DZ PRIVATBANK, R+V, TeamBank, UMH, VR LEASING, and WL BANK.

Various committees consisting of representatives from all strategic business lines and group functions assist the Group Coordination Committee's decision-making by preparing proposals. . These are the following committees:: the Group Risk and Finance Committee, the Group IT Committee, the Group HR Committee, the product and sales committees for retail customers, corporate customers, and institutional customers, the Heads of Internal Audit working group, the Heads of Compliance working group, the Economic Roundtable, and the Innovation Roundtable.

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 relating to financial and risk management at group level:

- 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 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 guidelines 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. In addition, the Market working group is responsible for refining the management of centrally measured market risk. 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** have insight, coordination, and bundling 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 loyalty and customer acquisition by providing needs-based solutions (products and processes) as part of a holistic advisory approach across all sales channels (omnichannel approach).

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

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 jointly developed framework 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 certain 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 ensure 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 promoted in the relevant DZ BANK departments and subsidiaries via the product and sales committees.

3.3 Key performance indicators

The DZ BANK Group's KPIs for profitability, volume, productivity, liquidity adequacy, 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 set out in chapter II, section 3.2 (figure 3) and section 4 of the group management report, in the consolidated financial statements (balance sheet as at December 31, 2017), 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 in relation to the risks associated with future payment obligations are demonstrated using the ratios for economic and regulatory liquidity adequacy

presented in chapter VI, section 6.2 and section 6.3 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 capital requirement for the year (determined quarterly). It 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.

Forecasts for the core KPIs in the DZ BANK Group are set out in the Outlook section of the group management report.

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. On a case-by-case basis, 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 2.2 percent year on year. The uptrend in economic growth of the previous few years was sustained in 2017, with expansion gathering pace.

Domestic economic output in the first quarter of 2017 was up by 0.9 percent compared with the preceding quarter. This was followed by a slight fall in the GDP gain to 0.6 percent in the second quarter. The third quarter saw growth of 0.7 percent, followed by expansion in the fourth quarter of 0.6 percent.

An increase in consumer spending once again provided a major boost to the German economy in the reporting year, although growth in government spending weakened. Consumer demand rose by 1.9 percent year on year, aided by robust trends in the labor market and no improvement in the extremely low returns available on consumer investments. In the year under review, businesses stepped up spending on capital equipment at a faster rate as demand picked up in international markets.

The increase in tax receipts generated by the robust economic growth meant that public finances in Germany ended 2017 once again with a budget surplus of 1.1 percent of GDP.

In the year under review, economic output in the eurozone grew by 2.5 percent year on year, the pace of growth being maintained with a first-quarter growth rate of 0.6 percent (compared with the previous quarter) and a rate of 0.7 percent in both the second and third quarters of 2017. Growth in the final quarter returned to the rate of 0.6 percent.

Consumer spending continued to be the main driver behind the economic recovery in the eurozone in 2017. So far, the geopolitical crises, various conflicts, and the uncertainty arising from the Brexit negotiations and the new US presidency have failed to dent consumer confidence. As in 2016, relatively low energy prices also continued to boost household consumption in the reporting year. Over the course of the year, it became clear that businesses were increasing their spending on capital equipment. In view of the stronger global economy, it is anticipated that the trade balance will have made a positive contribution to economic growth because export growth in the eurozone is likely to have gone up significantly.

In the United States, economic growth in the reporting year was 2.3 percent. The economy has therefore gained significant traction compared with 2016, when the year-on-year rate of expansion was 1.5 percent. Overall, the principal economic driver in the US remained the recovery in consumer spending, which was bolstered by further improvements in the labor market, notably a further fall in the unemployment rate and a sharp rise in recruitment. Investment by businesses in plant and machinery once again rose at a stronger rate in the year under review. The recovery in house-building was also sustained.

The majority of the emerging economies benefited from a trend toward economic recovery in the year under review. The economic crisis abated in Brazil and Russia, with both countries returning to growth in 2017. China managed to hold its economic growth steady at the fairly high level achieved in the previous year. By and large, 2017 saw a return of the stronger stimulus for German exports derived from the demand from emerging markets.

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

Over the course of 2017, economic growth in the eurozone gathered pace on the back of the stronger global economy, the rate of expansion at the end of 2017 reaching its highest level for ten years.

Once again, however, only limited progress was made in reducing new and total borrowing in the eurozone as a whole. At the end of the third quarter of 2017, the total borrowing of the 19 eurozone countries equated to 88.1 percent of their GDP, a year-on-year decrease of just 1.6 percentage points compared with the figure of 89.7 percent as at September 30, 2016.

Even though France and Italy, countries that are important in generating overall economic growth in Europe, along with Portugal and Spain, which had been reliant on EU aid during the sovereign debt crisis, all made further gains in economic efficiency in the first three quarters of 2017 compared with the corresponding quarters in 2016, they continued to suffer from a high level of indebtedness in the same way as some other eurozone countries, notably Greece.

In the first three quarters of 2017, Greece itself achieved positive growth rates compared with both the previous quarter and the equivalent periods in 2016. Nevertheless, its public debt as a percentage of GDP remained virtually unchanged year on year at the high level of 177.4 percent in the third quarter of 2017 (third quarter of 2016: 177.9 percent). So far, the country has received around €47 billion of the total assistance of €86 billion available under the third economic adjustment program approved in 2015. European rating agency Scope Ratings AG based in Berlin believes that Greece is still likely to need financial support from other countries after the current financial assistance program expires in August 2018.

Economic growth in Italy in each of the first three quarters of 2017 was muted compared with the figure in the respective preceding quarters. Italian government debt as a percentage of GDP in the third quarter of 2017 was the highest in the eurozone after Greece at 134.1 percent (third quarter of 2016: 132.0 percent). This reflects a serious structural crisis, requiring sweeping reforms. To add to the problems, no other European country has as many non-performing loans on bank balance sheets as Italy, where they totaled €277 billion as at September 30, 2017. Furthermore, the current strength of Euroskeptic political forces means that the parliamentary elections due in the spring of 2018 are likely to represent the greatest risk factor at the moment in relation to any renewed widening of spreads on Italian bank loans.

Portugal's public debt as a percentage of GDP stood at 130.8 percent in the third quarter of 2017 (third quarter of 2016: 132.8 percent). The country made further progress on stabilizing its economy during the first nine months of the year, posting reasonable growth rates in each quarter compared with the respective preceding quarters. In view of this progress, Standard & Poor's also issued an investment-grade rating of BBB- for Portugal from the beginning of September 2017, whereas previously DBRS had been the only agency quoting an investment-grade rating for the country. Fitch Ratings upgraded its rating for Portugal in mid-December 2017 from BB+ to BBB. However, the country continues to face significant legacy issues in the form of non-performing loans.

Spain, where government debt stood at 98.7 percent of GDP in the third quarter of 2017 (third quarter of 2016: 99.9 percent), recorded strong economic growth for the first three quarters of 2017 compared with the respective preceding quarters. However, the minority government under current Prime Minister Mariano Rajoy, which has been in office since the end of October 2016, is likely to find it difficult to significantly reduce the substantial level of public debt.

As is the case in Italy, economic growth in France is hampered by structural deficiencies. The country's public debt as a percentage of GDP stood at 98.4 percent in the third quarter of 2017 (third quarter of 2016: 97.4 percent). Economic growth in the first three quarters of 2017 compared with the respective previous quarters was encouraging. The new President Emmanuel Macron, who also obtained a stable political majority in the French National Assembly, managed to push through the labor law reforms he had promised in the election campaign in record time. He has subsequently been preparing reforms covering vocational training and development and unemployment insurance.

The economic performance of the eurozone described above shows that the European Central Bank (ECB) with its policy of quantitative easing has 'bought' the necessary time for the EU countries burdened with significant debt to reduce their fundamental budget deficits. Nonetheless, these countries have made only limited efforts to reduce their high levels of indebtedness and bring in the necessary structural reforms. This is therefore worrying, mainly because it is questionable whether the EU countries concerned will be in any position at all (because of the size of their debt burden) to cope with substantially higher interest rates arising from a normalization of the ECB's monetary policy.

One of the main reasons why politicians are generally reluctant to introduce the necessary structural improvement measures to reduce public debt is that various EU countries are still seeing strong political movements that oppose the jointly agreed stabilization efforts. Even if, especially in France, Euroskepticism has given way to a pro-European political majority, other countries in the eurozone, such as Italy and Spain, have recently faced some difficulty forming long-term stable government majorities.

A key reason for the European Commission's reluctance to implement the stability criteria under the Fiscal Compact agreed by the EU member states at the beginning of 2012 is most probably also the widespread return to a more nationalistic focus apparent within the eurozone. In the Fiscal Compact, the signatory countries committed to reducing their debt (as a proportion of GDP) each year by one twentieth of the difference between the debt level and the Maastricht limit of 60 percent of GDP.

In addition, the affected EU countries' efforts to implement austerity measures will also diminish because the availability of low interest rates is noticeably reducing the debt burden.

On the other hand, 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. According to calculations by DZ BANK, German households suffered a loss of €340 billion on the interest or returns from deposits, bonds, and life insurance over the years 2014 to 2016. After deduction of the savings derived from low-interest loans, the net loss comes to €200 billion. Even if these calculations are only treated as rough estimates, they still clearly illustrate the amount of money involved.

Although the weakness of the euro resulting from low interest rates is boosting companies' exports, it is also diminishing their efforts to lower costs and improve productivity. Furthermore, the ECB's policy of maintaining extremely low interest rates is prompting investors to take on more risk and encouraging the formation of bubbles in real estate and equities markets, which could jeopardize the stability of the financial system. However, a return to rising interest rates could lead to payment problems for a large number of borrowers in Germany, a potential consequence then being a marked adverse impact on the profitability of individual banks.

Another consideration is that, if the ECB delays scaling back its expansionary monetary policy, it will find itself with insufficient leeway in the event of an economic downturn because key interest rates will still be close to zero. Without the option of reducing interest rates, the ECB also loses one of its conventional control mechanisms, namely that of stimulating net exports by lowering the value of the euro.

The ECB continued to follow a course of expansionary monetary policy in the year under review and maintained the bond-buying program it launched in March 2015. Having decided at the beginning of December 2016 to reduce the monthly purchasing volume from €80 billion to €60 billion from April 2017, it then made a further decision at the end of October 2017 to lower the purchasing volume again from €60 billion to €30 billion from January 2018 without specifying a date for the end of the program.

Throughout the reporting period, the main refinancing rate remained unchanged at 0.00 percent and the deposit facility for banks stayed at minus 0.40 percent.

By contrast, the Federal Reserve (Fed) raised its target range for the federal funds rate by 25 basis points on March 15, 2017 and then again on June 14, 2017, taking the target range to 1.00 percent to 1.25 percent. On December 13, 2017, it hiked the key rate once again by 25 basis points to the current target range of 1.25 percent to 1.50 percent. These interest-rate hikes were carried out in view of the prediction for 2017 of significantly higher US economic growth year on year combined with a continuation of the robust employment situation and the most recent inflation forecast of almost 2 percent. The Fed had begun to return its monetary policy to normal in December 2015 when it put up interest rates for the first time in around ten years.

The Fed announced on September 20, 2017 that from October it was planning to reduce the size of its balance sheet, which had swollen to almost US$ 4.5 trillion, in a gradual process starting with a decrease of US$ 10 billion per month. In this process, maturing US Treasuries and mortgage-backed bonds would no longer be replaced in full. It is intended to increase the amount of the reduction every three months by a further US$ 10 billion up to an upper monthly limit of US$ 50 billion.

The ECB cited the persistently low level of inflation as one of the critical reasons why it needed to continue its expansionary monetary policy measures. The ECB's stated aim is to guide inflation back to a level close to, but below, 2 percent. Inflation in the eurozone stood at 1.4 percent for December 2017 (December 2016: 1.1 percent), whereas the rate in June 2017 had been 1.3 percent.

Following the recent high demand for oil, particularly as a consequence of the agreement by the members of the Organization of the Petroleum Exporting Countries (OPEC) on November 30, 2016 to cut output, the price of a barrel of North Sea Brent Crude continued to stabilize in the second half of 2017. At a meeting at the end of November 2017, OPEC decided to extend its agreement until the end of 2018. However, this is likely to lead to a further expansion in US shale oil production with a countervailing impact on prices.

The core rate of inflation, which excludes energy and food prices, published by the EU's statistical office Eurostat for December 2017 was 0.9 percent (December 2016: 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.

The volume of lending to businesses in the eurozone rose slightly during the reporting period. Lending to corporate customers across the EU rose by an average of 2.4 percent between the end of September 2016 and the end of September 2017. In Germany, the volume of lending to businesses increased markedly, driven primarily by the buoyant uptrend in capital investment. This trend was largely fueled by the high degree of capacity utilization and the return of rising export demand resulting from the favorable economic conditions. However, in contrast, lending by the banks in some southern European countries was more cautious, which in turn stemmed mainly from their high level of non-performing loans.

Stronger demand for lending from businesses in the eurozone is also held back by geopolitical factors, above all uncertainty about the impact of the ongoing Brexit negotiations.

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

Against a backdrop of challenging market conditions, nearly all the major German banks had to accept a fall in operating income in 2017. The allowances for losses on loans and advances recognized by the major banks were mostly lower than in 2016. Administrative expenses decreased year on year in the majority of cases.

3 Financial performance

In the following information on the financial performance of the DZ BANK Group, the figures for 2017 for the individual line items in the income statement include the relevant figures for the joint central institution over the whole of the year. In contrast, the relevant prior-year income statement figures for the joint central institution were only included for the second half of that year because the business combination of the two cooperative central institutions in accordance with IFRS 3 was only completed in the middle of 2016. 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 year under review in challenging market conditions influenced primarily by the extremely low level of interest rates and demanding regulatory requirements.

The year-on-year changes in the key figures that made up the net profit generated by the DZ BANK Group in 2017 were as described below.

Operating income in the DZ BANK Group amounted to €6,555 million (2016: €6,110 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 net income from long-term equity investments) in the DZ BANK Group increased by 10.6 percent year on year to €2,941 million (2016: €2,660 million).

Net interest income at DZ BANK (excluding net income from long-term equity investments) went up by €88 million. At BSH, net interest income rose by €178 million, at DG HYP by €37 million, and at TeamBank by €12 million. In addition, net interest income at WL BANK increased by €135 million compared with the figure reported for the second half of the year in 2016. In the reporting year, the figures for this item declined year on year at VR LEASING (down by €4 million), DZ PRIVATBANK (down by €23 million), and DVB (down by €52 million).

Net income from long-term equity investments in the DZ BANK Group fell by 40.7 percent to €73 million (2016: €123 million). The year-on-year change was mainly attributable to a dividend from EURO Kartensysteme GmbH, Frankfurt am Main, (EKS) in 2016, EKS having benefited from income of €62 million generated from the disposal of shares in MasterCard.

Allowances for losses on loans and advances in the reporting year amounted to €786 million (2016: €569 million).

The specific loan loss allowances recognized for the DZ BANK Group came to a net addition of €841 million (2016: net addition of €424 million). The portfolio loan loss allowances for the DZ BANK Group amounted to a net reversal of €37 million (2016: net addition of €79 million).

Further detailed disclosures regarding the level of credit risk in the DZ BANK Group can be found in this group management report in section 8.9 of chapter VI (Combined opportunity and risk report).

Net fee and commission income in the DZ BANK Group increased by 9.8 percent to €1,864 million (2016: €1,698 million).

FIG. 2 – INCOME STATEMENT

€ million	2017	2016	Change (%)
Net interest income	**2,941**	2,660	10.6
of which: net income from long-term equity investments[1]	**73**	123	-40.7
Allowances for losses on loans and advances	**-786**	-569	38.1
Net fee and commission income	**1,864**	1,698	9.8
Gains and losses on trading activities	**506**	780	-35.1
Gains and losses on investments	**10**	127	-92.1
Other gains and losses on valuation of financial instruments	**289**	51	>100.0
Net income from insurance business	**907**	760	19.3
Administrative expenses	**-3,868**	-3,600	7.4
Staff expenses	-1,808	-1,760	2.7
Other administrative expenses[2]	-2,060	-1,840	12.0
Other net operating income	**38**	34	11.8
Net income from the business combination with WGZ BANK	**-91**	256	>100.0
Profit before taxes	1,810	2,197	-17.6
Income taxes	**-712**	-591	20.5
Net profit	**1,098**	1,606	-31.6

1 Total of current income and expense from income from other shareholdings, current income and expense from investments in subsidiaries, current income and expense from investments in associates, income/loss from using the equity method, and income from profit-pooling, profit-transfer, and partial profit-transfer agreements; see consolidated financial statements, notes to the consolidated financial statements, note 34.
2 General and administrative expenses plus depreciation/amortization expense on property, plant and equipment, and investment property, and on other assets.

DZ BANK's net fee and commission income advanced slightly by €4 million, with the equivalent figure at UMH rising by €208 million. At BSH and DZ PRIVATBANK, net fee and commission income went up by €37 million and €10 million respectively, whereas the equivalent figure declined at VR LEASING (down by €9 million), DVB (down by €26 million), and DG HYP (down by €32 million).

The DZ BANK Group's **gains and losses on trading activities** in 2017 came to a net gain of €506 million compared with a net gain of €780 million for 2016. This was largely attributable to the gains and losses on trading activities at DZ BANK amounting to a net gain of €485 million (2016: net gain of €746 million).

The net gains under **gains and losses on investments** declined by €117 million to €10 million (2016: €127 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 €289 million in 2017 (2016: net gain of €51 million).

Of the figure reported for the DZ BANK Group for 2017, a gain of €246 million (2016: loss of €73 million) was accounted for by DG HYP, a gain of €45 million (2016: gain of €100 million) by WL BANK, and a loss of €23 million (2016: loss of €25 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 2017, this figure increased by 19.3 percent to €907 million (2016: €760 million).

This year-on-year change in net income arose from the combination of an increase in premium income and a slight decline in insurance benefit payments, which more than offset a fall in the gains and losses on investments held by insurance companies and other insurance company gains and losses, and a rise in the insurance business operating expenses.

Administrative expenses in the DZ BANK Group rose by €268 million or 7.4 percent year on year to €3,868 million (2016: €3,600 million), including an increase in staff expenses of €48 million (2.7 percent) to €1,808 million (2016: €1,760 million) and an increase in other administrative expenses of €220 million (12.0 percent) to €2,060 million (2016: €1,840 million).

The DZ BANK Group's **other net operating income** amounted to €38 million (2016: €34 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, DZ PRIVATBANK, VR LEASING, and UMH.

Net income from the business combination with WGZ BANK, which amounted to a net expense in the year under review totaling €91 million (2016: net income of €256 million), related to expenses of the same amount that were incurred in connection with integration and data migration.

Profit before taxes in the reporting year amounted to €1,810 million compared with a figure of €2,197 million in 2016.

The DZ BANK Group's **cost/income ratio** (i.e. the ratio of administrative expenses to total operating income) for 2017 was 59.0 percent (2016: 58.9 percent).

The **regulatory return on risk-adjusted capital (RORAC)** was 11.3 percent compared with 16.5 percent in 2016.

The DZ BANK Group's **income taxes** amounted to €712 million in the reporting year (2016: €591 million).

This figure included a deferred tax expense of €267 million (2016: €243 million) and a current tax expense of €445 million (2016: €348 million).

The DZ BANK Group generated a **net profit** of €1,098 million in 2017 compared with a net profit of €1,606 million in 2016.

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 2017 (chapter V of the 2016 group management report).

In 2017, the DZ BANK Group generated profit before taxes that was well in excess of the budget. A significant proportion of this was accounted for by net income from insurance business at R+V, all the components of which represented a significant improvement on budget figures. Other gains and losses on valuation of financial instruments also exceeded budget, primarily as a consequence of reversals of impairment losses in respect of government bonds held by DG HYP. On the other hand, allowances for losses on loans and advances were higher than anticipated, largely as a result of the need for greater additions to allowances in the maritime segments at DVB.

3.2 Financial performance in detail

Figure 3 shows the details of the financial performance of the DZ BANK Group's operating segments in 2017 compared with 2016.

FIG. 3 – SEGMENT INFORMATION

2017

€ million	DZ BANK	BSH	DG HYP
Net interest income	1,276	833	340
Allowances for losses on loans and advances	22	-20	23
Net fee and commission income	350	-48	9
Gains and losses on trading activities	485	-	11
Gains and losses on investments	49	18	2
Other gains and losses on valuation of financial instruments	21	1	246
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	-1,472	-470	-132
Other net operating income	112	20	5
Net income from the business combination with WGZ BANK	-91	-	-
Profit/loss before taxes	**752**	**334**	**504**
Cost/income ratio (%)	64.2	57.0	21.5
Regulatory RORAC (%)	9.7	32.5	47.2
Average own funds/solvency requirement	4,583	1,027	1,083
Total assets/total equity and liabilities as at Dec. 31, 2017	265,843	68,337	42,970

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

DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING	WL BANK	Other/ Consolidation	**Total**
168	117	-	426	29	143	205	-596	**2,941**
-728	-	-	-70	-	-10	-5	2	**-786**
93	126	-	1	1,415	15	-9	-88	**1,864**
-26	10	-	-	-	-	-	26	**506**
-64	-	-	-	8	10	1	-14	**10**
-23	7	-	-	13	-	45	-21	**289**
-	-	15,181	-	-	-	-	-	**15,181**
-	-	3,531	-	-	-	-	-57	**3,474**
-	-	-15,312	-	-	-	-	-	**-15,312**
-	-	-2,595	-	-	-	-	159	**-2,436**
-175	-217	-	-214	-858	-136	-101	-93	**-3,868**
-19	-23	-10	5	3	-39	-3	-13	**38**
-	-	-	-	-	-	-	-	**-91**
-774	**20**	**795**	**148**	**610**	**-17**	**133**	**-695**	**1,810**
>100.0	91.6	-	49.5	58.4	>100.0	42.3	-	**59.0**
>100.0	6.8	11.4	34.6	>100.0	-7.6	33.5	-	**11.3**
506	301	6,970	430	350	330	404	-	**15,984**
23,414	16,802	103,419	8,009	2,445	4,749	42,885	-73,279	**505,594**

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**

3.2.1 DZ BANK

The figures in the reporting year for the individual items of the income statement explained below for this operating segment relate to the joint central institution. 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 2016 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.

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.

Net interest income (excluding net income from long-term equity investments) at DZ BANK increased by 15.8 percent to €646 million (2016: €558 million). This increase was largely the result of the aforementioned merger effect and a greater net interest margin contribution in corporate banking, but partially offset by a lower net interest margin contribution from group finance.

At DZ BANK, the Corporate Banking business line comprises the five regional corporate customer divisions that focus on corporate banking in Germany (Northern and Eastern Germany, Western Germany, Central Germany, Baden-Württemberg, and Bavaria), the Investment Promotion division, and the Structured Finance division covering business with German corporate customers and foreign customers with links to Germany.

A portion of the portfolio of real estate finance business hitherto managed by Region West was transferred to DG HYP at the beginning of September 2017 based on a value for the portion in question of €823 million. It is planned to transfer the remainder of the portfolio, which has a value of €2.6 billion, to DG HYP over the coming years. The total portfolio value of €3.4 billion was separated off in the year under review and no longer forms part of the Corporate Banking business line. As a consequence, the net interest margin contribution and the service contribution attributable to this €3.4 billion portfolio stopped being recognized under the Corporate Banking business line in 2017.

In accordance with the cooperative principle of decentralization – the tried-and-tested distribution of responsibilities in the Volksbanken Raiffeisenbanken cooperative financial network – and focusing on the needs of the business concerned, customer relationship management for corporate customers is provided by the local cooperative bank in conjunction with DZ BANK, or directly by DZ BANK.

Germany's large and medium-sized companies continued to show a high level of willingness to commit to capital investment in the year under review. By some distance, bank loans remained these companies' preferred means of covering their financing requirements, which arose principally from the need for expansion investment and funding to cover a rising volume of business. Nevertheless, a sound capital and liquidity position enabled the vast majority of large and medium-sized companies to meet their capital investment requirements from their own cash flows or reserves.

However, even these companies cannot escape the geopolitical influences, above all uncertainty about the impact of the ongoing Brexit negotiations. The shortage of skilled employees is also a source of ever-increasing concern for these businesses.

Partly as a result of the stable German economy and companies' robust financial health, large and medium-sized companies are increasingly venturing into international business again – despite the current geopolitical uncertainties. DZ BANK has recognized this trend with the opening of a new representative office in Jakarta, Indonesia, at the beginning of 2017 and by entering into a cooperation agreement with one of the biggest banks in China in the middle of the year. China Development Bank (CDB), the largest state development bank in the People's Republic of China, and DZ BANK entered into an agreement on June 1, 2017 to form a strategic alliance. In the year under review, DZ BANK also succeeded in setting up the first financing arrangement in Germany for a Chinese paper manufacturer, involving the provision of an export credit guarantee from the Federal Republic of Germany.

In the Corporate Banking business line, the net interest margin contribution rose by 13.2 percent to €396.1 million (2016: €349.9 million), in particular due to the aforementioned merger effects in 2016 and

2017 although it should be noted that the net interest margin contribution from corporate banking in 2016 still included an amount of €17.4 million relating to the real estate lending portfolio segregated in 2017 as described above. The net interest margin contribution in the five regional corporate banking divisions increased substantially overall, despite greater pressure on margins.

The net interest margin contribution from the development lending business in the Investment Promotion division went up year on year even though the significant downward pressure on margins continued.

The main areas of development activity within traditional investment finance were business start-ups and the implementation of energy efficiency measures in both the residential real estate and agriculture sectors. In spite of a fiercely competitive environment, DZ BANK was able to expand the aforementioned development lending portfolios.

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.

The net interest margin contribution advanced in the syndicated business/renewable energies product field. Despite growing competition, there was a substantial increase in renewable energies business during the reporting year, particularly the funding of wind turbines. Factors contributing to the year-on-year growth also included spending brought forward in anticipation of consequences from the amendment of the German Renewable Energy Sources Act (EEG 2017) in the middle of the year under review.

In the acquisition finance product field, the division arranges and structures debt finance 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. However, a selective approach to the granting of new loans helped to generate a year-on-year rise in the net interest margin contribution.

There was a slight decrease in the project finance product field's net interest margin contribution in 2017.

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, a significant rise in the net interest margin contribution was generated in the reporting year.

In the international trade and export finance product field, in which the emphasis is very much on providing support for German large and medium-sized corporate customers involved in international business, the net interest margin contribution rose sharply in 2017.

Allowances for losses on loans and advances amounted to a net reversal of €22 million (2016: net addition of €132 million) and included a net addition to specific loan loss allowances of €27 million (2016: net addition of €5 million) and a net reversal of portfolio loan loss allowances of €14 million (2016: net addition of €60 million).

Net fee and commission income rose slightly, by 1.2 percent, to €350 million (2016: €346 million).

In the year under review, the service contribution totaled €558 million, some of which was offset by costs in a total amount of €167 million relating to services obtained from third parties.

In the Corporate Banking business line, the service contribution fell by 10.6 percent year on year to €143.0 million (2016: €159.9 million) as a consequence of a lower level of new business arising because of the merger effects in the two comparative periods described above. The service contribution from corporate banking in 2016 still included an amount of €2.6 million relating to the real estate lending portfolio segregated in 2017, as described above.

The service contribution in the five regional corporate banking divisions decreased overall.

A new pricing structure for development lending was introduced in the Investment Promotion division on January 1, 2017, under which the cooperative banks receive an annual margin reimbursement. This led to a significant year-on-year fall in the service contribution.

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

Much fiercer competition characterized the acquisition finance product field during 2017, causing a sharp drop in the service contribution compared with 2016.

The service contribution in the project finance product field also decreased substantially year on year.

In the international trade and export finance product field, the service contribution also declined markedly during the reporting year owing to fiercer competition.

By contrast, the service contribution in the international documentary business product field (letters of credit, guarantees, collections) was far higher than in 2016.

In the asset securitization product field, the service contribution in the year under review was well below the figure in the prior year.

In the Capital Markets Institutional Clients and Capital Markets Retail Clients divisions, 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 2017.

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 division in 2017 was also higher than the equivalent figure reported for 2016 as a result of a rise in the income from securities custody business.

Gains and losses on trading activities amounted to a gain of €485 million in 2017 (2016: gain of €746 million). The markedly larger gain in 2016 was attributable to the reasons set out below.

The liabilities recognized at fair value gave rise to a positive effect on earnings of €104 million in 2016 (2017: expense of €45 million).

In addition, the gains and losses on trading activities in 2016 included interest-rate-related changes in the fair value of cross-currency basis swaps used to hedge other transactions amounting to a gain of €4 million (2017: loss of €49 million).

Also in 2016, 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 the year under review, DZ BANK's balance of unrealized and realized gains and losses relating to asset-backed securities (ABSs) amounted to a gain of €21 million (2016: gain of €13 million).

Key influences on capital markets during the year under review were the aforementioned continuation of the ECB's program of quantitative easing and the three interest-rate hikes by the Fed described earlier.

The lack of clarity about the direction of the US administration's economic policy going forward – tax reforms have been initiated but an infrastructure program and protectionist measures have only been announced at the moment – and about the impact of the ongoing Brexit negotiations also had a short-term adverse impact on capital markets, as did the uncertainty in the run-up to the elections in both the Netherlands and France in the first few months of 2017. To add to this, further negative geopolitical concerns emerged during the year, primarily as a result of the conflicts in the Middle East and the tensions with North Korea, although the effect of these concerns on capital markets remained limited.

The global economic recovery, which gathered momentum during the year under review, and the continued uptrend in the eurozone economy caused average share prices on European stock markets to soar above the level seen in 2016. At the same time, prices were a lot less volatile in the year under review than in 2016.

However, the regulatory environment in 2017 remained challenging for both markets and market players, which again had to cope with the demanding requirements imposed by banking regulators in the year under review.

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. In respect of all customer groups and products, the proportion of business conducted through electronic systems is rising significantly and increasingly replacing traditional telephone trading.

Against the current backdrop of low 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 in 2017 achieved record sales of investment certificates, doubling the previous year's figure to more than €4.4 billion. DZ BANK's performance – as measured by data from the Deutscher Derivate Verband (DDV) [German Derivatives Association] – has been impressive, demonstrating its capabilities as market leader with a market share of 16.6 percent as at the end of December 2017, based on the market volume invested in structured securities. The comprehensive range of high-quality services also earned DZ BANK the Best Issuer of 2017/2018 award from an independent panel of experts in this year's Investment Certificates Awards, the first time that DZ BANK has received this accolade.

Furthermore, DZ BANK's focus on continuously and effectively digitalizing and optimizing securities processes in retail banking was recognized by renowned experts when it received the Best Process Award 2016. DZ BANK also has an advanced quality management system for customer service and product development in the Capital Markets Retail Clients division based on the new ISO 9001:2015 standard. The system was comprehensively audited and certified in 2017 by DQS GmbH Deutsche Gesellschaft zur Zertifizierung von Managementsystemen.

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. They stepped up their investments in corporate bonds and simply structured credit-rating-linked products. Demand for structured bullet maturity bonds and share bonds was also brisk. Business involving bonds from financial institutions remained steady at the high prior-year level. The cooperative banks also aimed for broad diversification in their securities portfolios, particularly with regard to investments in equities and real estate. To this end, they increasingly invested in fund products from the Union Investment Group.

Capital market business with institutional customers was once again expanded in the year under review. The principal contributing factor was a brisk level of business in interest-rate derivatives used for hedging purposes, but interest-rate structures for occupational retirement pensions and group funding via secured and unsecured issues also played a major role.

The investment behavior of institutional customers was influenced to a large degree by the distortion of market prices, and thus risk premiums, caused by the ECB's monetary policy of negative interest rates. Income sources were widely spread, ranging across the entire fixed-income product segment but primarily bond trading in the secondary market. Sales of bank bonds, bonds from agencies, covered bonds, and corporate bonds were particularly strong. In the case of interest-rate structures and credit-linked notes, a range of diverse products has been available to DZ BANK's institutional customers for many years, with some of these products being very highly placed in the relevant rankings.

In the capital markets business with corporate customers, demand from large and medium-sized companies and major corporations extended over DZ BANK's broad spectrum of products, with particular focus on currency and interest-rate hedging in order to manage currency and interest-rate risk. In the year under review, approximately 1,700 corporate customers entered into interest-rate or currency hedging transactions and/or made short-term investments.

The pattern of growth differed between the interest-rate products business and the currency products business. Currency products business saw encouraging growth, whereas income growth in the interest-rate products business fell slightly as a result of customer caution in response to market conditions.

In the new bond issuance business, the volume of new issuance mandates generated by DZ BANK was maintained at the prior-year level. While new issuance business with the federal states in Germany declined, there was encouraging growth in new issuance business from northern Europe, France, and Austria, and in connection with promissory notes for corporates in Germany. The bank was able to consolidate its new issuance business and its excellent reputation, as well as that of the cooperative financial network overall, in the segment covering sustainability bonds for issuers in both Germany and abroad. In the year under review, the ECB's bond-buying program continued to have a long-term impact on the level of returns and on the composition of order books.

The net gains under **gains and losses on investments** declined by €55 million to €49 million (2016: €104 million). The figure also included income of €42 million from the disposal of liquidity-pool securities.

The prior-year 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 in 2016, largely from disposals of ABSs that had been impaired in previous periods.

Administrative expenses at DZ BANK amounted to €1,472 million, an increase of €126 million or 9.4 percent on the comparable figure in 2016 (€1,346 million).

The rise in staff expenses (of €20 million to €671 million) and in other administrative expenses (of €106 million to €801 million) was mainly attributable to the fact that in 2017 the former WGZ BANK was included for the whole of the year under review, but had only been included in the second half of the year in 2016. Project-related consulting and IT expenses also increased.

The **other net operating income** of €112 million (2016: €9 million) mainly arose from income of €126 million generated from the disposal of DZ BANK's long-term equity investment in Concardis GmbH, Eschborn.

In 2016, a significant item within other net operating income had been 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).

Net income from the business combination with WGZ BANK amounting to a net expense totaling €91 million consisted in the year under review of merger-related expenses of the same amount that were incurred in connection with data migration.

Profit before taxes for the year under review amounted to €752 million. The increase of €50 million compared with the figure of €702 million reported for 2016 was mainly a consequence of the changes described above.

The **cost/income ratio** for DZ BANK in 2017 was 64.2 percent (2016: 55.5 percent).

Regulatory RORAC was 9.7 percent (2016: 10.7 percent).

3.2.2 BSH

In the BSH subgroup, **net interest income** rose by 27.2 percent to €833 million (2016: €655 million).

It should be noted in this regard that net interest income in 2016 included an additional expense of €175 million resulting from the increase in home savings provisions.

Gains and losses on investments in joint ventures and associates accounted for using the equity method went up by €21 million in the year under review to a net gain of €25 million (2016: net gain of €4 million). The main reason was an impairment loss of €23 million recognized in 2016 on the carrying amount, calculated in accordance with the IFRS equity method, of Bausparkasse Schwäbisch Hall's Chinese long-term equity investment.

In 2017, net interest income was affected by the persistently low interest rates on capital markets.

This led to a decline in interest income from investing available funds in registered securities and bearer bonds.

In the case of interest income from loans issued under advance or interim financing arrangements, BSH managed to strengthen its non-collective income base in terms of volume on the back of a marked expansion in business over the last few years and despite a fall in average returns. This growth largely offset the decline in income from home savings loans and other building loans.

Accompanied by a higher interest cost, the volume of home savings deposits continued to grow in the year under review and reached €58.3 billion, up by €2.9 billion compared with December 31, 2016. The increased customer demand for home savings reflects the extent to which customers value ownership of their own home as a secure investment. Furthermore, when customers sign a home savings contract at the moment, they are guaranteed that the future loan finance will also be at the low interest rates currently prevailing.

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.

As part of a validation process, **allowances for losses on loans and advances** were increased from €8 million in 2016 to €20 million in the year under review.

The BSH subgroup's **net fee and commission income** improved by €37 million to a net expense of €48 million (2016: net expense of €85 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. These payments decreased year on year.

In the home savings business, Bausparkasse Schwäbisch Hall signed approximately 558 thousand new home savings contracts, generating an impressive level of new home savings business with a volume of €28.0 billion (down by 4.4 percent year on year).

In the home finance business, Bausparkasse Schwäbisch Hall achieved a new business volume of €14.6 billion, surpassing the challenging prior-year figure of €13.9 billion by 5.1 percent. This figure includes home savings loan contracts and bridging loans from Bausparkasse Schwäbisch Hall and other referrals totaling €1.86 billion (2016: €1.89 billion).

The significant growth in the home savings and home finance businesses reflects the strong demand for housing, driven by positive macroeconomic trends, a stable labor market, and rising incomes. Demand for additional homes increased, especially in urban areas, and this trend was reinforced by inward migration and the increasing number of people in all age groups who are living as singles. However, despite the very high level of capacity utilization in the construction industry and the substantial increase in construction activity over the last few years, production is still failing to keep up with demand, particularly in conurbations.

The home savings and home finance business is receiving an additional boost from the considerable need to modernize existing real estate, especially as 7 out of 10 homes are 37 years old or older and only 22 percent of the entire housing stock has been updated. It is also worth noting that this modernization deficit is not only affecting the quality of living accommodation, but is also damaging the environment: residential buildings account for two thirds of energy consumption in Germany. An increase in the modernization rate alone from the current level of 1 percent to 2 percent would mean an energy-efficient upgrade for 70 percent of the housing stock.

Age-appropriate housing is another key area for future growth, and there is likely to be a substantial increase in the renovation of current housing stock because currently only around 5 percent of the approximately 11 million households made up of older people are in a property with barrier-free access.

The extension of the Riester subsidy in Germany to cover the conversion of residential properties to make them barrier-free – a change implemented under legislation introduced in 2014 – continued to stimulate a greater level of customer interest in 2017 in the

Schwäbisch Hall Fuchs Wohn-Riester product, which has a number of variants according to specific customer needs. Overall, more than 65,000 new contracts were signed with Bausparkasse Schwäbisch Hall for its Fuchs Wohn-Riester product in the year under review.

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

The net gain under **gains and losses on investments** amounting to €18 million (2016: net gain of €19 million) was mainly attributable to income from the sale of securities.

Administrative expenses went up by €17 million to €470 million (2016: €453 million). Staff expenses fell by €7 million to €221 million (2016: €228 million). Other administrative expenses rose by €24 million to €249 million (2016: €225 million), primarily as a consequence of strategic projects and measures to further develop the home savings and home finance core businesses.

The €10 million decrease in **other net operating income** to €20 million (2016: €30 million) was primarily attributable to an increase of €38 million in the provision for pretrial risk.

Profit before taxes in the year under review climbed by €176 million to €334 million (2016: €158 million), mainly as a result of the changes described above.

The **cost/income ratio** in 2017 was 57.0 percent (2016: 73.2 percent).

Regulatory RORAC was 32.5 percent (2016: 16.6 percent).

3.2.3 DG HYP

Net interest income at DG HYP rose by 12.2 percent to €340 million (2016: €303 million).

This increase is largely explained by the fact that the reporting year was boosted by significantly higher early redemption payments (2017: €50.4 million; 2016: €31.2 million).

The German investment market for commercial real estate (excluding commercial investment in housing) expanded in the year under review by 7.4 percent to a value of €56.8 billion (2016: €52.9 billion). The volume of transactions in the market for commercial investments in housing swelled by around 14.6 percent in the year under review to €15.7 billion (2016: €13.7 billion).

Against the backdrop of the stable economic trend in Germany and the expansionary monetary policy of the ECB, which left its main refinancing rate at 0.00 percent while maintaining its bond buying program (albeit at a reduced monthly rate from the beginning of the year), the differential in yields between real estate investments and government bonds remained appealing, especially as there were only a limited number of investment alternatives with prospects of adequate returns.

The increase in the level of competition in previous years combined with higher demand caused by pressure from investors led to a further rise in the prices of commercial real estate in the year under review. Other factors contributing to the uptrend in prices included a greater level of activity in the market, especially by insurance companies and pension funds, and a further shortage of commercial real estate. The upshot was noticeably marked downward pressure on commercial real estate yields in the year under review, particularly in relation to real estate in prime locations.

In view of the higher yields achievable in markets outside the major cities, large numbers of German and international investors expanded their portfolios in these locations. The transaction volume for commercial real estate (excluding housing) outside the prime locations therefore reached an amount of approximately €26 billion in the year under review (2016: approximately €23 billion). This means that around 46 percent (2016: around 43 percent) of the total investment was made outside the prime locations.

Against the backdrop of these trends, DG HYP enjoys significant value added from its long-established close collaboration with some 400 local cooperative banks throughout Germany. This collaboration ensures not only that DG HYP has access to the regional market and the necessary proximity to customers, but also that it can benefit from detailed local market knowledge. At the same time, the real estate finance know-how of DG HYP is also the ideal complement to the local cooperative banks' extensive knowledge. Supported by its 6 real estate centers in major cities and a further 6 regional offices, DG HYP is a reliable partner to the cooperative banks in the regions.

In addition, DG HYP's decentralized market presence creates an advantage in terms of the allocation of risk because greater differentiation between credit portfolios based on region, sector, and customer group is possible.

Continuing to pursue this strategy in 2017, and while maintaining its conservative, selective approach to the granting of commercial real estate loans – especially in view of the persistently challenging market and competitive conditions – DG HYP generated a volume of new business amounting to €6,431 million, which was below the exceptionally high prior-year figure of €7,418 million. Of this total, €6,131 million (2016: €7,140 million) was accounted for by the German market.

Based on effective mutual support and greater information-sharing with the local cooperative banks, jointly generated new lending business was further expanded, the volume in 2017 amounting to €3,559 million (2016: €3,159 million).

On behalf of the cooperative financial network, DG HYP also assists the local cooperative banks with public-sector funding inquiries. 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 €198 million (2016: €257 million).

Allowances for losses on loans and advances amounted to a net reversal of €23 million (2016: net reversal of €60 million), including a net reversal of specific loan loss allowances of €20 million (2016: net reversal of €45 million) and a net reversal of portfolio loan loss allowances of €3 million (2016: net reversal of €15 million).

Net fee and commission income declined by €32 million to €9 million (2016: €41 million).

Gains and losses on trading activities improved by €11 million year on year to a net gain of €11 million (2016: net gain of €0 million) as a result of market conditions. The change was mainly attributable to the change in the euro/US dollar exchange rate.

The decline in the net gain under **gains and losses on investments** of €16 million to €2 million (2016: €18 million) was primarily attributable to the fact that the prior-year figure included the reversal of an impairment loss on a bond issued by HETA ASSET RESOLUTION AG, Klagenfurt, in an amount of €20 million.

Other gains and losses on valuation of financial instruments included for the most part a net gain of €246 million arising from the narrowing of credit spreads in the reporting year on bonds issued by countries on the periphery of the eurozone, contrasting with a net loss of €73 million in 2016 resulting from the widening of these credit spreads.

The **administrative expenses** of €132 million were €5 million higher than the prior-year level of €127 million. In the year under review, staff expenses rose by €2 million to €55 million (2016: €53 million). Other administrative expenses went up by €3 million to €77 million (2016: €74 million) and included a fall of €5 million in the annual charge for 2017 under the banking levy to €10 million (2016: €15 million), a decrease of €6 million in other general and administrative expenses to €5 million, and an increase of €11 million in expenses for consulting services to €27 million. The last item included an amount of €11.0 million relating to the following two projects: firstly, the 'Commercial real estate finance portfolio integration' project, which involved expenses in connection with the transfer of the commercial real estate portfolio from the former WGZ BANK to DG HYP; and secondly, the 'Real estate business reorganization' project, which included the necessary consulting and other services in connection with the planned merger between DG HYP and WL BANK.

Profit before taxes improved substantially in 2017, by €267 million, to €504 million (2016: €237 million). The primary reason behind this increase was the positive change in other gains and losses on valuation of financial instruments as a consequence of the factors described above.

The **cost/income ratio** in 2017 was 21.5 percent (2016: 41.8 percent).

Regulatory RORAC was 47.2 percent (2016: 21.2 percent).

3.2.4 DVB

Net interest income in the DVB subgroup declined by 23.6 percent to €168 million (2016: €220 million).

The decrease in net interest income was largely attributable to higher special accelerated depreciation allowances on assets subject to operating leases and to substantially narrower margins as a result of fierce competition around the globe to provide financing, especially in the aviation and land transport markets. A smaller volume of new business and contraction of the portfolio following further early repayments of loans also had an adverse impact.

The deterioration of €22 million in net income from long-term equity investments to a net loss of €12 million (2016: net income of €10 million) was largely attributable to individual equity-accounted entities whose overall profit was adversely impacted, mainly by loan loss allowances in respect of shipping and container portfolios.

The international transport industry experienced overcapacity within some segments of the international maritime shipping market, resulting in sharply falling freight rates and considerable pressure on shipping prices. The crisis also affected offshore business, which suffered from the uncertainty about likely movements in the price of Brent crude. Although this oil price was considerably more stable in the year under review compared with 2016 (average for 2017: US$ 55; average for 2016: US$ 45), the price was still well below the level in the period 2011 to 2014 (average for 2011-2014: US$ 108).

In 2017, the DVB subgroup generated new transport finance lending business of €3.1 billion (2016: €6.5 billion) based on a total of 113 deals (2016: 157 deals). DVB Bank maintains representative offices in Amsterdam, London, Oslo, and Singapore.

The increase in **allowances for losses on loans and advances** of €347 million to €728 million (2016: €381 million) was largely attributable to the rise in allowances for losses on loans and advances in the shipping finance business, which were up by €73 million to €381 million (2016: €245 million), and in the allowances in the offshore finance business, which were up by €331 million to €395 million (2016: €64 million). The reasons for the increase were firstly that the crisis in some sections of the shipping industry spiraled during 2017 as described earlier, above all due to significant overcapacity, and secondly that the situation in offshore finance remained very difficult owing to the uncertainty concerning likely movements in the price of Brent crude going forward.

At €93 million, **net fee and commission income** was down by €26 million year on year (2016: €119 million).

Fee and commission income generated from new transport finance business amounted to €36 million, down by €32 million year on year. In ongoing lending, fee and commission income advanced by €4 million to €20 million. Fee and commission income from asset management increased by €3 million to €15 million, whereas the equivalent figure from consulting declined by €1 million to €22 million.

The deterioration in **gains and losses on trading activities** of €31 million to a net loss of €26 million (2016: net gain of €5 million) was largely due to the change in the US dollar/euro exchange rate.

In the year under review, the **gains and losses on investments** amounting to a net loss of €64 million (2016: net loss of €12 million) mainly consisted of impairment losses recognized in respect of the carrying amount of 5 equity-accounted entities.

Other gains and losses on valuation of financial instruments improved by €2 million to a net loss of €23 million (2016: net loss of €25 million) as a result of market conditions.

Administrative expenses amounted to €175 million (2016: €190 million). In view of the challenging business conditions, staff expenses were reduced by €12 million to €91 million (2016: €103 million) by not recognizing a provision for bonus payments; other administrative expenses amounted to €84 million, a year-on-year decrease of €3 million compared with the 2016 figure of €87 million.

Other net operating income in the year under review amounted to a net expense of €19 million (2016: net expense of €14 million) and mainly comprised expenses of €21 million incurred in connection with the refinement of the DVB business model.

The **loss before taxes** for the year under review amounted to €774 million. The increase of €496 million compared with the loss of €278 million reported for 2016 was mainly a consequence of the changes described above.

The **cost/income ratio** in 2017 was greater than 100.0 percent (2016: 64.8 percent).

Regulatory RORAC was greater than 100.0 percent (2016: minus 46.6 percent).

3.2.5 DZ PRIVATBANK

Net interest income at DZ PRIVATBANK contracted by 16.4 percent year on year to €117 million (2016: €140 million).

The main reasons behind this decline in net interest income were the persistently low level of interest rates, the ongoing implementation of a risk-conscious investment strategy, and the expiry of securities exposures bearing higher rates of return combined with a slightly lower 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 €4.7 billion in the year under review, which was marginally lower than in 2016 (€5.0 billion).

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 8.6 percent to €126 million (2016: €116 million).

The increase in net fee and commission income was mainly attributable to the larger contribution to income from the fund services business, with the contribution to income from private banking virtually unchanged. The slight 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 2016.

As at December 31, 2017, the value of funds under management had grown by €8.8 billion to €108.8 billion (December 31, 2016: €100.0 billion). The number of fund-related mandates as at December 31, 2017 was 579 (December 31, 2016: 590).

At the end of 2017, the funds managed on behalf of high-net-worth individuals amounted to €17.3 billion, €0.4 billion higher than the figure of €16.9 billion as at December 31, 2016. The funds under management comprise the volume of securities, derivatives, and deposits of customers in the private banking business.

Other gains and losses on valuation of financial instruments improved by €3 million to a net gain of €7 million (2016: net gain of €4 million) as a result of market conditions.

The decline in **administrative expenses** by €11 million to €217 million in 2017 (2016: €228 million) was for the most part attributable to savings and therefore to the reduction of €10 million in staff expenses to €126 million (2016: €136 million). Other administrative expenses amounted to €91 million and were thus almost at the same level as in the previous year (2016: €92 million) overall.

Other net operating income amounted to a net expense of €23 million (2016: net expense of €39 million) and included an amortization expense of €16 million in respect of acquired customer relationships (2016: €16 million) and restructuring expenses of €9 million (2016: €9 million). The equivalent figure in 2016 also included additions to provisions of €16 million in connection with risks from the retail banking business.

In view of the effects from the factors described above, **profit before taxes** improved by €17 million to €20 million (2016: €3 million).

The **cost/income ratio** for DZ PRIVATBANK in 2017 was 91.6 percent (2016: 98.7 percent).

Regulatory RORAC was 6.8 percent (2016: 0.9 percent).

3.2.6 R+V

Premiums earned (net) climbed by €523 million to €15,181 million (2016: €14,658 million), reflecting the tight integration of the R+V subgroup into the cooperative financial network. This exceeded the level of premiums earned in 2016 by 3.6 percent. Gross premiums written increased by 3.9 percent to €15,338 million in the year under review (2016: €14,767 million), also surpassing the excellent level of premiums generated in 2016.

Premium income in the life insurance and health insurance business grew year on year by a total of 0.6 percent to €7,626 million.

In the life insurance business, premium income remained virtually unchanged year on year with just a marginal decline of €1 million to €7,066 million, although there was an increase in premiums outside Germany, contrasting with a fall in premiums within Germany. Premium income went up in both the bAV and pV Fonds businesses, but premium income from pV Klassisch went down. Premium income from health insurance rose by 8.9 percent to €560 million, largely due to an encouraging uptrend, primarily in regular premiums.

In the non-life insurance business, premium income grew by 4.2 percent to €5,521 million, with most of this growth being generated from vehicle insurance business and corporate customers.

Premium income from the inward reinsurance business rose by 14.3 percent to €2,034 million. The reasons for this increase were mainly the upward trends in the vehicle insurance business, especially in the UK and Israel, and in the fire and non-life insurance sectors, primarily in South Africa and the United States.

Gains and losses on investments held by insurance companies and other insurance company gains and losses declined by 9.1 percent to a net gain of €3,531 million (2016: net gain of €3,885 million).

Long-term interest rates went up from the beginning of the year under review, whereas they had fallen sharply in the prior year. Over the course of the reporting year, equity markets relevant to R+V performed better than in 2016. In 2017, movements in exchange rates between the euro and various currencies were more unfavorable overall than in the previous year. However, there was a positive impact on operating profit in the life/health insurance segment arising from the reform of the German Investment Tax Act (InvStG).

Overall, these developments led, in particular, to lower net foreign exchange gains and a deterioration in unrealized gains and losses. These negative effects were offset mainly by an improvement in realized gains and losses and a fall in impairment losses.

Owing to the inclusion of provisions for premium refunds (particularly in the life insurance and health insurance business) and claims by policyholders in the fund-linked life insurance business, the change in the level of gains on investments held by insurance companies also affected the 'insurance benefit payments' line item presented below.

Net insurance benefit payments decreased by 0.6 percent from €15,400 million in 2016 to €15,312 million in 2017.

In line with the change in premium income and in gains and losses on investments held by insurance companies and other insurance company gains and losses, additions were made to insurance liabilities at companies offering personal insurance. Furthermore, an amount of €827 million was added to the supplementary change-in-discount-rate reserve (2016: €626 million).

In inward reinsurance, the discount rate used by courts in the United Kingdom to determine the lump-sum payments for insured personal injury claims was lowered significantly during the reporting year. This led to a negative impact of €111 million. The inward reinsurance business also had to absorb additional expenses totaling €205 million arising from natural disasters (Hurricanes Harvey, Irma, and Maria) and the earthquake in Mexico.

On the other hand, the non-life insurance business experienced a modest change in the claims rate in the year under review.

Insurance business operating expenses went up by a total of 5.7 percent to €2,595 million (2016: €2,454 million) in the course of ordinary business activities in all 3 divisions.

Given the factors described above, **profit before taxes** for the reporting year improved by €114 million to €795 million (2016: €681 million).

Regulatory RORAC was 11.4 percent compared with 15.3 percent in 2016.

3.2.7 TeamBank

Net interest income at TeamBank amounted to €426 million, a rise of 2.9 percent compared with the figure of €414 million in 2016. This increase was the consequence of a higher level of new business and a greater portfolio of existing contracts in the easyCredit business.

TeamBank is the consumer finance specialist and liquidity management expert in the cooperative financial network. With buoyant consumer demand in the year under review, it delivered a strong performance despite continued fierce competition and a challenging environment of low interest rates.

In 2017, TeamBank continued to align its business model with market requirements in respect of digitalization, systematically ensuring that all changes are conceived from the customer perspective. TeamBank's operating policy, which has been based on cooperative values for many years now, provides an excellent basis for the technological transformation now ensuing at a rapid pace.

The fair and flexible consumer finance product enjoyed a further increase in customer interest. Loans and advances to customers increased by 9.4 percent to €7,966 million (December 31, 2016: €7,284 million). Furthermore, the number of customers had risen by a further 49,000 as at December 31, 2017 to reach 833,000.

In the year under review, this impressive market presence was underpinned by the continued drive to connect all customer access channels – mobile, online, and offline – into one digital ecosystem for liquidity management. The provision of innovative products on this basis gives customers easy access to liquidity and services wherever they are and whenever they want.

The intelligent combination of traditional branch-based advice with digital services is enabling TeamBank to plan future growth so that the bank will remain profitable over the long term. The digital ecosystem is helping to strengthen the customer relationships already in place, utilize the potential offered by existing customers, and win new customers for the cooperative financial network.

An important element of the ecosystem, a seamlessly integrated process for entering into an easyCredit agreement online, had been launched on the market in 2016. Already available for use on a computer, this option has also been offered to customers as a mobile solution for their smartphone since the start of 2017. Having introduced the seamless cross-media payment process 'ratenkauf by easyCredit', TeamBank is so far the only provider, both in e-commerce and at the point of sale, to offer a simple and uniformly designed installment purchase function. Moreover, a new app called 'fymio', an innovative, proactive personal finance management facility, gives customers a projection of their future liquidity based on intelligent analysis of the transactions across all of their accounts.

In 2017, TeamBank continued to strengthen the market presence of its product variants, which have been successfully established as part of its customer business. In addition to Finanzreserve with a credit card, customers have also been able to benefit from easyCredit-Finanzreserve without a card since October 2016, providing them free of charge with a cash reserve incorporating a simple drawdown function. As at December 31, 2017, around 179,000 customers had either signed up for the easyCredit-Finanzreserve or were already using this fair and flexible means of borrowing. As a result, some 9.5 percent of new business was already being generated through easyCredit-Finanzreserve.

The proven advisory concept known as 'easyCredit-Liquiditätsberater' – a financial compass created individually for each customer that provides both the customer and the advisor with the transparency necessary for the credit decision – is also helping the cooperative idea of attracting and retaining members to gain more prominence, in that it enables customers to make use of an attractive member benefit. Approximately 130,000 members benefited from advice in 2017, of whom around 22,000 were new to the cooperative financial network.

Allowances for losses on loans and advances were positively impacted in the year under review by the portfolio's improving credit quality and, compared with 2016, lower impairment losses and higher recoveries (cash receipts) on loans and advances previously impaired. Overall, allowances for losses on loans and advances in 2017 came to a net addition of €70 million (2016: net addition of €80 million).

Administrative expenses rose by €7 million to €214 million (2016: €207 million), including an increase in staff expenses of €3 million to €84 million (2016: €81 million) and an increase in other administrative expenses of €4 million to €130 million (2016: €126 million). The rise in other administrative expenses was predominantly due to higher IT expenses in connection with the leasing and maintenance of software and to projects.

Profit before taxes for the year under review amounted to €148 million. The increase of €5 million compared with the figure of €143 million reported for 2016 was a consequence of the factors described above.

At TeamBank, the **cost/income ratio** in 2017 was 49.5 percent (2016: 48.1 percent).

Regulatory RORAC was 34.6 percent (2016: 36.2 percent).

3.2.8 UMH

Net fee and commission income in the UMH subgroup climbed by 17.2 percent to €1,415 million (2016: €1,207 million).

The change in net fee and commission income was predominantly due to the factors described below. The volume-related contribution to this net income generated in the year under review from the average assets under management of the Union Investment Group rose significantly year on year. It accounted for 82.2 percent of the net fee and commission income.

The assets under management of the Union Investment Group comprise the assets and securities portfolios measured at their current market value, also referred to as free assets or asset management, for which Union Investment offers investment recommendations (advisory) or bears responsibility for portfolio management (insourcing). The assets are managed both for third parties and in the name of the group. Changes in the managed assets occur as a result of factors such as net inflows, changes in securities prices, and exchange-rate effects.

In 2017, performance-related management fees were also significantly higher than in the prior year. Income from real estate fund transaction fees saw a year-on-year decrease.

International capital markets reflected the economic trend as global growth gained traction during the course of the year. The trend was equally apparent in Germany and in the eurozone as a whole. The continuation of the considerable injection of liquidity provided by the ECB's extensive bond-buying program (despite the reduction in the monthly purchasing volume from €80 billion to €60 billion from the beginning of April) contributed to the sharp rise in prices on equity markets during 2017, especially in the second half of the year.

The net inflows generated in the retail business amounted to €9.9 billion (up by 39.4 percent compared with the 2016 figure of €7.1 billion). The sales partnership with the local cooperative banks has played an exceptionally important role in this regard, the success of which is due to the close working relationship between the local cooperative banks and their customers on the basis of trust established over many years.

In the persistently challenging conditions in the year under review caused by low interest rates, Union Investment – working together with its partners – once again succeeded in gradually 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 based on a structured portfolio investment approach.

Customer interest in 2017 centered on the 6 different product variants offered in total in the innovative PrivatFonds series of products. From an opportunity and risk management perspective, these products are tailored to the risk profile classification for each individual customer. Following net inflows of €4.3 billion in the year under review, the PrivatFonds portfolio had grown by 29.8 percent as at December 31, 2017 to €20.9 billion (December 31, 2016: €16.1 billion).

Open-ended real estate funds, which invest in tangible assets and offer a further significant investment alternative, generated net new business of €2.3 billion in the retail business in the reporting year.

Union Investment's various solutions involving fund-based saving in regular installments were a significant factor in helping customers achieve a balanced investment portfolio. For example, the number of traditional fund-linked savings plans had risen to 1.9 million contracts by the end of 2017 with an increase in the 12-month savings volume to €3.5 billion (December 31, 2016: €2.8 billion). One of the reasons for this substantial growth was Union Investment's reduction of the minimum savings rate for a savings plan to €25.

Long-term saving based on fund-based Riester pension products (UniProfiRente and UniProfiRente Select) from the Union Investment Group, the market leader in this field, attracted strong demand. The total assets in the portfolio of Riester pension solutions swelled by €1.5 billion in 2017 to €16.5 billion (December 31, 2016: €15.0 billion).

In its institutional business, the Union Investment Group generated net inflows amounting to €15.2 billion. A total of 78 new institutional clients were gained in the reporting year.

In an entrenched environment of low returns, long-term institutional business was focused on risk-controlled and broadly diversified investment solutions. The most popular products were those offering better potential returns, such as corporate bonds, bonds issued by emerging markets, multi-asset and absolute return products, and investments in real estate.

The Union Investment Group's outstanding reputation as a professional risk and portfolio manager was particularly reflected in the popularity of capital preservation strategies, the invested volume of which amounted to €25.4 billion at the end of 2017.

Socially responsible investment concepts also continued to be heavily in demand. As at December 31, 2017, the value of the sustainably managed funds amounted to €33.5 billion (December 31, 2016: €25.3 billion), making the Union Investment Group Germany's leading provider in this segment.

In the short-term investments business, demand among institutional investors was concentrated on money-market-linked funds, particularly as many corporate customers found themselves having to pay negative interest on their liquid investments. In response to this demand, Union Investment is offering a number of options including the UniInstitutionalReserve Plus fund, which invests in short-maturity corporate bonds or floaters. The value of this fund rose to €7.2 billion in the year under review.

The improvement in **other gains and losses on valuation of financial instruments** of €27 million to a net gain of €13 million (2016: net loss of €14 million) was mainly attributable to the drop of €24 million in expenses for the valuation of guarantee commitments.

Administrative expenses rose by €94 million to €858 million (2016: €764 million). This included an increase in staff expenses of €41 million to €395 million, which mainly resulted from average salary increases and appointments to new and vacant posts. The rise in other administrative expenses of €53 million to €463 million was mostly accounted for by increased office expenses and higher costs for consulting, IT, and procurement of information.

Other net operating income decreased by €25 million to €3 million in the year under review (2016: €28 million), largely due to the recognition of expenses in connection with the Next Generation Sourcing reconciliation of interests and lower income from tax refunds.

Profit before taxes went up by €142 million to €610 million overall (2016: €468 million), primarily because of the changes described above.

The **cost/income ratio** in 2017 was 58.4 percent (2016: 62.0 percent).

Regulatory RORAC was greater than 100.0 percent (2016: greater than 100.0 percent).

3.2.9 VR LEASING

Net interest income in the VR LEASING subgroup amounted to €143 million, which was a decrease of 2.7 percent on the equivalent figure in 2016 of €147 million.

The decline in net interest income was caused by a fall of €3 million in the net income from long-term equity investments to €4 million (2016: €7 million) and a decrease of €8 million to €2 million (2016: €10 million) in the non-core business, which continued to be scaled back in accordance with the corporate strategy. This non-core business includes the real estate leasing, automotive trade, and vehicle fleet businesses, plus international business at VR LEASING. Conversely, net interest income in the core business rose by €7 million to €137 million (2016: €130 million) and thus largely made up for the contraction in the non-core business.

Operating activities at VR LEASING are focused on providing innovative solutions on a decentralized basis in support of the cooperative banking sector. The products cater to market requirements in a digital age and are aimed at both small-scale and large-volume business, offering simple, rapid, and flexible financing solutions 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.

The various digitalized solutions are designed to help the banks in the cooperative financial network make even better use of the income potential offered by their small-business and self-employed customers. For example, the digital platform VR Leasy-Online incorporates integrated, automated decision-making, enabling cooperative banks to make decisions on financing up to an amount of €200,000 within minutes, particularly for small-business customers and the self-employed.

Through VR Leasy-Online, customers can also access the 'VR Leasing express' hire purchase solution and the 'VR Leasing flexibel' business lending product, providing particularly flexible and rapid instant financing up to a sum of €60,000. In Germany, small-business customers have for the first time also been able to take out a business loan up to €60,000 in a process that is entirely online using the online ordering channel, which has been piloted since the autumn of 2017.

If an individual transaction involves more than €200,000, a simplified financing check and semi-automated processing of the customer inquiry ensures a lending decision can be made within 2 to 3 days.

The growing importance of internet financing solutions was underlined by the year-on-year rise of 41.5 percent (2016: 10.8 percent) in the volume of online business (leasing and lending) transacted with the cooperative banks in the year under review. The proportion of total new business (leasing and lending) accounted for by contracts concluded online increased from 78.9 percent in 2016 to 83.1 percent in the reporting year. Digitalization does not prevent a personal customer relationship, however. Rather, the new digital channels complement the regional cooperative banks' close relationship with their customers.

Nevertheless, rapid market changes in the era of digitalization require solutions and processes to be refined on an ongoing basis. For this reason, VR LEASING launched a new application known as SmartBuchhalter (smart bookkeeper) on the market in August 2017 following an extensive pilot phase in the first half of the year. The application is designed to give self-employed people and small businesses a simple overview of their financial situation. This target group will therefore be able to maintain their accounts easily in the future, even when not in the office.

Allowances for losses on loans and advances amounted to a net addition of €10 million overall (2016: net addition of €14 million), including a net addition to specific loan loss allowances of €11 million (2016: net addition of €14 million) and a net reversal of portfolio loan loss allowances of €3 million (2016: net reversal of €1 million).

Net fee and commission income declined by €9 million to €15 million (2016: €24 million). The main reason for this change was the level of trailer fees to be paid to the cooperative banks, which climbed by €8 million to €15 million in line with the volume of business.

Gains and losses on investments amounted to a net gain of €10 million (2016: net gain of €1 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 €21 million to €136 million (2016: €157 million), which included a decline in staff expenses of €7 million to €87 million (2016: €94 million). Of this decline in staff expenses, €5 million was attributable to the fall in the number of employees in Germany and €2 million to the disposal of Lombard Lízing at the end of April 2016. Other administrative expenses went down by €14 million to €49 million (2016: €63 million), predominantly because of the continued implementation of cost-cutting measures.

Other net operating income amounted to a net expense of €39 million in the year under review (2016: net income of €6 million), primarily because VR LEASING introduced efficiency enhancement measures to ensure that the business was equipped for the future, focusing on sustainable growth and further cost savings. This involved restructuring expenses of €54 million, although this figure was offset slightly by a corresponding reversal amount of €2 million.

VR LEASING generated a **loss before taxes** of €17 million in the year under review (2016: profit before taxes of €7 million), largely as a consequence of the factors described above.

The **cost/income ratio** in 2017 was greater than 100.0 percent (2016: 88.2 percent).

Regulatory RORAC was minus 7.6 percent (2016: 2.2 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 was 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, whereas in the year under review it was reported with its earnings for the entire year (see figure 3 of this group management report).

Against a backdrop of favorable market conditions, further intense competition, and also the maintenance of a conservative risk policy, WL BANK's real estate lending business again performed well in 2017, even when measured against the high level achieved in 2016. In the year under review, WL BANK generated new business of €3.7 billion (2016: €4.2 billion).

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. New public-sector financing business in the year under review benefited from the steady improvement in local authority budgets but also continued to be subject to fierce competition. In 2017, this business amounted to €0.6 billion (2016: €1.0 billion).

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.

Net interest income amounted to €205 million in the year under review (second half of 2016: €70 million). This figure reflected the positive performance of real estate lending and the local authority loans business. Non-recurring income from early redemption fees and effects from subsequent measurement in connection with the PPA also had a positive overall impact on net interest income in the reporting year.

Allowances for losses on loans and advances remained at a low level. In the year under review, they amounted to a net addition of €5 million (second half of 2016: net addition of €9 million).

Other gains and losses on valuation of financial instruments amounting to a net gain of €45 million (second half of 2016: net gain of €100 million) largely consisted of gains on third-party securities, local authority loans, and own issuances (all measured at fair value) and a loss arising on hedging transactions.

Administrative expenses in the year under review came to €101 million (second half of 2016: €35 million). The main cost components of other administrative expenses were significantly higher consulting and project expenses resulting from the planned merger between DG HYP and WL BANK and from the integration of WL BANK into the DZ BANK Group, plus expenses arising as a consequence of regulatory requirements. This item also included expenses of €12.7 million in 2017 relating to the European bank levy. In 2016, the equivalent figure of €12.5 million had already been posted in the first half of the year.

Profit before taxes at WL BANK amounted to €133 million for 2017 (second half of 2016: €118 million), largely as a result of the factors described above.

The **cost/income ratio** in the year under review came to 42.3 percent (second half of 2016: 21.6 percent).

Regulatory RORAC was 33.5 percent in 2017 (second half of 2016: 75.1 percent).

3.2.11 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 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 for the prior year were 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.

4 Net assets

As at December 31, 2017, the DZ BANK Group's **total assets** had decreased by €3.8 billion, or 0.8 percent, to €505.6 billion (December 31, 2016: €509.4 billion). This reduction was largely attributable to the decline in total assets at DZ BANK (down by €9.2 billion), DVB (down by €4.2 billion), WL BANK (down by €0.9 billion), and DZ PRIVATBANK (down by €0.9 billion). However, total assets increased at R+V (up by €6.1 billion), BSH (up by €2.5 billion), and TeamBank (up by €0.7 billion).

The **return on assets**, which was calculated by dividing the net profit by the total assets at December 31, 2017, was 0.2 percent.

The **volume of business** amounted to €871,114 million (December 31, 2016: €843,130 million). This figure comprised the total assets, the assets under management at UMH as at December 31, 2017 amounting to €323,919 million (December 31, 2016: €292,272 million), the financial guarantee contracts and loan commitments amounting to €40,505 million (December 31, 2016: €40,287 million), and the volume of trust activities amounting to €1,096 million (December 31, 2016: €1,124 million).

The DZ BANK Group's **loans and advances to banks** rose to €120.5 billion, an increase of €13.2 billion or 12.3 percent. Loans and advances to banks in Germany went up by €15.8 billion to €114.3 billion, but loans and advances to foreign banks decreased by €2.6 billion to €6.2 billion.

The DZ BANK Group's **loans and advances to customers** decreased by €2.1 billion, or 1.2 percent, to €174.4 billion. Loans and advances to customers went down in particular at DVB (down by €5.6 billion), DZ BANK (down by €0.9 billion), and DZ PRIVATBANK (down by €0.6 billion). In contrast, loans and advances to customers increased at BSH (up by €3.7 billion), WL BANK (up by €0.7 billion), and TeamBank (up by €0.7 billion).

As at December 31, 2017, **financial assets held for trading** amounted to €38.7 billion, a decline of €10.6 billion or 21.4 percent on the figure as at December 31, 2016. This year-on-year change was largely attributable to a decrease of €6.5 billion in the figure under derivatives (positive fair values) and a decline in money market placements of €4.0 billion.

FIG. 4 – TOTAL ASSETS

Investments were down by €12.7 billion, or 18.1 percent, to €57.5 billion. The principal reason was a decline of €12.9 billion in the portfolio of bonds, although there was also an increase in the portfolio of shares and other variable-yield securities (up by €0.2 billion).

Investments held by insurance companies rose by €6.0 billion (6.7 percent) to €96.4 billion (December 31, 2016: €90.4 billion), above all due to a €4.0 billion increase in fixed-income securities to €44.9 billion and a €0.9 billion increase in variable-yield securities to €9.3 billion.

The DZ BANK Group's **deposits from banks** as at December 31, 2017 amounted to €136.1 billion, which was €6.8 billion (5.3 percent) higher than the figure reported as at December 31, 2016. Deposits from domestic banks rose by €6.7 billion to €124.7 billion, and deposits from foreign banks increased by €0.1 billion to €11.4 billion.

Deposits from customers grew by €1.9 billion, or 1.5 percent, to €126.3 billion. As at December 31, 2017, the portion of the above figure for the DZ BANK Group accounted for by deposits from domestic customers was €112.0 billion (December 31, 2016: €109.7 billion). Deposits from foreign customers amounted to €14.3 billion (December 31, 2016: €14.7 billion).

At the end of the reporting year, the carrying amount of **debt certificates issued including bonds** in the DZ BANK Group was €67.3 billion (December 31, 2016: €78.2 billion). The contraction of €10.9 billion was largely due to the decline of €11.9 billion in DZ BANK's debt certificates issued including bonds and the decline of €2.2 billion in the corresponding figure at DVB. By contrast, there was a rise in debt certificates issued including bonds at WL BANK (up by €0.8 billion) and DZ PRIVATBANK (up by €0.3 billion).

Financial liabilities held for trading declined by €5.9 billion, or 11.8 percent, to €44.3 billion. The figure under derivatives (negative fair values) decreased by €8.3 billion. In contrast, bonds issued went up by €1.3 billion, and money market deposits by €1.0 billion.

Insurance liabilities increased by €5.1 billion, or 6.1 percent, to €89.3 billion (December 31, 2016 (restated): €84.2 billion). This was largely attributable to rises of €3.5 billion in the benefit reserve and €1.0 billion in the provision for claims outstanding.

As at December 31, 2017, the **equity** reported by the DZ BANK Group was €23.5 billion (December 31, 2016 (restated): €22.8 billion). The €0.3 billion increase in subscribed capital and €0.6 billion increase in the capital reserve reflect DZ BANK AG's retirement of treasury shares in the year under review and the associated capital increase from company funds.

The disclosures on the Company's holdings of treasury shares pursuant to section 160 (1) no. 2 of the German Stock Corporation Act (AktG) can be found in note 71 of the notes to the consolidated financial statements.

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 7.3.2 (DZ BANK financial conglomerate).

5 Financial position

The following details on **liquidity management** during the year under review relate to DZ BANK and the DZ BANK Group. Liquidity management for the entities in the DZ BANK Group is carried out by the Group Treasury division at DZ BANK and on a decentralized basis 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 centrally by head office treasury in Frankfurt and by the associated treasury units 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 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 DZ BANK's Group Treasury division. Group Treasury also has at its disposal a portfolio of investment-grade liquid securities. These securities can be used as collateral in monetary policy funding transactions with central banks, in bilateral repos, or in the tri-party repo market.

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.

DZ BANK secures its long-term funding for structural liquidity by using structured and non-structured capital market products that are mainly utilized for the local cooperative banks' own-account and customer-account securities business and marketed 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.

The Group Treasury division 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 **liquidity risk** can be found in this group management report in chapter VI (Combined opportunity and risk report), section 6.2 (Economic 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 85 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

In the group entities, attention focused on innovation, digitalization, and other core issues, such as the regular process of updating the remuneration strategy. The standardization of reporting in line with regulatory and supervisory requirements also formed an integral component of HR activities across the group.

1.1 HR activities across the group

During the reporting year, a total of 37 meetings were held by the existing HR committees or their members. 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 (including one workshop). Within the six working groups, members held discussions on 30 occasions ranging from working group meetings to conference calls. In addition, all members remained in close contact with each other during the course of the year with the aim of progressing joint HR activities.

The members of the Remuneration working group worked closely together on the regular update of the joint remuneration strategy and also on implementing the requirements arising from the German Remuneration Transparency Act (EntgTranspG).

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, for example for the purposes of strategic HR planning in relation to demographic change. In 2017, a review of the current position regarding innovation and digitalization 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.

Future work, HR activities in start-ups, and the advancement of women were the focus of the Professional Development working group. In 2016, the professional development program for women at DZ BANK had for the first time begun 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 was continued in the year under review. 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.

Each year, a workshop is held for all the trainees in the group entities to encourage networking within the DZ BANK Group. The workshop in 2017 was attended by 80 trainees. Job shadowing in another entity within the DZ BANK Group is a standard component of each trainee program. The Trainee working group coordinates the range of networking options available. One of the key issues addressed by HR experts during the year under review was the future direction of the trainee programs, mainly because of the significant rise in the demand for IT professionals across all departments.

In addition to groupwide HR development activities, such as training for managers, a project run by the Careers working group, entitled ‘Information week: Experiencing the sense of belonging in the DZ BANK Group’, was successfully continued in the reporting year. Three further information events, each over three days, were held at DZ BANK, DZ PRIVATBANK, and R+V Versicherung in 2017, having been successfully piloted in the previous year at TeamBank in Nuremberg and the Union Investment Group in Frankfurt.

These information events actively help 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. The events were attended by a total of 83 employees, who came from different entities in the DZ BANK Group, and the feedback was very positive.

The third quarter of 2017 saw the launch of the 'Employees attract employees' initiative, which also forms part of an overarching HR policy and succession planning. The DZ BANK Group's own employees serve as active representatives of the business and, alongside HR officers, help to communicate the message that the entities in the group are excellent employers.

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 and thereby attract suitable candidates and retain existing employees over the long term with the aim of safeguarding the future viability of the DZ BANK Group.

The campaign was initiated back in 2014 with the launch of an internal communications and information-sharing platform. In 2016, the activities were expanded to include a joint external careers website featuring vacancies across the group. Further public relations activities ensued, supporting the launch of the employer brand in the external job market. In 2017, these activities included a countrywide bike-sharing campaign that was promoted on relevant social media. Internal communications channels were also expanded and enhanced, for example with features about individual employees such as 'A day in the life of...'. In this particular case, the feature followed a typical day in the life of a member of the Board of Managing Directors or an employee responsible for a special type of work and included the opportunity to make contact via a chat facility.

1.3 DZ BANK Group Career Prize

In 2017, the DZ BANK Group Career Prize was awarded jointly by the entities in the DZ BANK Group for the ninth time, although it was the sixteenth 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, 244 dissertations were submitted, comprising 119 in the category of university master's degree dissertations and 125 in the category of bachelor's degree dissertations. The dissertations addressed both traditional financial issues and also new fintech trends.

1.4 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 2017 was the seventh time that the DZ BANK Group had shared its stand with the BVR, presenting themselves together as the cooperative financial network.

1.5 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 50 percent. In 2017, the proportion of managerial positions held by women was 20.8 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. The target ratios specified in the statutory requirements were implemented in the individual entities.

1.6 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 eighth year. In 2017, 220 participants attended a total of 11 different events. 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 creative events focusing on digitalization with the aim of further bolstering the innovative capabilities of the DZ BANK Group. The 'Digital driver's license – my role as digital leader' sessions have now become well established and further sessions are scheduled going forward. Further information can be found at *www.corporatecampus.dzbankgruppe.de*

1.7 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.

FIG. 5 – EMPLOYEE DATA

Employees (average for the year, excluding trainees)	2017	2016
Total	**30,279**	**29,341**
Employees (as at December 31, including trainees)		
Total	**31,272**	**31,225**
Employees	30,223	30,142
Trainees	1,049	1,083
Proportion of trainees (%)	3.4	3.5
Germany	28,164	28,097
ROW	3,108	3,128
Male	17,139	17,089
Female	14,133	14,136
Total proportion of women (%)	45.2	45.3
Total number of managers	3,179	3,178
Proportion of female managers (%)	20.8	20.0
Full-time	25,130	25,302
Part-time	6,142	5,923
Proportion of part-time (%)	19.6	19.0
Period of service (years)	13.0	12.7
Staff turnover (%)	6.3	5.5
Resignations (%)	3.1	2.7
Professional development days per employee	3.1	3.3

2 Sustainability

DZ BANK is required to prepare a non-financial statement pursuant to section 289b (1) in conjunction with section 315b (1) HGB.

The non-financial statement for the DZ BANK Group is available in German at

www.berichte2017.dzbank.de

V Outlook

1 Economic conditions

1.1 Global economic trends

As 2018 began, a substantial recovery was under way in the global economy. In particular, the United States was continuing to advance along its growth trajectory, sustaining the fairly high pace of expansion established since the spring of 2016. The official growth figure for the Chinese economy in 2017 was 6.9 percent. Economic growth in the country has therefore picked up again following a downward trend over a number of years. The economic uptrend is also advancing in key emerging markets, Russia and Brazil continuing to benefit from the recovery in commodities markets. In Europe, neither the various elections nor the Brexit negotiations between the EU and the UK have led to any noticeable adverse economic impact to date. Quite the contrary in fact, with growth in the eurozone gaining even greater momentum.

Against this background, global economic growth in 2017 is likely to be confirmed at around 3.5 percent. At the moment, there are no obvious signs that this trend in global expansion is going to fall away. A further uptick is probable in 2018, with growth forecast to be approximately 3.8 percent for the year.

Expansionary monetary policies tending to be pursued by key central banks are also continuing to boost the current growth rates in the global economy. This very much applies to the ECB, which has not yet initiated any serious normalization of its monetary policy. By contrast, the US Federal Reserve has implemented modest interest rate hikes and has been taking action since October 2017 to reduce its massively swollen balance sheet. Nevertheless, money supply remains abundant overall.

The inflation rate will probably rise slightly from around 3.4 percent in 2017 to approximately 3.6 percent in 2018.

1.2 Trends in the USA

The economy in the United States is on a robust path of growth. Consumer spending, in particular, continues to be the key driver behind this growth. Surveys conducted in industry and construction, and among service providers and consumers, show that sentiment remains very upbeat.

In 2018, a further economic boost could come from the tax reform set in motion by Congress before the end of 2017 and now approved. The reform will lead to comprehensive tax cuts. Some of the strong economic growth at the end of 2017 is likely to have been caused by spending brought forward as a consequence of the imminent tax reform. This is suggested by the very hefty spending on capital equipment, in particular. This trend is likely to continue in 2018.

In these conditions, the US economic growth rate is forecast to rise from approximately 2.3 percent in 2017 to around 2.5 percent in 2018.

Inflationary pressure remains rather subdued despite both the upturn, which has already lasted for eight years, and the slightly expansionary monetary policy, which still remains in place. A significant, and also protracted, rise in the oil price could push up inflation markedly. Although the solid uptrend in employment is predicted to continue, there is only expected to be a slight increase in momentum in terms of wage rises. Overall, conditions for higher inflation are projected to remain moderate. Therefore, the Federal Reserve has little reason to hurry in pursuing a tighter monetary policy.

Currently, an average inflation rate in the region of 2.3 percent is projected for 2018.

1.3 Trends in the eurozone

The economic recovery in the eurozone is broadly based and gathered further pace in the second half of 2017. Consumer spending and gross capital investment are the most significant contributing factors. The positive overall picture is also confirmed by a review of the individual countries of the eurozone. The top performers include the Spanish economy, which has enjoyed very high growth rates now over a number of quarters, and the economic heavyweight Germany. The French economy is also picking up speed. Even Italy – which admittedly still has comparatively weak growth rates – is being increasingly pulled along by the powerful economic cycle within the eurozone.

The extremely favorable economic position currently prevailing in the eurozone is likely to continue through

2018. However, some potential for a setback is looming from the UK's planned exit from the EU. The outcome of the exit negotiations remains unresolved. Even recent progress in these negotiations has done little to reduce the current level of uncertainty. However, results of surveys indicate that the potential negative consequences for the eurozone economy from any uncoordinated exit by the UK are likely to remain relatively limited.

The robust growth figures are also reflected in the labor market. The average unemployment rate in the eurozone fell once again in November 2017, dropping to 8.7 percent, which was the lowest level since January 2009.

In view of the developments described above, it is reasonable to assume that a sound rate of economic expansion will be sustained in the eurozone in 2018. The rate of GDP growth is likely to be in the region of 2.0 percent in 2018 compared with around 2.3 percent in 2017.

Overall, inflation in the eurozone is lagging behind the positive economic conditions. The upward trend in consumer prices has been comparatively modest. Even in the case of industrial goods (excluding energy) or services, price inflation has been rather low. The inflation rate in 2017 was an average of approximately 1.5 percent. Current forecasts for 2018 are predicting an inflation rate in the vicinity of 1.5 percent.

1.4 Trends in Germany

At the end of 2017, the German economy was experiencing a strong broadly based economic recovery. According to the latest surveys, corporate optimism is at its highest level since reunification. In addition, the economy continues to be boosted by exceptionally positive consumer sentiment and the excellent position in the job market.

The expansion in the global economy is helping German exports to get back to the good years prior to the financial crisis and the problems in the eurozone. Overall, the country's industry is growing very rapidly, driven by buoyant export demand. Furthermore, the domestic economy in Germany has also been enjoying a positive trend for several years. Household consumption and capital investment in residential construction have risen significantly with the benefit of a strong tailwind from the very good employment rate in the job market. Following years of caution, businesses are now once again responding to the strong upturn with noticeably rising spending on capital equipment.

The economic recovery in Germany is likely to become increasingly mature, as a result of which the rate of expansion will probably ease off over the medium term, coming closer to the trend growth rate. In particular, a shortage of labor could restrict further growth opportunities.

Against this backdrop, Germany's unemployment rate for 2018 is predicted to fall further to around 5.5 percent.

At the moment, all the indicators suggest that the favorable economic conditions in Germany will continue in 2018, with economic output projected to rise by around 2.2 percent.

The inflation rate in 2017 crept up to 1.7 percent, mainly as a result of a rise in prices for crude oil and foodstuffs, and increases in housing rents. The projected inflation rate for 2018 is also approximately 1.7 percent.

1.5 Trends in the financial sector

For some years, the financial sector has faced considerable pressure in terms of both adjustment and costs caused by the need to comply with regulatory reforms and implement structural change to adapt to competitive conditions.

The regulatory measures introduced since the financial crisis have had a range of objectives, including the restructuring of the financial sector to make it more resilient in the event of a crisis, to be achieved by reorganizing the supervisory architecture and improving capital and liquidity adequacy. A further objective is to ensure that the risks arising from the business activities in the financial industry are not borne by the public sector.

However, there is always a possibility that European banks could be more heavily impacted as a result of the variation in the way that the rules are applied at international level.

Significant rules and regulations coming into force in 2018 include the application of the financial reporting standard IFRS 9, covering the accounting treatment of financial instruments with implications for the calculation of regulatory ratios, and the implementation of the Markets in Financial Instruments Directive (MiFID II), together with the accompanying Markets in Financial Instruments Regulation (MiFIR), with tighter requirements for the provision of investment services in relation to a large number of financial instruments as well as comprehensive transparency and disclosure requirements for transactions involving these products.

Further information on the regulatory environment can be found in section 5.1.2 of the opportunity and risk report.

In response to 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.

However, in addition to the regulatory environment described above, new competitors with approaches based on the use of data and technology are presenting the financial sector with the challenge of scrutinizing its existing business models, adapting them as required, and substantially improving its efficiency by digitalizing business and IT processes. The corresponding capital investment is initially likely to push up costs in the industry before the anticipated profitability gains can be realized.

Efforts to address the challenges described above will once again be made more difficult in 2018 by the expected continuation of low nominal interest rates, which are currently accompanied by a relatively flat yield curve and are likely to prevent any significant increase in margins in interest-related business.

This assessment is based on the continuation of the expansionary monetary policy pursued by the ECB, which decided in October 2017 to extend its asset-buying program until at least September 2018.

By contrast, at a meeting in September 2017, the US Federal Reserve decided to begin the process of unwinding its crisis-era quantitative easing policy. It is anticipated that, at the same time as the change in balance sheet policy, the Federal Reserve will continue to gradually hike interest rates with the objective of keeping US economy on a growth trajectory while ensuring price stability.

The expected growth in large swathes of the global economy is also forecast to provide a boost for the financial position and financial performance of the European financial sector.

However, the potential implications from uncertain political and economic trends for the economic position of banks and insurance companies should not be ignored. Further information on macroeconomic risk factors can be found in section 5.1.3 of the opportunity and risk report.

2 Financial performance

Key features of the 2018 financial year alongside a continuation of the tough market and competitive conditions will include measures by the DZ BANK Group to modify the strategic direction in certain aspects of its business, such as the pooling of real estate activities in DZ HYP and the realignment of the VR LEASING operating segment.

According to the planning for 2018, total assets will end the year somewhat higher compared with the figure as at the end of 2017. This planning is based on the forecast of a growth-driven increase in the volume of business, especially in the BSH, DZ BANK, TeamBank, VR LEASING, and WL BANK operating segments, which will have a corresponding impact on the balance sheet. However, the level of total assets will also reflect the countervailing effect from the planned contraction of the portfolios of loans and advances in the DG HYP and DVB operating segments.

In these circumstances, it is estimated that it would be ambitious to replicate the 2017 performance in terms of profit, so **profit before taxes** in 2018 is predicted to be at the lower end of the long-term target range of €1.5 billion to €2 billion.

Financial performance will be impacted by the low level of interest rates, which continue to be maintained as a result of the expansionary monetary policies pursued by central banks, and by the higher expenses resulting from regulatory requirements. The future financial performance of the DZ BANK Group could be subject to risks arising from the political and economic climate outlined above. 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 2018, it is anticipated that **net interest income** including **income from long-term equity investments** will remain steady overall, although there could be some income volatility in the interest-rate-sensitive business models within the DZ BANK Group.

The low interest rates are expected to persist in 2018 and this could have a negative effect on net interest income.

Following the charges in 2017, mainly in the DVB operating segment, expenses for **allowances for losses on loans and advances** are likely to return to normal levels overall in 2018 and change in line with the lending portfolio, the targeted volume of new business, and the long-term standard risk costs.

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

Once again, **net fee and commission income** is projected to rise significantly in 2018 and make a very hefty positive contribution to the earnings of the DZ BANK Group.

Based on the predicted growth in the volume of assets under management and the associated volume-related income, the UMH operating segment will again 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 retail and institutional investors, thereby depressing net fee and commission income.

Gains and losses on trading activities in 2018 are predicted to be at a similar level to those in 2017.

Customer-driven capital markets business in the DZ BANK operating segment may well continue to provide some impetus in 2018.

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

Net gains under gains and losses on investments are predicted to make a modest contribution to profit before taxes in 2018 because of the absence of non-recurring items this year.

Other gains and losses on valuation of financial instruments are once again projected to come to a net gain in 2018 in view of the available potential for reversals of impairment losses in the portfolios of instruments from government issuers in the DG HYP and WL BANK operating segments (DZ HYP operating segment going forward).

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 2018. Given the expected growth in the gross 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 may adversely affect the level of net income expected to be earned from insurance business.

Administrative expenses are predicted to rise slightly in 2018. While administrative expenses in most operating segments will contract or remain steady, it is likely that this item will rise in the UMH operating segment in view of the planned growth and capital spending requirements.

Despite a slight increase in income forecasts, the **cost/income ratio** for the DZ BANK Group is likely to rise in 2018 as a consequence of higher expenses. Against this backdrop, the DZ BANK Group will be focusing energies on managing costs and generating growth in the operating business.

Regulatory RORAC, the risk-adjusted performance measure based on regulatory risk capital, will decrease marginally in 2018.

3 Liquidity and capital adequacy

Based on the position in the year under review and the funding measures planned for 2018, the DZ BANK Group predicts that it will be able to continue satisfying the economic and regulatory **liquidity adequacy** requirements. Further information on liquidity adequacy can be found in sections 6.2.7 and 6.3.3 of the opportunity and risk report.

As matters currently stand, the DZ BANK Group's **capital adequacy** will continue to be assured for 2018 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. Further information on capital adequacy can be found in sections 7.2.4 and 7.3.2 of the opportunity and risk report.

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 2015. In 2018, a high priority will once again be given to capital management activities.

4 Operating segments in detail

4.1 DZ BANK

Despite potential for growth in the operating business, profit before taxes at DZ BANK is under pressure because of fiercer competition in both domestic and international markets. Fintech companies are also stepping up the competition by substituting new approaches in place of traditional services in parts of the value chain.

Moreover, the protracted period of low interest rates combined with reduced potential for reversals of impairment losses is hindering a more positive level of financial performance.

Excluding the income subsidy or absorption of losses in connection with the DVB operating segment, **profit before taxes** is forecast to fall sharply in 2018. This contraction is attributable in part to non-recurring items in the year under review.

The non-recurring items with a positive impact on profit before taxes in 2017 were the disposal of the shares in Concardis GmbH and the deconsolidation of WGZ Finance plc.

Net interest income (excluding income from long-term equity investments) in 2018 is predicted to be significantly below the 2017 level. This forecast reflects the challenges presented by the current market and competitive environment coupled with the downward pressure on margins.

Income from long-term equity investments will probably go down significantly in 2018 because of a rather conservative estimate of the financial performance of the other management units and because the 2017 figure included non-recurring items.

Expenses for **allowances for losses on loans and advances** will probably rise in 2018. Reversals of allowances in the year under review are not included in the planning. This forecast is in line with the change in the expected loss from the lending business, particularly in corporate banking.

Net fee and commission income is expected to rise substantially in 2018, with particular stimulus being provided by volume growth in transaction banking and retail banking.

The net gain under **gains and losses on trading activities** is projected to decline slightly despite the exploitation of potential growth in the customer business. Both the institutional customer business and the retail customer business are believed to offer opportunities for growth in spite of the tough market conditions. The consolidation of marketing activities in line with the corporate strategy should in this case lead to additional operating income in the capital markets business.

Gains and losses on investments will probably deteriorate significantly compared with 2017 because of the non-recurring items arising from the disposal of securities in the banking book.

In all probability, **administrative expenses** will see a considerable decline in 2018. The main reasons are the absence of merger-related expenses, especially as a result of the completion of the migration projects, and the fall in costs as planned synergies materialize.

From the current perspective, it is anticipated that the **cost/income ratio** will be up slightly in 2018 owing to the absence of the non-recurring income items described above.

Regulatory RORAC is likely to fall sharply in 2018 because of increasing capital requirements and the absence in the 2018 figures of the positive non-recurring items that boosted profit before taxes in 2017.

4.2 BSH

According to forecasts, house-building will continue to be a driver of economic growth in Germany in 2018. The demand for additional homes is expected to remain high in 2018 as a result of inward migration and population movements within Germany; this applies particularly to urban centers offering good economic and demographic prospects. The German construction industry estimates that 350,000 homes will be completed in Germany in 2018. For the first time for many years, this volume matches at least the lower end of the predicted annual demand of 350,000 to 400,000 homes. BSH, a specialist in home finance, will also benefit from these conditions.

In its home finance core business, BSH once again anticipates a slight rise in new business based on the record level achieved in 2017. As regards home savings, the second core business at BSH, new business is predicted to be at the prior-year level because of the continuing challenges presented by the low interest rates and significant regulatory requirements; this forecast is in line with the home savings market as a whole.

BSH is anticipating a significant fall in **profit before taxes** in 2018, largely because of a sharp decrease in net interest income.

The low interest rates are likely to have a substantial detrimental impact on income in 2018. Based on these expectations, **net interest income** is forecast to decline sharply this year.

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 2018 will remain at the relatively low level of 2017 despite the marked expansion in non-collective lending business in previous years.

Net fee and commission income is predicted to improve slightly in 2018 assuming a steady level of new home savings business.

Administrative expenses will be marginally higher in 2018, a consequence of strategic projects and action plans in connection with the further development of the home savings and home finance core businesses. Strict cost discipline and savings will help to limit the increase.

From the current perspective, the **cost/income ratio** is likely to deteriorate significantly as a result of the lower net interest income and slight rise in administrative expenses.

Regulatory RORAC will probably also be well down because of the slightly higher capital requirements and the considerable fall in profit before taxes.

4.3 DG HYP

Since 2013, the German economy has remained impressively robust in an environment exposed to global political and economic risks. According to forecasts prepared by DG HYP, the German commercial real estate market is likely to remain resilient and stable in 2018. From today's vantage point, 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 strong labor market is likely to ensure that demand for office space is maintained at a good level. Rising wages are expected to give a boost to retailers and help consumers pay housing rents, which continue to increase. This also means that the downward pressure on yields is likely to remain significant and risk premiums could continue to go down.

The portfolio of real-estate lending is anticipated to remain steady in 2018, as a result of which **net**

interest income will probably be slightly higher than the 2017 level. 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 at the level of the last few years will no longer occur.

The spreads in government financing are only expected to narrow by a tiny amount in 2018. The significant net gain in 2017 under **other gains and losses on valuation of financial instruments** is therefore projected to decrease sharply, with the result that **profit before taxes** is likely to decline substantially despite the ongoing success of DG HYP's operating business.

Administrative expenses will see another slight rise because of the further increase in merger activities in this operating segment.

From the current perspective, the **cost/income ratio** will show a significant year-on-year deterioration, caused by the sharp fall in net gains under gains and losses on valuation of financial instruments.

Regulatory RORAC is likely to see a hefty fall in 2018 as a result of the substantial decrease in profit before taxes.

Once again it is clear that non-strategic public-sector financing, which is accounted for at fair value, is limiting the ability of DG HYP to present the positive performance of its operating business transparently.

Information on the intended merger between DG HYP and WL BANK to become DZ HYP as part of the project to reorganize real estate activities within the DZ BANK Group can be found in section 2.3.

4.4 DVB

In 2017, DVB reported significant losses in what was the most challenging year in the history of the company, which stretches back almost 95 years.

At the beginning of 2017, the Board of Managing Directors of DVB developed a strategy to increase productivity and efficiency and to lay the foundations for a return to a reasonable level of profitability in the business model. The strategy was to consist of structural modifications, the refinement of existing products and services, and the development of new ones. Further work was carried out on the strategy during the course of the year to turn it into an updated business plan, which was then presented to, and approved by, the relevant decision-making bodies. By way of example, measures to be implemented as part of the plan included the following:

- Discontinue the offshore finance division from January 1, 2018
- Reorganize the portfolio breakdown with a balanced distribution between the remaining transport finance areas, but with a greater focus on aviation finance and land transport finance business
- Permanently bolster the team of experts responsible for managing non-performing loans
- Develop a new non-core assets strategy
- Increase risk-free fee and commission income in the various divisions, for example by focusing more on an originate-to-distribute business model, in which it is possible to add to and enhance the income generated from using the bank balance sheet
- Review the cost structures in the business model.

One of the critical competitive advantages still offered by the DVB business model is the cycle-neutral lending policy, which focuses on the quality of the financed asset in terms of the extent to which it can be remarketed and its value recovered.

DVB plans to exploit the current macroeconomic position to continue to offer its transport finance products, consulting, and other services at an international level in 2018. DVB will therefore remain available to its transport customers in 2018 for new business in the areas of shipping finance, aviation finance, and land transport finance.

In these circumstances, DVB will make best efforts in 2018 to avoid reporting a **loss before taxes**, as was necessary in 2016 and 2017. The bank thus plans, in particular, to significantly reduce **allowances for losses on loans and advances**. The continuing dislocation in some shipping markets could cause an adverse impact in legacy portions of portfolios, mainly in shipping finance and offshore finance. Even in the tenth year of the current crisis in shipping, DVB estimates that there is still tonnage overcapacity in some international shipping segments – this structural oversupply will create yet more pressure on charter rates and ship asset values. It remains unclear when this overcapacity will be eliminated to return transport markets to a situation where supply and demand are roughly in balance.

In 2018, the aviation and land transport finance markets are also expected to continue to be affected by the significant levels of available cash looking for an investment and by the fierce competition between banks and other finance providers, all of which is likely to have a detrimental impact on new business volume and new business margins.

Taking all the above into account, DVB is projecting a significant improvement in the **cost/income ratio** in 2018.

From an overarching perspective, DVB's financial performance is subject to uncertainty because of the conditions in the maritime market and the review of strategic options.

4.5 DZ PRIVATBANK

The eurozone economy is likely to continue to recover moderately over the medium term. The inflation rate will probably not exceed the ECB's target of 2 percent for any length of time in the next few years.

As things stand, any greater acceleration in business growth in 2018 will be hindered, mainly by the persistently low interest rates and the rise in costs associated with regulatory requirements.

Earnings are projected to improve in virtually all divisions in 2018. **Administrative expenses** are only expected to rise by a modest amount thanks to the ongoing efforts to manage efficiency and effectiveness.

Net interest income is forecast to contract significantly in 2018 because of the persistently low interest rates and the inadequate options available for replacing maturing interest-bearing assets.

In all probability, **net fee and commission income** will go up in 2018 on the back of the uptrend in the private banking and fund services businesses. 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, aided by continuation of benign market conditions. The assets under management in private banking will also increase, with margins projected to improve as a result of efforts to optimize the fee model. At the same time, a fiercely competitive market continues to prevail, reflected in persistent downward pressure on margins.

The customer-driven foreign exchange business will continue to have a positive impact on **gains and losses on trading activities**. A significant improvement in this figure is anticipated in 2018.

From today's perspective, the encouraging trend in income combined with only a moderate rise in costs is likely to mean that **profit before taxes** will increase significantly in 2018.

The **cost/income ratio** and **regulatory RORAC** are both forecast to improve substantially.

4.6 R+V

In the opinion of R+V, the 2018 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, 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.

In the year under review, R+V launched its 'Wachstum durch Wandel' (growth through change) program with the overall objective of consolidating its strong position in the market. The main aims within the strategic program are to safeguard profitable growth over the long term, bring about further growth in sales, refine the strong R+V corporate culture, and sharpen the focus on customer needs. This future-oriented strategy is being driven forward with support from the implementation of a digitalization strategy, encompassing a broad range of activities from the provision of products and services for customers and sales partners to the processing of customer concerns.

In line with this strategy, R+V is planning to continue on its trajectory of profitable growth in 2018. 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. Further consolidation of R+V's market leading positions in a number of areas, including personal pension products, occupational pension provision, vehicle fleets, and credit insurance, will be based on developing the potential available from both corporate and retail customers. R+V intends to achieve a lasting increase in market share by focusing on organic growth to be achieved by leveraging the potential available in the cooperative financial network, increasing cross-selling activity, offering innovative products, and expanding online and multichannel activities. This will also help to steadily increase the value added for the cooperative financial network.

Substantial growth is expected in **gross premiums written**. It is anticipated this will be generated from non-life insurance, personal insurance business, and inward reinsurance.

In non-life insurance, **gross premiums written** are forecast to grow significantly in 2018. The **claims rate** will probably be higher than in 2017. Based on a steady expense ratio, the **combined ratio** (total of insurance business operating expenses and claims expenses divided by premiums earned) is projected to rise.

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** predicted for 2018 will be slightly above the level of 2017.

The public at large has recognized that the statutory pension needs to be topped up by private and/or occupational pension provision. These circumstances alone already offer potential for growth. Particular momentum in the occupational pensions business could be provided by small and medium-sized enterprises in Germany. In businesses with fewer than a hundred employees, many of these employees do not yet make use of the benefits available under occupational pension schemes. The German Act to Strengthen Occupational Pensions (BRSG), which comes into force in 2018, addresses this situation in particular. This will give rise to new sales opportunities that will be actively exploited by R+V. Collectively agreed pension schemes such as the dedicated schemes available in Germany for the chemicals industry (Chemie-Versorgungswerk), engineering industry (MetallRente), and healthcare industry (KlinikRente) are helping to popularize occupational pension provision.

R+V expects the fierce competition in the reinsurance sector to continue. Nevertheless, following the major loss events that occurred in 2017 in North America and in the Caribbean, it is anticipated that there will be an increase in the price of reinsurance cover around the globe in 2018. In both commercial and retail business, the natural catastrophe segments adversely impacted in 2017 are expected to benefit, in particular, from this trend. R+V will continue to pursue its strategy of profitable growth in its inward reinsurance business. The retention of the stringent underwriting guidelines will ensure rigorous compliance with the income-oriented business policy. 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 2018.

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 2018. The net gains under **gains and losses on investments held by insurance companies** are forecast to fall to a normal level in 2018 against the backdrop of persistently low interest rates. This item will thus continue to make a significant contribution to overall profit before taxes at R+V in the future.

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

Regulatory RORAC is expected to fall in 2018 in line with the forecast decline in profit before taxes combined with a slight rise in capital requirements.

4.7 TeamBank

The German consumer finance market is forecast to continue to expand significantly in 2018, boosted by the positive economic growth, negative interest rates in real terms, and continuation of the favorable labor market.

Digital transformation is also putting traditional banks under a noticeable degree of pressure. Furthermore, new market players with disruptive business models are becoming increasingly popular, while the efforts of technology giants from the US and China are gradually bearing fruit in the German financial sector. Agile operating structures, digital solutions, and alliances – including collaboration with fintechs – are of critical importance for banks if they are to keep up with the rapid pace of innovation in the market.

In collaboration with the cooperative banks, TeamBank is aiming in 2018 to generate profitable, sustainable growth at a rate that is constantly higher than the market average. TeamBank remains focused on establishing connectivity between the various methods of customer access, amalgamating online and mobile activities with the branch business of the cooperative banks, and attracting new customers and members as well as retaining existing ones.

TeamBank is forecasting a significant gain in **net interest income** for 2018 based on strong portfolio growth.

The risk provision policy will be switched in January 2018 so that it is in line with IFRS 9. As part of this change, allowances for losses on loans and advances will be recognized at an earlier point in the lending relationship and at a greater level. As TeamBank continues to anticipate strong growth in its portfolio, it is projected that there will be a corresponding rise in **allowances for losses on loans and advances**.

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 2018 are only slightly higher than the 2017 level.

Taking into account the hefty rise in net interest income, the slight increase in administrative expenses, and the greater level of allowances for losses on loans and advances, **profit before taxes** is once again forecast at a high level in 2018, although it is unlikely to reach the exceptional figure achieved in 2017.

As a consequence, the **cost/income ratio** will remain at the encouraging level achieved in 2017 and is also expected to stay below the industry average.

The rise in minimum capital requirements will lead to a sharp drop in **regulatory RORAC** in 2018.

4.8 UMH

UMH has continued to set itself ambitious targets for 2018, even though it has just completed a financial year in which it generated the highest net profit in its history, attained significant net inflows, and achieved a record level of assets under management.

Against the backdrop of persistently challenging conditions – the change in the German political landscape after the latest elections, the ongoing Brexit negotiations between the UK and the EU, the increasing centrifugal forces in Europe, such as those in Poland, Hungary, and Catalonia, the developments in Turkey, the behavior of Russia, the tensions with North Korea, and not least the policies of the United States under the Trump administration – UMH aims to systematically exploit opportunities to deliver a positive business performance in both the national and international environments.

In 2018, 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 sharp contraction in **net fee and commission income** is predicted for 2018. Volume-related income is likely to increase substantially as a consequence of the higher average level of assets under management. However, this positive effect 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 2018. This increase will be caused largely by the transfer of research expenditure to UMH's own books, capital investment in infrastructure, and subsequent operating costs. Staff expenses will rise in 2018 because of a projected increase in the number of employees, the effect over a whole year from prior-year appointments, and planned salary increases. On the other hand, from the current perspective, the reduction in variable remuneration components will also have a countervailing impact.

Based on the factors described above, UMH is again forecasting a significant **profit before taxes** for 2018, even though the projected figure represents a considerable decline compared with 2017.

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

Advancing digitalization and the associated changes in customer requirements will be the focus of activities at VR LEASING in 2018. The ongoing policy of low interest rates and the implementation of regulatory requirements (including the EU General Data Protection Regulation (GDPR), the Insurance Distribution Directive (IDD), and the Principles for Effective Risk Data Aggregation and Risk Reporting (BCBS 239)) represent further challenges in the business environment.

Transformation into a digital provider of finance for the self-employed and small businesses

The priority for VR LEASING in 2018 will be to transform the corporate group into a digital provider of finance for the self-employed and small businesses, as approved in December 2017. This will be accompanied by a focus on the cooperative banks and their decentralized support for the financing of small and medium-sized enterprises in the BVR corporate customer clusters 2-4 (self-employed and small businesses).

As part of the transformation, it was decided that negotiations should be initiated for the disposal of the business activities other than sales via banks (i.e. centralized settlement and BFL Leasing GmbH) because they have no connection with the cooperative financial network. In the case of leasing or hire purchase business (single assets) with a value of more than €750,000, this business is to be operated henceforward with an associated partner. The factoring business will be taken over by the DZ BANK segment and the operating segment thereby reinforced, in particular in terms of the range of products.

By sharpening the focus of the business model, it is anticipated that VR LEASING will be able to exploit new potential sources of income, which will also cause a corresponding increase in the commission it pays to the cooperative banks. However, as a consequence of the costs incurred in connection with the transformation, a small **loss before taxes** is forecast for 2018.

Further development of simple, automated financing solutions

VR LEASING will forge ahead with the further development of its simple, automated financing solutions for leasing, hire purchase, and lending with a value of up to €200,000 with the aim of establishing further sources of income for the cooperative banks and generating long-term growth for itself. In 2018, it plans to take the market penetration enjoyed by its 'VR Leasing flexibel' business lending product to yet another level and raise the financing limit for the 'VR Leasing express' hire purchase solution from €60,000 to €200,000. Looking ahead, the limit for automated decisions on financing is to be increased in stages to €750,000.

The online order channel, which for the first time enables corporate customers to enter into a borrowing agreement in a process that is entirely online, has been in testing since September 2017. Once the pilot phase is completed, it will be rolled out as quickly as possible.

Expansion of digital value-added services

In 2018, VR LEASING intends to continue the systematic development of digital value-added services that it has created as part of an ecosystem of digital solutions. One example is SmartBuchhalter, a simple accounting and liquidity management application launched in 2017 across the whole of the German market. Another solution known as Bonitätsmanager (credit status manager) is also currently being tested. There are plans for a rapid market launch after the pilot phase has been successfully completed.

The stimulus generated from initiatives introduced as part of the sales and product strategy and production processes is once again expected to result in rising income from the core business in 2018. It is anticipated that the expansion of the core business will be reflected in a sharp year-on-year rise in **net interest income** in 2018.

The greater level of market penetration achieved by the 'VR Leasing flexibel' business lending product will probably be accompanied by an increase in **allowances for losses on loans and advances** in proportion to the planned growth in new business.

As a result of the significant investment involved in the transformation to become a digital provider of finance for the self-employed and small businesses,

administrative expenses are likely to rise accordingly. These increases are projected to be more than offset by the budgeted rise in income and are expected to lead to a vast improvement in the **cost/income ratio**. The reduction in headcount in 2017 as part of a voluntary severance program is forecast to result in a substantial fall in staff expenses.

In 2018, earnings performance is expected to be considerably better than in 2017. As a result of the transformation investment costs, VR LEASING will report a small **loss before taxes** in 2018, but this is likely to be a significant improvement on the figure in 2017.

Taking into account the predicted improvement in earnings and the stability in risk-weighted assets compared with 2017, a sharp improvement in **regulatory RORAC** is forecast for 2018.

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 2018. 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 the former WGZ BANK to become a joint central institution on August 1, 2016, WL BANK has been gradually integrated into the organizational structures and committee activities of the DZ BANK Group. This has also included the integration of WL BANK into the DZ BANK Group's functional, methodological, and technical processes.

Sustained positive economic trends with an extremely 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 2018. The German building industry expects the current construction boom to be sustained.

WL BANK is forecasting new business growth in 2018 compared with 2017 in both the real estate and the local authority lending businesses. The resulting portfolio expansion will be greater than the further contraction of the portfolio of securities and promissory notes, as a result of which total assets will once again increase slightly.

In 2018, **net interest income** will see a further hefty increase year-on-year as a consequence of WL BANK's success in generating new business over the last few years.

Allowances for losses on loans and advances in 2017 were affected by a non-recurring item and are likely to be sharply reduced to a low level in 2018.

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

From the current perspective, the net gain under **other gains and losses on valuation of financial instruments** is forecast to be significantly lower than in 2017.

Both the allowances for losses on loans and advances and other gains and losses on valuation of financial instruments will be substantially impacted in 2018 by the switch in accounting standard from IAS 39 to IFRS 9, with the result that it will not be possible to present a meaningful comparison with the previous year.

Administrative expenses will be affected by costs related to regulatory requirements together with consulting expenses in connection with the planned merger of WL BANK and DG HYP to become DZ HYP, as a result of which they are expected to rise significantly.

Profit before taxes is forecast to be at a lower level in 2018 as a result of the factors described above.

The **cost/income ratio** is projected to rise marginally.

Regulatory RORAC will probably fall slightly.

Information on the intended merger between WL BANK and DG HYP to become DZ HYP as part of the project for the reorganization of real estate activities within the DZ BANK Group can be found in section 2.3.

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.

The opportunity and risk report also satisfies those **regulatory transparency requirements** in Part 8 of the CRR that specify disclosures based directly on the risk management system. The disclosures concerned are as follows:

- Risk statement by the Board of Managing Directors (section 2), including the declaration by the Board of Managing Directors on the appropriateness of the risk management system in relation to the risk profile and business strategy (section 2.1)
- Basic principles of risk management (section 3.1)
- Risk management objectives and strategies (sections 3.2 and 3.3)
- Structure and organization of risk management (section 3.4), including the nature and scope of the risk reporting systems (section 3.4.5) and the provision of risk information to the Supervisory Board (section 3.4.5)
- Risk management procedures, including the nature and scope of risk measurement systems (section 3.5.2)
- Guidelines for mitigating and hedging risk as well as strategies and procedures for monitoring the ongoing effectiveness of the measures taken to mitigate and hedge risk (sections 3.5.5, 6.2.4, 8.4.7, 10.4.4, 14.4.4, 16.4, 17.2.2, 18.2.2, and 19.2)

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.

The opportunity and risk report of the DZ BANK Group includes disclosures relating to DZ BANK. It is therefore a **combined opportunity and risk report** in accordance with section 315 (5) HGB in conjunction with GAS 20.22. A separate opportunity and risk report is not prepared for DZ BANK. Unless stated otherwise, 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

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. DZ BANK continuously develops the risk management system and ensures that any need for improvement identified internally or by the supervisory authorities is addressed systematically without delay with a view to implementation.

The DZ BANK Group's **business model** and the associated business models used by the management units (see section I.1 and section I.2 of the (group) management report) shape the risk profile of the group. The main risks associated with the business models in the management units are presented in Fig. 7 and Fig. 8 in section 2.3.2 of the opportunity and risk report. The businesses operated by the DZ BANK Group and the management units that have a significant impact on the risk profile are described under 'Definition and business background' and 'Risk strategy' within the sections of the opportunity and risk report covering the different risk types.

In the other direction, the main risks and the risk profile, together with a number of other factors, influence the business models used in the DZ BANK Group. This occurs firstly in strategic planning, where the risk profile is taken into account by restricting – in conjunction with the imposition of risk limits – the risk assumed in connection with new business. Secondly, in all activities, the DZ BANK Group only takes on risk if it has an adequate understanding of the risk involved and the expertise necessary to measure and manage it.

The extent to which the liquidity risks and the risks backed by capital (**risk profile**) are reasonable in relation to the risk limits is expressed in the values for the DZ BANK Group's **risk-related KPIs** shown in Fig. 6. The values for these KPIs are compared against the (internal) minimum targets specified by the Board of Managing Directors of DZ BANK with due regard to the business and risk strategies– also referred to below as **risk appetite** – and against the (external) minimum targets laid down by the supervisory authorities. The DZ BANK Group met the internal and external minimum targets at all times in the year under review. Further details on risk appetite can be found in section 3.3.

The interaction between the risk profile and risk appetite is explained in section 6 in connection with liquidity adequacy, and in section 7 in connection with capital adequacy.

2.2 Opportunity and risk management system

2.2.1 Fundamental features

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 an unexpected future liquidity shortfall or unexpected future losses. 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 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.

FIG. 6 – RISK-RELATED KPIS

	Measured figure		Internal minimum target[1]		External minimum target	
	Dec. 31, 2017	Dec. 31, 2016	2017	2016	2017	2016
LIQUIDITY ADEQUACY						
DZ BANK Group						
Economic liquidity adequacy (€ billion)[2]	16.1	11.2	4.0	4.0	0.0	0.0
DZ BANK banking group						
Liquidity coverage ratio (%)	161.7	151.0	90.0	80.0	80.0	70.0
CAPITAL ADEQUACY						
DZ BANK Group						
Economic capital adequacy (%)[3]	170.5	170.1	120.0	130.0	100.0	100.0
DZ BANK financial conglomerate						
Coverage ratio for the financial conglomerate (%)[4,5]	189.3	180.3			100.0	100.0
DZ BANK banking group						
Common equity Tier 1 capital ratio (%)[6,7]	14.0	14.5	11.0	10.6	7.9	
Tier 1 capital ratio (%)[6,7]	15.3	16.0	12.5	12.1	9.4	
Total capital ratio (%)[6,7]	17.4	18.6	14.5	14.1	11.4	
Leverage ratio (%)[6]	4.6	4.4	3.5	3.5		

1 As specified by the Board of Managing Directors.
2 Economic liquidity adequacy is expressed through the minimum liquidity surplus KPI. The figure used relates to the stress scenario with the lowest minimum liquidity surplus. The internal minimum target relates to the observation threshold.
3 The internal minimum target is the amber threshold in the traffic light system for managing and monitoring economic capital adequacy.
4 Figure measured as at December 31, 2017: Preliminary coverage ratio. Figure measured as at December 31, 2016: Final coverage ratio.
5 It is planned to set an internal minimum target in 2018.
6 Measured values and internal minimum targets in accordance with the CRR transitional guidance.
7 The external minimum targets are the binding regulatory minimum capital requirements. There are no comparative prior-year figures for the method that the ECB has applied since 2017 for determining the minimum capital requirements. Details on the minimum capital requirements can be found in section 7.3.3.

Not available

The risk management system is based on **risk strategies** that are consistent with the business strategies and have been approved by the Board of Managing Directors. In particular, risk policy guidelines on risk appetite have been drawn up in the form of the **risk appetite statement**, which forms an integral part of the risk strategies.

Efficient management and control tools are used in all areas of risk. These tools are subject to continual further development and refinement. The methods used for measuring risk are integrated into the risk management system. Risk model calculations are used to manage the DZ BANK Group, DZ BANK and the other management units.

DZ BANK and its subsidiaries have organizational arrangements, methods, and IT systems in place that enable them to identify material opportunities and risks at an early stage and initiate appropriate control measures, both at group level and at the level of the individual management units. This applies in particular to the **early detection and management 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 ensure that management is in a position to initiate targeted corrective action if required.

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.

2.2.2 KPIs

Risks affecting 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). The aim of **risk capital management** is to ensure the availability of capital resources that are commensurate with the risks assumed (capital adequacy).

The **minimum liquidity surplus**, which reflects economic liquidity adequacy, and **economic capital adequacy** are the key figures in the DZ BANK Group. Disclosures on the method used to calculate these key figures can be found in sections 6.2.4 and 7.2.2. Disclosures on the relationship between these figures and the balance sheet can be found in sections 6.2.6 and 7.2.2. The changes made on January 1, 2017 to how economic capital adequacy is determined are presented in section 2.2.5 of this opportunity and risk report.

The minimum liquidity surplus and economic capital adequacy cannot be reconciled directly to individual line items in the consolidated financial statements because they are forward-looking considerations. Although these key figures are based on the consolidated financial statements, a number of other factors are used in their calculation. The use of these figures in the opportunity and risk report complies with the financial reporting standards to be applied in external risk reporting.

2.2.3 Management units

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. Each 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 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 to 5 and Parts 7 and 8 CRR and are instead covered at DZ BANK banking 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.

2.2.4 Effects of the merger between DZ BANK and the former WGZ BANK

Following the completion of the legal aspects of the merger between DZ BANK and the former WGZ BANK in 2016, the **migration of business data** from the IT systems operated by the former WGZ BANK to the IT systems at DZ BANK, which had been started in 2016, and the **merging of risk exposures** were then also completed in the year under review.

2.2.5 Material changes

The DZ BANK Group holds a capital buffer ('**capital buffer requirement**') in readiness to allow for a possible lack of precision in the measurement of the risks backed by capital. Up to 2016, the capital buffer was deducted from the available internal capital without further differentiation. Since January 1, 2017, a distinction has been made between decentralized and centralized capital buffer requirements in the management of economic capital adequacy. Decentralized capital buffer requirements are managed within the upper loss limits for the individual risk types, whereas the centralized capital buffer is managed on the basis of an upper loss limit covering all sectors and risk types.

Freely available internal capital remains unchanged by this adjustment. As of the year under review, this figure has been calculated as the difference between available internal capital and the risk capital requirement including the capital buffer requirement (aggregate risk). Up to the end of the prior year, freely available internal capital was calculated as the difference between available internal capital (after deduction of the capital buffer requirement) and the risk capital requirement. Consequently, economic capital adequacy, which was previously calculated as the ratio of available internal capital (after deduction of the capital buffer) to the risk capital requirement, is now calculated as the ratio of available internal capital to aggregate risk. This change in methodology would have led to a minor decrease in economic capital adequacy compared with 2016 even if both available internal capital and the risk capital requirement had remained unchanged year on year.

Owing to the changed definition of the capital buffer, the disclosures on the risk capital requirement and the upper loss limits as at December 31, 2017 are not directly comparable with the corresponding disclosures as at December 31, 2016.

At present, the **merger of DG HYP and WL BANK** planned for 2018 is not expected to result in material changes to the opportunity and risk management system or to the DZ BANK Group's key risk indicators.

2.3 Risk factors, risks, and opportunities

2.3.1 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 remains characterized by 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 and DZ BANK are the European sovereign debt crisis, the persistently tough market conditions for the shipping and offshore finance business, and the low interest rates. 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. These risk factors are described and analyzed in detail in section 5.1.

Moreover, the DZ BANK Group and DZ BANK are exposed to **business-specific risk factors of an overarching nature** 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 in risk management. Section 5.2 contains a detailed description and analysis of these risk factors.

Risk factors specific to each type of risk also determine the extent of risk exposure in the DZ BANK Group and at DZ BANK. Detailed disclosures in this regard are provided in sections 8 to 19, in each case under the header 'Specific risk factors'.

2.3.2 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 Fig. 7 and Fig. 8.

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 Fig. 7 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 Fig. 7 by a dot on a light gray background).

The subcategories shown under credit risk and market risk in Fig. 7 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 2017 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, the DZ BANK Group 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 Management Companies (KAMaRisk).

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 BCBS and the FSB on risk management issues.

In the year under review, DZ BANK updated its **recovery plan** in accordance with the requirements specified by banking supervisors. The recovery plan is based on the requirements specified in the German Bank Recovery and Resolution Act (SAG) and in other legal sources, especially Commission Delegated Regulation (EU) 2016/1075 and the Minimum Requirements for the Design of Recovery Plans (MaSan). A fully updated recovery plan was prepared during the reporting year and submitted to the ECB.

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 authorities (in 2017 in Germany, this was 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 authority (FMSA) can demand that the institution provide it with comprehensive assistance in connection with drawing up and updating the resolution plan. For this reason, as in prior years, DZ BANK again dedicated a great deal of time and effort in 2017 to helping with the ongoing preparation of the resolution plan for the DZ BANK Group. It supplied the resolution authority with numerous analyses and a range of written materials as well as providing details using standardized document templates.

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.

FIG. 7 – RISKS AND OPERATING SEGMENTS IN THE BANK SECTOR[1]

Risks

	Risk type	Definition	Specific 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) and from the migration of the credit ratings of these counterparties.	– Increase in the lending volume as a result of new business and increase in the fair value of existing business – Increase in the concentration of volume by counterparty, industry, country, or maturity – Deterioration in the lending portfolio's credit rating structure
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 – as a result of impaired carrying amounts – as a result of a lack of information in the case of non-controlling interests
Financial-sector risks	**Market risk** – Interest-rate risk – Spread risk and migration risk – Equity risk – Fund price risk – Currency 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 – Competition based on pricing and terms – Greater competition in capital markets business – Digitalization and new competitors in transaction banking
Business-performance risk	**Reputational risk**[3]	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 authorities, in the entities in the Bank sector or in the products and services that they offer.	– Decrease in new and existing business – Support of stakeholders such as shareholders and employees
Business-performance risk	**Operational risk**	Risk of losses from human behavior, technological failure, weaknesses in process or project management, or external events.	HR risk: – Strikes and other business interruption – Insufficient availability of employees IT risk: – Malfunctions or breakdowns in data processing systems Outsourcing risk: – Disruptions to outsourced processes and services Risks in connection with the (consolidated) financial reporting process: – Inaccurate external financial reporting Legal risk: – Changes in the legal framework – Changes in the official interpretation of relevant regulations – Government intervention – Court or arbitration proceedings – Changes in the business environment Tax risk: – Changes in the tax framework – Changes in the interpretation by tax authorities of the existing tax framework – Changes in the business environment Compliance risk: – 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.

Risks		Operating segments (management units)								
Risk management KPIs disclosed		DZ BANK	BSH	DG HYP	DVB	DZ PRIVATBANK	TeamBank	UMH	VR LEASING	WL BANK
– Liquid securities – Unsecured short-term and medium-term funding – Minimum liquidity surplus – LCR	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 8.6, 8.7, and 8.8 Section 8.9 Section 8.10	•	•	•	•	•	•		•	•
– Investment volume – Risk capital requirement	Section 9.5	•	•	•	•		•	•	•	•
– Risk capital requirement – Value-at-risk	Section 10.7.1 Section 10.7.2	•	•	•	•	•	•	•	•	•
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	•	•	•	•	•	•	•	•	•

• Consideration of quantitative and qualitative disclosures

• management units in quantitative disclosures

opportunity and risk report: not relevant

FIG. 8 – RISKS IN THE INSURANCE OPERATING SEGMENT AND SECTOR

	Risk type	Definition	Specific 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.	– Life actuarial risk: 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. – Health actuarial risk: The level of claims resulting from policyholders' and service providers' behavior may cause a larger rise in claims expenses than the one in the calculation assumptions. – Non-life actuarial risk: The actual impact of losses, particularly from catastrophe risk, may exceed the forecast impact.	– Claims rate trend in non-life insurance – Overall solvency requirement	Section 16.6 Section 16.7
Core financial sector risks	**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.	– An increase in interest rates or widening of credit spreads on government bonds or other bonds could lead 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 could result 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
Core financial sector risks	**Counterparty default risk**	Risk of possible losses due to unexpected default or deterioration in the credit standing of counterparties or debtors of insurance or reinsurance companies over the subsequent 12 months.	Unexpected default or deterioration in the credit standing of mortgage loan borrowers, counterparties of derivatives, reinsurance counterparties or policyholders, or insurance brokers.	– Lending volume – Overall solvency requirement	Sections 17.4 and 17.5 Section 18.4
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).	HR risk: – Insufficient availability of employees IT risk: – Malfunctions or breakdowns in data processing systems – Business interruptions Legal risk: – Changes in the legal framework – Changes in the official interpretation of relevant regulations – Government intervention – Court or arbitration proceedings – Changes in the business environment Tax risk: – Changes in the tax framework – Changes in the interpretation by tax authorities of the existing tax framework – Changes in the business environment	Overall solvency requirement	Section 19.4
	RISK COVERED BY CAPITAL PURSUANT TO SOLVENCY I				
	Risks of 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

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 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 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 concerned.

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

3.3 Risk appetite

The entities in the DZ BANK Group define risk appetite as the nature and extent of the risks that will be accepted at group level or by the management units when implementing their business models. Risk appetite equates to the term 'risk tolerance' used by banking supervisors in a disclosure context.

The risk appetite statement formulates risk policy principles on risk tolerance in the DZ BANK Group. The principles are overarching statements that are consistent with the business model and the risk strategies. The qualitative principles are supplemented by quantitative key figures, for which minimum targets are set internally. These key figures constitute the DZ BANK Group's risk-oriented key performance indicators. The values for the KPIs and the internal minimum targets are shown in Fig. 6.

Disclosures relating to the business model and 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).

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. Fig. 9 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.3.2.3 (Corporate management committees), which can be found in the 'DZ BANK Group fundamentals' chapter of the (group) management report.

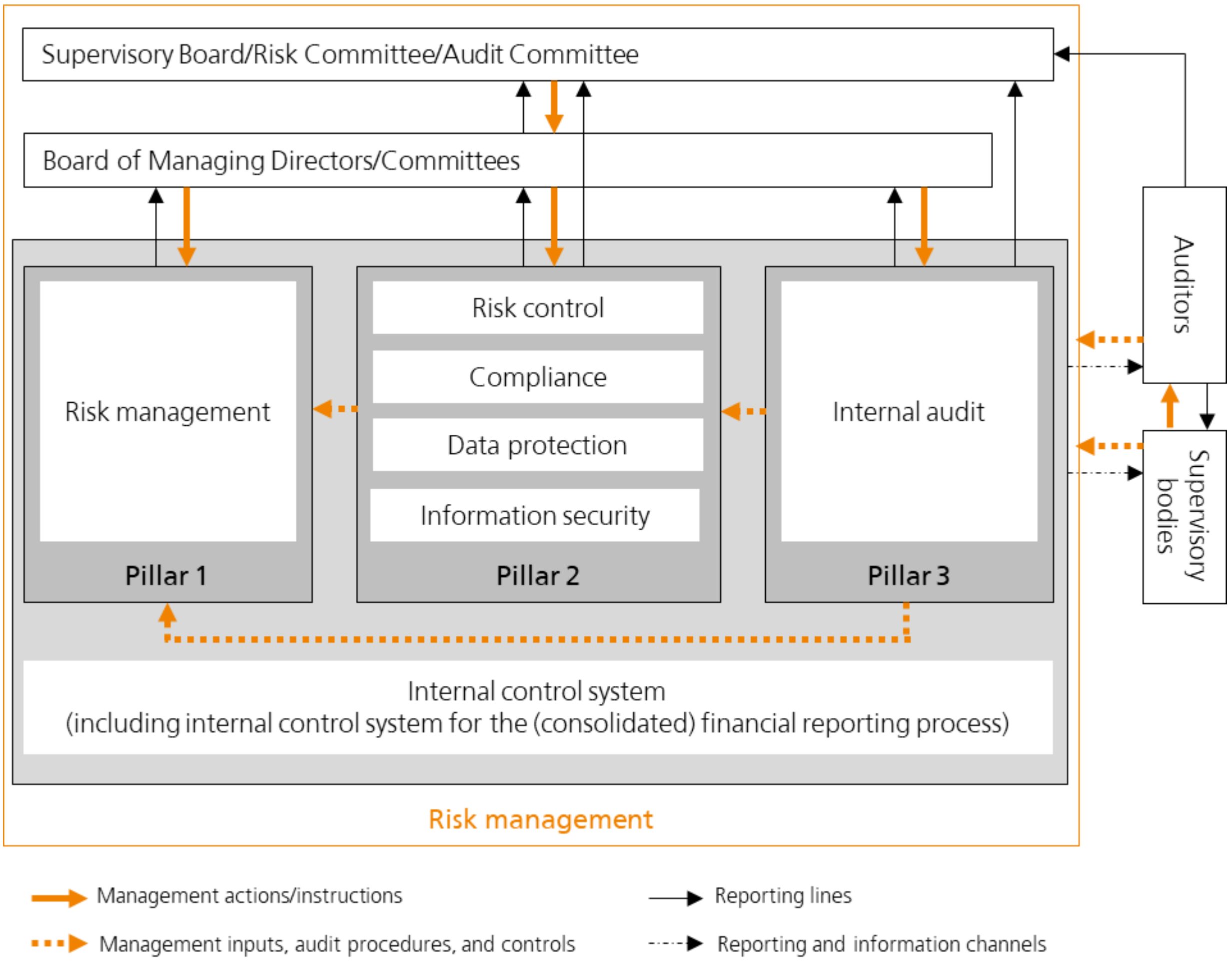
The **business opportunities** are discussed during the course of the strategic planning process at the level of the individual management units and within special closed sessions held by the Board of Managing Directors.

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.

FIG. 9 – GOVERNANCE STRUCTURE OF RISK MANAGEMENT IN THE DZ BANK GROUP (SCHEMATIC DIAGRAM)



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

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 other 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. Other tasks of the compliance function are to keep senior management up to date with new regulatory requirements and to advise the departments on implementing new provisions and requirements.

In accordance with the requirements of the Supervisory Review and Evaluation Process for Basel Pillar 2 (SREP), there is 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.

The DZ BANK Group's compliance framework comprises the compliance policy. The policy includes requirements for establishing and organizing the compliance functions and details of their duties. It is supplemented by compliance standards, which specify how to implement these requirements at an operational level.

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

The DZ BANK Group's compliance framework is reviewed annually to check that it is up to date.

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.

In the management units, independent data protection officers report to the relevant Board of Managing Directors. At the invitation of DZ BANK's data protection officer, the data protection officers in the management units meet at least once a year to share information on current data protection issues and discuss potential joint data protection activities.

During the course of 2017, the entities in the DZ BANK Group identified the areas for action arising in connection with the introduction of the EU GDPR on May 25, 2018 and initiated appropriate implementation activities.

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 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.

Each quarter, the Board of Managing Directors provides the members of the Risk Committee and the other members of the Supervisory Board with an overall risk report in writing, containing information on the risk situation in the DZ BANK Group. The Risk Committee is also informed about 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 risk management processes, including the internal control functions, of the entities in the Bank sector are appropriate and effective. 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) 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 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 material 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 instructions and rules are audited regularly to assess whether they remain appropriate and are amended in line with changes to 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 entity 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) financial reporting system, 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 fine-tuned and continuously checked using appropriate tests.

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 on the basis 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.

Ensuring and improving 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 significant to risk measurement are shown in Fig. 10. 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.

FIG. 10 – RISK-BEARING EXPOSURES IN THE CONSOLIDATED FINANCIAL STATEMENTS[1]

		BANK SECTOR											INSURANCE SECTOR								
		Credit risk			Market risk					Portfolio assignment[2]			Actuarial risk			Market risk					
Consolidated financial statements		Traditional credit risk	Issuer risk	Replacement risk	Equity investment risk	Interest-rate risk	Spread risk and migration risk	Equity risk	Currency 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.

A further breakdown of the line items in the consolidated financial statements used to determine **credit risk** is given in section 8.6.1.

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. Discrepancies in carrying amounts arise from the differing treatment of impairment amounts in the market risk calculation and in the accounting figures. Differences also arise because the market risk calculation measures bonds on the basis of credit spreads using available market data whereas the accounting treatment uses liquid bond prices. If no liquid prices are available for bonds, credit spreads are also used to measure bonds for accounting purposes. 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 notes 62 and 63 of the notes to the consolidated financial statements.

Insurance liabilities, 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

The link between available liquidity reserves, which are used to determine economic liquidity adequacy, and the consolidated balance sheet is described 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 covered in section 7.2.2.

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 liquidity is typically tied up in liabilities and assets over the long term 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 DZ BANK Group holds a **capital buffer** as a component of aggregate risk to allow for a possible lack of precision in the measurement of the risks backed by capital.

Based on an analysis of portfolios, the management of **risk concentrations** aims 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 default 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 the same 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.

Equity investment risk is 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 with 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 in 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.

The analysis, monitoring, and management of concentrations of actuarial risk are carried out as an integral part of the risk management process. Potential risk concentrations arise when different types of risk are combined with the concentration dimension in question (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. The outcome of the factor approach is validated against the risk self-assessment using DZ BANK's portfolio model. 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 sustain its business models, even under extreme economic conditions. Stress tests are carried out in respect of liquidity, economic risk-bearing capacity, and regulatory capital ratios.

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. 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 can be 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 39 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 in 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.

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 in 2017 were the same as in 2016. Likewise, there was no change in significant risk concentrations compared with the prior year.

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, although potential improvements to some aspects of 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 fees, 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 **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 2018. The expected developments in the market and business environment are crucial factors in the **strategic positioning** and the resulting opportunities for increasing earnings and cutting costs.

4.2.2 Digitalization and new competitors

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 advancing digitalization across all areas of life, opportunities are opening up in relation to day-to-day banking business, especially payments processing. This trend is also being reinforced by changes in customer behavior. 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. Both Fitch and Moody's left their ratings unchanged. At the beginning of 2017, Standard & Poor's divided the credit rating for unsecured, non-subordinated bonds into a rating for unsecured, senior bonds and a rating for unsecured, subordinated bonds in this category 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. The credit rating for unsecured, subordinated bonds in this category was lowered by one notch. This change did not have any marked impact on the DZ BANK Group's funding.

In the year under review, Moody's included the covered bonds (DZ BANK BRIEFE) in their ratings. The high quality of DZ BANK BRIEFE was affirmed with a rating of Aaa. Standard & Poor's gives DZ BANK BRIEFE a rating of AA+.

Fig. 11 provides an overview of DZ BANK's credit ratings. The issuer ratings have been added to the table for 2017; these ratings were not included in the 2016 opportunity and risk report.

As at December 31, 2017, 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 and DZ BANK are 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.

5.1.1 Commercial-law environment

The financial position and financial performance of the DZ BANK Group and DZ BANK are presented in accordance with IFRS. Changes to IFRSs 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

FIG. 11 – DZ BANK RATINGS

	Standard & Poor's		Moody's		Fitch	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Issuer rating	AA-	AA-	Aa3	Aa3	AA-	AA-
Covered bonds (DZ BANK BRIEFE)	AA+	AA+	Aaa	–	–	–
Long-term rating for deposits	–	–	Aa1	Aa1	AA-	AA-
Long-term counterparty risk assessment/ derivative counterparty rating	–	–	Aa1	Aa1	AA-	AA-
Long-term rating for unsecured, 'preferred' bonds	AA-	–	Aa1	Aa1	AA-	–
Long-term rating for unsecured, 'non-preferred' bonds	A+	AA-	Aa3	Aa3	AA-	AA-
Short-term rating	A-1+	A-1+	P-1	P-1	F1+	F1+

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 and DZ BANK face 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

In December 2017, the BCBS published its finalization document containing a comprehensive range of new provisions covering certain aspects of the calculation of risk for regulatory purposes. An initial draft of a revised CRR (referred to as CRR II) at European level is already available. The new rules currently planned, 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 calculation of the leverage ratio are not given their own risk weighting but are generally included in the total exposure without any weighting at all.

A mandatory minimum value for the leverage ratio has not been specified at European level for now. However, the current drafts for CRR II provide for the introduction of a minimum ratio of 3 percent from January 1, 2019. There are also plans to include graduated markups on the minimum ratio for global and other systemically important institutions. In addition, the draft states that the adjustment of the calculation method for the total exposure is planned for a later date.

If the mandatory minimum leverage ratio turns out to be higher than currently expected, this could lead to an additional capital requirement for the DZ BANK banking group and/or DZ BANK based on the current volume of business. A negative impact on the 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.

Since 2016, the SRB has been requesting data with the aim of setting institution-specific minimum MREL ratios and obtaining 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.

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 for the subsequent year that go beyond the existing requirements.

In 2017, the DZ BANK banking group underwent the complete supervisory review and evaluation process on the basis of the EBA's guidance. The minimum capital requirements resulting from the SREP in the previous year are described in section 7.3.3.

Standardized definition of borrower default

In 2017, 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 has analyzed the planned new requirements and their impact, and is currently preparing the notification of changes to key models required by the ECB by June 30, 2018. 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

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 banking 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 2022 once they have been implemented in national law. Application is expected to mean that the DZ BANK banking 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. BaFin incorporated some of the BCBS regulations on risk data management into the national rules with the 5th amendment of MaRisk BA, which came into force on October 27, 2017.

Domestic systemically important banks must implement these requirements within 3 years of being classified as an other systemically important institution (O-SII). BaFin classified DZ BANK as an O-SII in the second quarter of 2016. As a consequence, the DZ BANK Group must implement the rules on risk data management at financial conglomerate level by the second quarter of 2019.

The implementation of the new requirements, but also the possibly inadequate implementation, could have a negative effect on the competitive position of the DZ BANK Group and/or DZ BANK, or lead to the need for additional capital.

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. The scheme was launched on November 21, 2017. In the DZ BANK Group, instant payments particularly affect DZ BANK, which has initiated a project with the aim of enabling the bank to join the scheme by the end of 2018. 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 reform of the deposit guarantee schemes could give rise to risks for the DZ BANK Group and DZ BANK.

The EBA is also making decisions regarding the interpretation of the CRR, as a result of which there could be new capital requirement rules for certain products. This could lead to a significant fall in the capital ratios for the DZ BANK banking group, depending on how the supervisory authorities apply the interpretation decisions.

5.1.3 Macroeconomic risk factors

European sovereign debt crisis

During the year under review, trends in international financial markets were shaped by the significant improvement in the global economy and, once again, by central banks' expansionary monetary policy. Since the European sovereign debt crisis, global economic growth and especially the situation in financial markets have improved again markedly. Nevertheless, the consequences of the financial and sovereign debt crisis are still evident and are affecting national monetary policy, in particular.

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.

In **Italy**, the elections on March 4, 2018 did not produce any clear parliamentary majority, but populist Euroskeptic forces gained substantial political ground. The process of forming a government is likely to be extremely difficult and protracted, the outcome of which will probably be a weak coalition. In view of the political prospects, it is doubtful whether there will be any progress with reforms, and it is possible that even those structural reforms already carried out could be repealed. This could result in heightened financial volatility in the country, stalling the modest economic recovery currently under way. Italy could 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 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 a shift in monetary policy. In this case, highly indebted countries would find it considerably more difficult to arrange funding through capital markets.

Shipping finance and offshore finance

In the shipping finance business, an oversupply of tonnage continues to have a detrimental impact on asset values and customer credit quality. To add to the problems, the low price of oil is adversely affecting global offshore oil production, leading to significantly lower demand for supply ships and other floating offshore equipment. This trend is accompanied by a rising number of laid-up offshore vessels.

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. The risks from the low interest rates are mitigated with action such as optimizing the home savings portfolio and refining the home savings product.

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 products can actually be met from the investment instruments in those products. 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. If UMH is unable to draw some of the management fees so that it can meet its guarantee commitments, this could have a substantial detrimental 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 an adverse 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. DZ BANK is currently examining the implications of the UK's exit from the EU for the DZ BANK Group in a working group with the involvement of the subsidiaries concerned. Relevant contracts are being reviewed and amended, and other suitable action taken, to counter potential contractual uncertainty arising from Brexit.

In the year under review, the volume of non-performing loans in the **Italian banking sector** was substantially reduced from €360 billion to €260 billion. However, the economic outlook, which remains moderate at best, means that there is no definitive trend reversal in sight at present. Because of European bail-in rules, the Italian government is using the privately funded bailout funds Atlante and Atlante II (now renamed Italian Recovery Fund) to recapitalize Italian banks and help them recover. These funds have insufficient resources however, so other options have been used in individual cases to strengthen the capital base, including capital increases, the conversion of bank bonds into equity, and the disposal of assets. Some larger banks have managed to complete a recovery from their own resources, but parts of other smaller banks affected by the crisis have been taken over. To support the rescue of Banca Monte dei Paschi, the ECB authorized the Italian government to acquire 68 percent of the shares and sell high-risk loans with a total value of €17.6 billion to the Italian Recovery Fund.

In **Turkey**, domestic and international political risk factors have deteriorated since the unsuccessful military coup in July 2016. Internally, the country has been in crisis since the coup and legal certainty is severely limited. Internationally, Turkey is isolated in Europe. Even the relationship with the United States is increasingly strained. From a geopolitical perspective, Turkey finds itself in a volatile environment because of its proximity to Iraq and the civil war in Syria. On the other hand, its economic position is stable, although weaker compared with previous years. Economic growth is positive, but manifestly bolstered by the government's fiscal stimulus packages. Investor confidence is diminishing because of the adverse domestic and international political factors. Against this background and the significant current account deficit caused by structural deficiencies, the country is considerably more susceptible to external shocks than in previous years. Key external liquidity ratios have already deteriorated. Furthermore, the Turkish lira was hit by another sharp fall in its value against both the euro and the US dollar in 2017. Any worsening of domestic and international political tensions would probably have a very rapid negative impact on investor confidence and the country's options for obtaining funding on international capital markets.

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.

The elections in the **Spanish region of Catalonia** on December 21, 2017 were once again won by the separatists, the forces for independence from Spain having already obtained a parliamentary majority in the preceding elections held in September 2015. The period of political, and to some extent also economic, uncertainty is therefore continuing. As the creation of an independent Catalonia against the will of the central government in Spain is to all intents and purposes out of the question, discussions between the Catalan regional government and the central government in Madrid going forward are likely to center on the issue of greater autonomy for Catalonia. If the two sides are now forced into a constructive dialog, this will afford some chance of a solution, at least in the medium term. However, if the efforts in support of independence gain further momentum, this could have a negative impact on the Spanish economy overall.

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 shipping 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 capital.

5.1.4 Climate risks

Risks arising from climate change could act as a trigger in the Bank sector, especially in respect of credit risk and operational risk. Operational risk could materialize, for example, if weather or environmental events cause buildings or IT systems to become unavailable. In the **Insurance sector**, actuarial risk (premium and reserve risk, non-life catastrophe risk) is the main type of risk that potentially could be significantly affected by climate risk. If climate risks are relevant on the basis of the business model, they are backed with capital within the risk types referred to above.

5.2 Overarching bank-related risk factors

The DZ BANK Group is exposed to the bank-specific risk factors described below. These factors have an impact on a number of risk types relevant to liquidity adequacy and capital adequacy and are taken into account in the management of risk.

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 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 to the German Master Agreement for Financial Futures) 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 estimates made by experts. 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 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 in relation to the risks arising from future payment obligations. 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 requirements from the CRR and the German national requirements for the implementation of Capital Requirements Directive IV (KWG and Solvency Regulation, SolvV).

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.

6.2 Economic liquidity adequacy

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.

6.2.1 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.

The activities of DZ BANK and the management units BSH, DG HYP, DVB, DZ PRIVATBANK, TeamBank, VR LEASING, and WL BANK are relevant to the level of liquidity risk in the DZ BANK Group.

6.2.2 Risk strategy

A key component of the liquidity risk strategy is the process of specifying and monitoring the risk appetite for liquidity risk. The liquidity risk strategy establishes a binding basis for implementing these requirements at operational level.

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 (for example, corporate customers, institutional customers, and customer banks). The broad diversification is achieved with active market and customer support, intensively maintained customer relationships, and DZ BANK's 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 in Risk Controlling at DZ BANK independently of the units 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 Group Treasury and Group Risk Controlling. The **Board of Managing Directors** receives a monthly report on liquidity risk.

The DZ BANK **Group Treasury** division 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 Risk management

Measurement of liquidity risk

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.

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. The minimum liquidity surplus expresses economic liquidity adequacy. **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 a **reverse stress test** is carried out and reported on a monthly basis. The reverse stress test shows which stress events (changes in risk factors) could still occur without liquidity falling below the limit in a subsequent liquidity risk measurement and triggering the need for a business model adjustment.

The internal liquidity risk model is constantly revised using 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.

Management of limits for liquidity risk

Liquidity risk is monitored and managed with the aim of ensuring economic liquidity adequacy at all times. This is 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, at the level of the **DZ BANK Group**, a **limit** (€1.0 billion) for liquidity risk and an **observation threshold** (€4.0 billion) that is higher than the limit. The observation threshold equates to the minimum target for economic liquidity adequacy specified in the risk appetite statement. The observation threshold and limit were unchanged compared with December 31, 2016. The Board of Managing Directors of DZ BANK has also specified a limit for **each management unit**. The observation threshold and the limits are monitored by the liquidity risk control function at DZ BANK both at group level and also for the management units.

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

Within liquidity management activities, measures to reduce liquidity risk are initiated by the treasuries of the management units. 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.

6.2.5 Specific risk factors

Liquidity risk arises from a mismatch in the timing and amount of cash inflows and outflows and is affected to a significant degree by other types of risk, such as market risk and reputational risk. 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);
- changes to an entity's own rating if contractual requirements to provide collateral depend on the rating;
- the absence of follow-up funding for the short-term funding of the asset-backed commercial paper program (ABCP program) on the money market.

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. These factors are presented below.

Liquid securities

Liquid securities, together with balances on nostro accounts and non-collateralized funding capacity, form part of 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.

Fig. 12 shows the liquidity value of the liquid securities that would result from secured funding or if the securities were sold.

FIG. 12 – LIQUID SECURITIES

€ billion	Dec. 31, 2017	Dec. 31, 2016
Liquid securities eligible for GC Pooling (ECB Basket)[1]	**28.1**	**38.0**
Securities in own portfolio	28.1	36.5
Securities received as collateral	10.6	11.8
Securities provided as collateral	-10.6	-10.3
Liquid securities eligible as collateral for central bank loans	**12.2**	**17.7**
Securities in own portfolio	12.1	16.2
Securities received as collateral	2.6	4.6
Securities provided as collateral	-2.5	-3.1
Other liquid securities	**5.6**	**7.1**
Securities in own portfolio	5.5	6.9
Securities received as collateral	0.1	0.2
Securities provided as collateral	-	-0.1
Total	**45.9**	**62.8**
Securities in own portfolio	45.7	59.6
Securities received as collateral	13.3	16.6
Securities provided as collateral	-13.2	-13.4

1 GC = general collateral, ECB Basket = eligible collateral for ECB funding.

As at December 31, 2017, the total liquidity value at the level of the **DZ BANK Group** was €45.9 billion (December 31, 2016: €62.8 billion). The total liquidity value attributable to **DZ BANK** as at December 31, 2017 was €33.2 billion (December 31, 2016: €45.4 billion). The significant year-on-year decline in the volume of liquid securities as at December 31, 2017 was attributable to the sale of securities, mainly at DZ BANK.

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 Fig. 13. The change in the composition of the main sources of funding compared with December 31, 2016 was 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.

FIG. 13 – UNSECURED SHORT-TERM AND MEDIUM-TERM FUNDING

	DZ BANK Group		DZ BANK	
%	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Local cooperative banks	54	46	58	49
Other banks, central banks	12	11	11	10
Corporate customers, institutional customers	13	12	13	11
Commercial paper (institutional investors)	21	30	18	29

FIG. 14 – LIQUIDITY UP TO 1 YEAR IN THE STRESS SCENARIOS WITH DEFINED LIMITS: MINIMUM LIQUIDITY SURPLUSES

	Forward cash exposure		Counterbalancing capacity		Minimum liquidity surplus	
€ billion	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Downgrading	-44.7	-62.0	77.2	85.4	32.5	23.3
Corporate crisis	-47.2	-62.5	63.3	73.8	16.1	11.2
Market crisis	-51.5	-65.4	76.3	84.4	24.8	19.1
Combination crisis	-23.4	-66.6	42.6	79.8	19.2	13.2

6.2.7 Risk position

Fig. 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 liquidity risk value measured for the **DZ BANK Group** as at December 31, 2017 for the stress scenario with defined limits with the lowest minimum liquidity surplus (squeeze scenario) was €16.1 billion (December 31, 2016: €11.2 billion). During the year under review, liquidity at the level of the DZ BANK Group did not, in any of the stress scenarios with defined limits, fall below the observation threshold of €4.0 billion set by the Board of Managing Directors as the minimum target for 2017. Furthermore, it did not fall below the limit of €1.0 billion at any time in the reporting period. The observation threshold and limit remained unchanged year on year.

The corresponding liquidity risk value attributable to **DZ BANK** as at December 31, 2017 was €5.7 billion (December 31, 2016: €3.8 billion). This value is derived from the stress scenario with defined limits that had the lowest minimum liquidity surplus and relates to the forecast period defined for the limit, which is just 1 month for DZ BANK in contrast to the longer period used for the DZ BANK Group. 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, 2017 was positive in the stress scenarios with defined 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 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 potential negative consequences for DZ BANK's financial position and enterprise value. 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 liquidity coverage ratio (LCR) specified in the Basel III framework, which was transposed into law with the CRR and Commission Delegated Regulation (EU) 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 liquid assets (liquidity buffer) to total net cash outflows in defined stress conditions over the next 30 days. From January 1, 2017, banks had to maintain an LCR of at least 80 percent. The minimum ratio rose 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 Commission Delegated Regulation

(EU) 2015/61, to the supervisory authority on a monthly basis.

The **net stable funding ratio** 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 2020 financial year when CRR II comes into force. From this point, it is planned to manage the NSFR within the groupwide liquidity risk management system.

6.3.2 Organization, responsibility, and reporting

The liquidity ratios reported for supervisory purposes resulting from the CRR, the Basel III framework, and Commission Delegated Regulation (EU) 2015/61 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 Commission Delegated Regulation (EU) 2015/61 as at December 31, 2017 are shown in Fig. 15.

In the reporting year, the regulatory minimum requirement for the LCR of 80 percent (2016: 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 risk**, which began in 2016, is to continue in 2018. It is also planned to implement requirements related to **economic liquidity adequacy** specified by the ECB in its ILAAP guidance published under the Single Supervisory Mechanism (SSM).

In addition, the new regulatory liquidity reporting ratios will continue to be integrated into liquidity risk management in the coming financial year, with activities focused on the **NSFR**. In connection with this, it is planned to extend the forecast horizon specified for the limits at DZ BANK from 1 month to 1 year.

FIG. 15 – LIQUIDITY COVERAGE RATIOS AND THEIR DETERMINING FACTORS

	DZ BANK banking group		DZ BANK	
	Dec. 31, 2017	Dec. 31, 2016	**Dec. 31, 2017**	Dec. 31, 2016
Total liquidity buffer (€ billion)	**77.5**	67.8	**55.7**	46.9
Total net liquidity outflows (€ billion)	**47.9**	44.9	**40.0**	33.5
Liquidity coverage ratio (%)	**161.7**	151.0	**139.1**	139.9

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. Capital adequacy is defined as the holding of sufficient capital to cover the risks assumed by the business. It is considered from both an economic and a regulatory perspective. Whereas the economic perspective takes into account the requirements of MaRisk BA, the regulatory perspective applies the requirements from the CRR and the German national requirements for the implementation of Capital Requirements Directive IV (KWG and SolvV).

DZ BANK and all other management units are included in the groupwide management of capital adequacy. 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.

Regulatory solvency requirements for the DZ BANK financial conglomerate, the DZ BANK banking group, and the R+V Versicherung AG insurance group are observed in economic capital management.

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.

In the **risk-bearing-capacity analysis**, the risk capital requirement (including capital buffer) is compared with the available internal capital 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. These limits then restrict the risk capital requirement (including capital buffer). 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 in accordance with regulatory financial reporting. In this process, R+V is not fully consolidated but taken into account using the equity method.
- 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.

The purpose of the **capital buffer** is to cover the lack of precision in some areas of risk measurement. 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. A distinction is made between centralized and decentralized capital buffer requirements. Decentralized capital buffer requirements are managed within the upper loss limits for the individual risk types, whereas the centralized capital buffer is managed on the basis of an upper loss limit covering all sectors and risk types.

7.2.3 Traffic light system

Economic capital adequacy is monitored and managed using a traffic light system based on the ratio of available internal capital to aggregate risk (expressed as a percentage).

The switch from green to amber in the traffic light system (**amber threshold**) is set at the minimum target for economic capital adequacy specified in the risk appetite statement, which in 2017 was 120 percent (2016: 130 percent). The amber threshold serves as an early warning indicator. The **red threshold**, i.e. the borderline between amber and red in the traffic light system, was set at 110 percent in the year under review (2016: 120 percent).

The threshold values for economic capital adequacy are reviewed annually and adjusted if necessary.

7.2.4 Risk-bearing capacity

Available internal capital

The DZ BANK Group's **available internal capital** as at December 31, 2017 was measured at €28,049 million. The comparative figure as at December 31, 2016 was measured at €27,623 million before deduction of the capital buffer requirement and €25,694 million after deduction of the capital buffer requirement. The figure originally measured as at December 31, 2016 and disclosed in the 2016 opportunity and risk report came to €26,408 million before deduction of the capital buffer requirement and €24,479 million after deduction of the capital buffer requirement. The year-on-year increase was mainly because the capital buffer requirement was no longer deducted in 2017. However, the increase in available internal capital also arose because of the positive financial performance in the year under review.

The **upper loss limit** derived from the available internal capital amounted to €23,575 million as at December 31, 2017 (December 31, 2016: €22,299 million). The rise in the upper loss limit was largely due to the integration of the capital buffer requirement.

As at the reporting date, **aggregate risk** was calculated at €16,450 million. The comparable figure as at December 31, 2016 excluding the capital buffer requirement stood at €15,108 million. The risk capital requirement excluding the capital buffer requirement originally measured as at December 31, 2016 and disclosed in the 2016 opportunity and risk report was €14,975 million. The increase in risk arose mainly because of the inclusion of the capital buffer requirement and higher capital buffer components.

Economic capital adequacy

As at December 31, 2017, the economic capital adequacy ratio for the **DZ BANK Group** was calculated at 170.5 percent. The comparable figure as at December 31, 2016 was 170.1 percent. The figure originally measured as at December 31, 2016 and disclosed in the 2016 opportunity and risk report was 163.5 percent. During the course of the reporting year, the economic capital adequacy ratio was higher than the minimum target of 120 percent at all times. Fig. 16 provides an overview of the DZ BANK Group's economic capital adequacy.

The upper loss limits and risk capital requirements including the decentralized capital buffer requirements for the Bank sector, broken down by risk type, are shown in Fig. 17. Fig. 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 the ability to offset deferred taxes against losses (which arises where deferred tax liabilities can be eliminated in the loss scenario). 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.

In addition to the figures shown in Fig. 17 and Fig. 18, the aggregate risk includes **a centralized capital buffer requirement across all types of risk**, which was calculated at €332 million as at December 31, 2017. The corresponding upper loss limit was €350 million.

It was necessary to **recalculate the overall solvency requirement** as at December 31, 2016 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 2017 for the Insurance sector on the basis of R+V's 2016 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 are not completely updated in the in-year calculation and an appropriate projection is made.

The recalculation led to changes in the key risk indicators at DZ BANK Group level. The figures as at December 31, 2016 given in this opportunity and risk report have been restated accordingly and are not directly comparable with the figures in the 2016 opportunity and risk report.

FIG. 16 – ECONOMIC CAPITAL ADEQUACY OF THE DZ BANK GROUP

€ million	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016
Available internal capital (€ million)[1]	28,049	28,247	27,811	27,843	25,694
Upper loss limit (€ million)	23,575	23,575	23,575	23,575	22,299
Aggregate risk (€ million)[2]	16,450	16,367	16,940	16,746	15,108
Economic capital adequacy (%)	**170.5**	**172.6**	**164.2**	**166.3**	**170.1**

1 As at December 31, 2016, a capital buffer requirement of €1,929 million was deducted from the available internal capital of €27,623 million, which meant that available internal capital after deduction of the capital buffer requirement amounted to €25,694 million.
2 As at December 31, 2016, the risk capital requirement excluded the capital buffer requirement.

FIG. 17 – UPPER LOSS LIMITS AND RISK CAPITAL REQUIREMENT INCLUDING CAPITAL BUFFER IN THE BANK SECTOR

	Upper loss limits					Risk capital requirement including the decentralized capital buffer requirement[1]				
€ million	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016
Credit risk	7,628	7,624	7,474	7,474	6,606	5,772	5,737	5,959	5,674	4,472
Equity investment risk	1,422	1,422	1,422	1,422	1,468	1,100	1,067	1,214	1,223	1,263
Market risk[2]	6,863	6,882	7,043	7,043	7,582	4,097	4,134	4,381	4,580	4,347
Technical risk of a home savings and loan company[3]	558	558	558	558	600	558	558	558	558	541
Business risk[4]	1,040	1,025	1,025	1,025	1,024	781	771	767	762	912
Operational risk	1,147	1,147	1,147	1,147	1,152	821	790	927	944	892
Total (after diversification)	**17,805**	**17,805**	**17,805**	**17,805**	**17,089**	**11,866**	**11,802**	**12,477**	**12,407**	**11,105**

1 December 31, 2016 excluding capital buffer requirement.
2 Market risk contains spread risk and migration risk.
3 Including business risk and reputational risk of BSH.
4 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, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016
Life actuarial risk	1,200	1,200	1,200	1,200	1,200	697	655	623	583	574
Health actuarial risk	370	370	370	370	330	165	152	151	178	214
Non-life actuarial risk	3,580	3,580	3,580	3,580	3,250	3,094	2,952	2,927	2,822	2,835
Market risk	3,800	3,800	3,800	3,800	3,540	2,966	2,995	2,875	2,809	2,802
Counterparty default risk	130	130	130	130	110	51	64	58	92	65
Operational risk	650	650	650	650	640	531	543	543	545	509
Risks from non-controlling interests in insurance companies and from entities in other financial sectors	140	140	140	140	120	115	116	116	110	110
Total (after diversification)	**5,420**	**5,420**	**5,420**	**5,420**	**5,210**	**4,257**	**4,243**	**4,131**	**4,016**	**4,004**

7.2.5 Possible impact from crystallized risk covered by capital

If risk covered by capital actually materializes, this has a negative impact on both financial performance and financial position as well as on the enterprise value of the DZ BANK Group and DZ BANK. In the income statement in this situation, 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 capital 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 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 lead to the **resolution** of DZ BANK or its subsidiaries.

7.2.6 Outlook

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. Since then, the entities in the DZ BANK Group have kept further expansion of their risk data aggregation and reporting capacity high on the agenda with the aim of satisfying the main requirements by the end of 2018. The requirements are being implemented in groupwide projects.

In 2018, it is also planned to implement the requirements from the guidance on the **ICAAP** published by the ECB as part of the SSM.

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 within the monthly 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 calculation methodology for the coverage ratio is taken from Commission Delegated Regulation (EU) 342/2014 in conjunction with article 49 CRR.

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.

On the basis of a provisional calculation, the DZ BANK financial conglomerate's eligible own funds as at December 31, 2017 amounted to €27,458 million (December 31, 2016: confirmed final eligible own funds of €25,638 million). On the other side of the ratio, the provisional solvency requirement was €14,506 million (December 31, 2016: confirmed final solvency requirements of €14,624 million). This gives a provisional coverage ratio of 189.3 percent (December 31, 2016: confirmed final coverage ratio of 180.3 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: 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.

Regulatory minimum capital requirements

The minimum capital requirements that the DZ BANK banking group had to comply with in the year under review comprised those components of Pillar 1 laid down as mandatory by law and those individually specified by the banking supervisor. Institution-specific requirements under the additional own funds requirements in Pillar 2, determined in the outcome of the SREP conducted for the DZ BANK banking group in 2016, also had to be satisfied.

Since the end of 2017, the ECB has used a modified approach for determining the additional own funds requirement under Pillar 2. In the new approach, the supervisor specifies a mandatory add-on (Pillar 2 requirement) that is factored into 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 is a recommended own funds amount under Pillar 2 (Pillar 2 guidance), which likewise is determined from the SREP, but unlike the mandatory component relates only to common equity Tier 1 capital. Failure to comply with the own funds guidance under Pillar 2 does not constitute a breach of regulatory own funds requirements. Nevertheless, this figure is relevant as an early warning indicator for capital planning.

The mandatory minimum capital requirements and their components applicable to 2017 and 2018 are shown in Fig. 19.

The mandatory and the recommended minimum capital requirements were complied with in the year under review. This applies to both the currently applicable solvency regime (CRR transitional guidance) and the regime in force from 2019 (full application of the CRR). According to current projections, the requirements will also be satisfied in 2018.

In the year under review, BaFin issued a decision that DZ BANK would continue to be classified as an other systemically important institution (O-SII). In 2018, the DZ BANK banking group will have to comply with an **O-SII capital buffer** (comprising common equity Tier 1 capital) as defined in section 10g (1) KWG at a level of 0.66 percent.

This figure will increase to 1.0 percent from 2019.

Regulatory capital ratios in accordance with CRR transitional guidance

The regulatory **own funds** of the **DZ BANK banking group** as at December 31, 2017 determined in accordance with the currently applicable CRR transitional guidance amounted to a total of €22,728 million (December 31, 2016: €22,066 million).

FIG. 19 – REGULATORY MINIMUM CAPITAL REQUIREMENTS[1 2]

%	2017	2018
Minimum requirement for common equity Tier 1 capital	4.50	4.50
Additional Pillar 2 own funds requirement	1.75	1.75
Capital conservation buffer	1.25	1.88
Countercyclical capital buffer	0.02	
O-SII capital buffer	0.33	0.66
Mandatory minimum requirement for common equity Tier 1 capital	**7.85**	**8.79**
Minimum requirement for additional Tier 1 capital[3]	1.50	1.50
Mandatory minimum requirement for Tier 1 capital	**9.35**	**10.29**
Minimum requirement for Tier 2 capital[4]	2.00	2.00
Mandatory minimum requirement for total capital	**11.35**	**12.29**

1 Percentage values based on risk-weighted assets.
2 As a result of the method specified by the ECB to be used for the first time in 2017, there are no comparative figures as at December 31, 2016.
3 The minimum requirement can also be satisfied with common equity Tier 1 capital.
4 The minimum requirement can also be satisfied with common equity Tier 1 or additional Tier 1 capital.

The value has not yet been determined because the countercyclical capital buffer has to be recalculated for each reporting date.

The rise in own funds was mainly attributable to a total increase of €1,097 million in **common equity Tier 1 capital**. Net profits eligible for retention and the increase in the revaluation reserve eligible for inclusion in accordance with the CRR were the main factors behind the rise in common equity Tier 1 capital.

Tier 2 capital declined from €3,077 million at the end of 2016 to €2,687 million as at December 31, 2017, a year-on-year decrease of €390 million. This was mainly attributable to the reduced level of eligibility under CRR rules for own funds instruments in this capital category in the last 5 years before their maturity date.

As at December 31, 2017, the regulatory **own funds requirements** for the DZ BANK banking group were calculated at €10,464 million (December 31, 2016: €9,477 million). The rise in own funds requirements resulted mainly from the discontinuation of grandfathering arrangements at various long-term equity investments. This is because DZ BANK, with regard to the long-term equity investments acquired through the merger with the former WGZ BANK, is no longer applying the Standardized Approach to credit risk with 100 percent risk weighting in accordance with the CRR transitional guidance, but instead using approaches with 190 percent and 370 percent risk weightings on the basis of internal assessments. In particular, DZ BANK has decided to discontinue the grandfathering arrangements in relation to its long-term equity investment in R+V and to apply a 370 percent risk weighting to this company. The increase in own funds requirements can also be attributed to the first-time inclusion of the interest-rate 'smile' in the internal market risk modeling.

The DZ BANK banking group's **common equity Tier 1 capital ratio** was 14.0 percent as at December 31, 2017 and thus lower than the ratio of 14.5 percent as at the end of 2016. As at December 31, 2017, the **Tier 1 capital ratio** was 15.3 percent, again a decrease on the ratio of 16.0 percent as at December 31, 2016. The **total capital ratio** also declined from 18.6 percent as at December 31, 2016 to 17.4 percent as at the balance sheet date.

The **common equity Tier 1 capital ratio** for **DZ BANK** was calculated at 17.3 percent as at December 31, 2017, which was lower than the equivalent figure of 18.1 percent as at December 31, 2016. The **Tier 1 capital ratio** was also down, from 19.1 percent as at December 31, 2016 to 18.2 percent as at December 31, 2017. In addition, the **total capital ratio** declined from 24.4 percent as at December 31, 2016 to 22.4 percent as at the reporting date.

The fall in the capital ratios was largely due to the increased own funds requirements.

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 2017.

Fig. 20 provides an overview of the DZ BANK banking group's regulatory capital ratios in accordance with the CRR.

FIG. 20 – REGULATORY CAPITAL RATIOS IN ACCORDANCE WITH CRR

	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017	Dec. 31, 2016
Capital					
Common equity Tier 1 capital (€ million)	18,251	17,009	17,461	17,460	17,154
Additional Tier 1 capital (€ million)	1,790	1,793	1,797	1,776	1,835
Tier 1 capital	20,041	18,802	19,258	19,236	18,989
Total Tier 2 capital (€ million)	2,687	2,804	3,032	3,122	3,077
Total capital	22,728	21,606	22,290	22,358	22,066
Capital requirements					
Credit risk including long-term equity investments (€ million)	9,099	9,237	9,290	9,403	8,153
Market risk (€ million)	542	497	548	456	510
Operational risk (€ million)	823	823	823	823	814
Total	10,464	10,557	10,661	10,682	9,477
Capital ratios[1]					
Common equity Tier 1 capital ratio (%)	14.0	12.9	13.1	13.1	14.5
Tier 1 capital ratio (%)	15.3	14.3	14.5	14.4	16.0
Total capital ratio (%)	17.4	16.4	16.7	16.7	18.6

1 Percentage values based on risk-weighted assets.

Regulatory capital ratios with full application of the CRR

The capital ratios for the DZ BANK banking group and DZ BANK based on full application of the CRR are shown in Fig. 21.

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 calculation of the leverage ratio are not given their own risk weighting but are generally included in the total exposure without any weighting at all.

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 Fig. 22.

The year-on-year rise in the **DZ BANK banking group's** leverage ratio as at December 31, 2017 calculated in accordance with the **CRR transitional guidance** mainly arose because of an increase of €1.1 billion in Tier 1 capital combined with a small contraction of €2.8 billion in the total exposure. The fall of the total exposure was largely due to a reduction in securities financing transactions. In contrast, on-balance-sheet business rose slightly.

The leverage ratio also went up at **DZ BANK** level, accounted for principally by an increase of €0.6 billion in Tier 1 capital and a fall of €6.9 billion in the total exposure.The main reason behind the rise in Tier 1 capital was the switch in the basis for calculating regulatory own funds from HGB to IFRS in October 2017. The lower total exposure resulted from a contraction in securities financing transactions, derivatives, and off-balance-sheet exposures, although some of this contraction was offset by a slight rise in on-balance-sheet business.

FIG. 21 – REGULATORY CAPITAL RATIOS WITH FULL APPLICATION OF CRR[1]

	DZ BANK banking group		DZ BANK	
%	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Common equity Tier 1 capital ratio	13.9	14.5	16.5	18.1
Tier 1 capital ratio	14.4	15.1	17.3	19.1
Total capital ratio	17.4	18.8	21.3	24.4

1 Percentage values based on risk-weighted assets.

FIG. 22 – LEVERAGE RATIOS

	DZ BANK banking group		DZ BANK	
%	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Leverage ratio according to CRR transitional guidance	4.6	4.4	4.2	4.0
Leverage ratio applying the CRR in full	4.4	4.1	4.2	4.0

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.

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, 2017, the preliminary figure for the regulatory risk-bearing capacity of the R+V Versicherung AG insurance group was 202.4 percent (December 31, 2016: 187.5 percent). The group had eligible own funds of €11,235 million at its disposal on December 31, 2017 (December 31, 2016, €10,043 million) to cover a solvency requirement of €5,549 million (December 31, 2016: €5,356 million).

The recalculation of the overall solvency requirement described in section 7.2.4 also affected the regulatory risk-bearing capacity of the R+V Versicherung AG insurance group and led to retrospective changes in the solvency requirements as at the end of 2016. The figures as at December 31, 2016 given in this opportunity and risk report have been restated accordingly and are not directly comparable with the figures in the 2016 opportunity and risk report.

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, 2018. 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.

R+V carries out the stress tests specified by EIOPA and BaFin, and uses them 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 Stress tests for types of risk covered by capital

7.4.1 Adverse stress tests

Adverse stress tests are used to examine the impact on capital and risk from potential **crisis scenarios** that are exceptional, but plausible, and particularly relevant to the DZ BANK Group's value and risk drivers. The **KPIs** relating to economic and regulatory capital adequacy are analyzed in this context. However, the stress tests also reflect events that go beyond the methods established for calculating capital adequacy. The term 'adverse stress tests' encompasses those stress scenarios that represent negative macroeconomic trends or events from the perspective of the DZ BANK Group. In this context, 'adverse' indicates that the scenarios may be particularly disadvantageous or even harmful.

Adverse stress test can provide information on whether the level of capital resources – especially the buffer held to cover crisis situations – is also sufficient to cover various types of moderate to serious crisis scenario. The stress test results also facilitate an assessment of the extent to which the analyzed value and risk drivers are material for the DZ BANK Group.

The adverse stress tests consist of a number of **multiple-risk scenarios** and **specific stress tests** for the individual risk types backed by capital in 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. The adverse scenarios are based on macroeconomic factors from both the real economy and financial markets or they consist of specific events that are particularly relevant for the DZ BANK Group but not of a macroeconomic nature; some scenarios combine both macroeconomic and specific events.

The methods used 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.

For the adverse stress tests, DZ BANK has put in place a system of threshold values as an **early-warning mechanism**. The threshold values for the scenarios across all risk types are monitored in the ongoing reporting system. These early-warning signals trigger various risk management processes so that there can be an early response to the potential risks highlighted by the stress tests. Control measures potentially available for the crisis scenario in question are also taken into account so that there is a comprehensive, critical evaluation of the stress test results.

The stress tests are calculated every quarter and the results approved by the **Board of Managing Directors** of DZ BANK and the Supervisory Board.

7.4.2 Reverse stress tests

Reverse stress tests complement the adverse stress tests 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**.

'Reverse' indicates that the tests are in the opposite direction and distinguishes them from the adverse stress tests. In adverse stress tests, scenarios are defined and the corresponding KPIs determined in order to assess whether there is a sufficient level of capital resources available to cover moderate or serious crisis scenarios. Reverse stress tests, on the other hand, examine which scenarios would have to occur to jeopardize the survival of the bank as a going concern.

In reverse stress tests, the risk to economic and regulatory KPIs 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. In the case of reverse stress tests, the priorities are therefore as follows: firstly, to identify relevant scenario approaches that could have the potential to jeopardize the bank's survival as a going concern, and secondly, to estimate the probability and plausibility of a specific, sufficiently serious scenario of this nature.

The **scenarios** analyzed in the reverse stress tests are based on available adverse scenarios (crisis situations) that are then extended to include further scenario elements, such as events (reverse elements). Scenario elements are determined taking into account key risk drivers and events. The relevant scenarios are adjusted such that the minimum requirements for the economic and regulatory KPIs can no longer be achieved even after all the measures available to maintain the business model have been applied.

Bank sector

8 Credit risk

8.1 Definition and business background

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 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 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 Business background

Default risk from traditional lending business arises primarily at DZ BANK, BSH, DG HYP, DVB, 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.

Default 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 and risk 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.

The credit risk strategy specifies that the entities in the Bank sector must treat their partners fairly and, as part of the sustainability strategy, not enter into any lending arrangement that could prejudice the reputation of the DZ BANK Group. Based on these principles, a policy on sustainable lending applicable throughout the sector was drawn up and approved in the year under review. The policy applies to the majority of the management units operating lending business.

The latitude permitted by the credit risk policy for infrastructure projects was broadened slightly in 2017. On the other hand, DZ BANK will not provide any more finance for coal-fired power plants going forward because of its commitment to sustainability in its lending business.

8.3 Organization, responsibility, and risk reporting

Responsibilities in the lending process have been laid down 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. Decision-making 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.

The **credit risk report** keeps the Group Risk and Finance Committee 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 in 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.

DZ BANK primarily uses VR rating systems in 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 ABCP. 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. In addition, the rating systems for open-ended real estate funds and for commercial real estate used by the former WGZ BANK Group are used for internal management purposes.

Most of the other entities in the Bank sector 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 and expansion of rating systems

The revision of the rating system for **project finance** used by DZ BANK for internal management purposes was completed in the year under review. The same also applies to 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. The enhancement of the **rating system for banks** was also completed in 2017. A supervisory assessment of the IRB approach followed by approval from the banking supervisor is still required before this rating system can be introduced. The assessment is scheduled for the first quarter of 2018.

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.

Fig. 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.

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.

FIG. 23 – BANK SECTOR: DZ BANK'S VR CREDIT RATING MASTER SCALE AND EXTERNAL CREDIT RATINGS

Internal rating class	Average default probability	External rating classes			Rating category
		Moody's	Standard & Poor's	Fitch	
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				

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 Sustainability review in the lending process

In the lending evaluation process, **DZ BANK** systematically reviews loan applications from relevant sustainability perspectives in order to limit any detrimental impact from its financing activities. All factors relevant to the financing arrangement in question are assessed in relation to environmental and social risks using a sustainability checklist based on the 10 principles of the **UN Global Compact** and the **Equator Principles**, the latter forming a global standard for project finance. Loans to cooperative banks and to entities in the DZ BANK Group, as well as exposures that are being restructured, are some of the arrangements exempt from the checks.

At DZ BANK, industry-related principles are used in addition to the sustainability checklist when reviewing loan applications from sensitive industries (such as forestry, commodities mining/extraction, dam construction, maritime industries). These principles specify the details to be reviewed with reference to international industry-specific conventions, recognized standards, certification, and optimum production processes.

8.4.4 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.

8.4.5 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 is generally determined on the basis of fair value, taking into account appropriate add-ons. At DZ BANK, where replacement risk is particularly relevant, a portfolio simulation is used to determine the risk from simple interest-rate swap derivatives arranged on an OTC basis with settlement via a central counterparty or clearing broker. The portfolio simulation models future exposures, taking into account specific transaction details and a large number of risk factors. Replacement risk on other OTC derivatives is calculated mainly 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, the replacement risk vis-à-vis the customer in customer brokerage business consists of the actual collateral exchanged (the variation margin for the daily settlement of profits and losses, and the initial margin as the collateral to be provided in advance to cover the loss risk), the fair value, and additional collateral requirements. To calculate the replacement risk vis-à-vis stock exchanges, 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 Directive 2009/65/EC. The main subsidiaries have their own comparable limit systems.

The issuer risk in treasury's investment book 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.

8.4.6 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 as a result of 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 permitted, mainly 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 and securities lending 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.

Furthermore, 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, an annual report is prepared for the Credit Committee that presents the remaining concentration risk and wrong-way risk.

If material specific wrong-way risk arises 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 half-yearly report.

8.4.7 Mitigating credit risk

Collateral strategy and secured transactions

In accordance with the credit risk strategy, **customer credit quality** forms the main 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. In order to protect transactions against default risk, traditional collateral is obtained, the decision being made on a case-by-case basis.

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, registered ship 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 related matters.

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. Under Regulation (EU) No. 648/2012 on OTC derivatives, central counterparties, and trade repositories (European Market Infrastructure Regulation, EMIR), it has been mandatory to enter into collateral agreements for new transactions with financial counterparties since March 1, 2017.

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 for counterparties not subject to the EMIR rules 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 before March 1, 2017 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'). Since the EMIR collateral agreement obligation came into force, the regulator has specified these contractual provisions as standard.

Central counterparties

EMIR 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 settle 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 a 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. In the case of credit derivatives, it also has indirect access to the Intercontinental Exchange clearing house via clearing broker Deutsche Bank.

8.4.8 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.

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 recognizes **specific loan loss allowances evaluated on a group basis** for its 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.

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 (including specific loan loss allowances evaluated on a group basis), portfolio loan loss allowances, provisions for loan commitments, and liabilities under financial guarantee contracts.

8.4.9 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 reduced by the expected loss describes the risk of unexpected losses arising should a default or migration event occur in the credit portfolio. The measurement includes default 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 Specific risk factors

Key values used in determining the credit risk include the lending volume, concentrations in terms of counterparties, sectors, countries, and maturities, and the credit quality structure of the credit portfolio.

For the purposes of internal credit risk management in the Bank sector, the lending volume is broken down by credit-risk-bearing instrument – 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 instruments. The credit-risk-bearing instruments are 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 or DZ BANK.

8.6 Lending volume

8.6.1 Reconciliation of lending volume to the consolidated financial statements

Fig. 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.

8.6.2 Change in lending volume

The **total lending volume** of the **Bank sector** decreased by 3 percent overall in the year under review, from €387.7 billion as at December 31, 2016 to €375.2 billion as at December 31, 2017. This was mainly because of a decline of 15 percent in the lending volume in the **securities business**, from €95.5 billion as at December 31, 2016 to €81.1 billion as at December 31, 2017. This decrease arose primarily at DZ BANK. The lending volume in the **derivatives and money market business** was also down year on year, in this case by 13 percent from €16.3 billion as at December 31, 2016 to €14.2 billion as at December 31, 2017. Most of this change was accounted for by DZ BANK. In contrast, there was a slight increase in the Bank sector's volume of **traditional lending business**, which rose from €275.8 billion as at December 31, 2016 to €279.8 billion at the end of 2017, a gain of 1 percent.

At **DZ BANK**, the **total lending volume** went down by 4 percent, from €205.8 billion as at December 31, 2016 to €197.2 billion as at December 31, 2017. This contraction was principally attributable to the **securities business** (€43.0 billion as at December 31, 2017, compared with €54.5 billion at the end of 2016), which was notably affected by a fall in public-sector bond exposures. **Derivatives and money market business** at DZ BANK also declined to €13.1 billion as at December 31, 2017 compared with the December 31, 2016 figure of €15.1 billion. On the other hand, the volume in the **traditional lending business** advanced by 4 percent, from €136.1 billion at the end of 2016 to €141.1 billion as at December 31, 2017.

8.6.3 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 2017 as it had been in 2016. The collateral called in by the entities in the Bank sector amounted to €13 million as at December 31, 2017, which was unchanged year on year.

8.6.4 Sector structure of the credit portfolio

Fig. 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.

FIG. 24 – BANK SECTOR: RECONCILIATION OF THE LENDING VOLUME

€ billion			Reconciliation							
Lending volume for internal management accounts			Scope of consolidation		Carrying amount and measurement					
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016		Dec. 31, 2017		Dec. 31, 2016
								80.6		79.5
								80.6		79.5
								--		-
Traditional lending business	**279.8**	275.8	**1.9**	1.8	**10.2**	18.8	**291.8**	**170.8**	292.9	173.1
								173.6		175.5
								-2.8		-2.4
								40.5		40.3
								64.0		77.2
Securities business	**81.1**	95.5	-	-	**-17.2**	-18.4	**64.0**	8.9	77.2	9.3
								0.8		0.9
								54.3		67.0
								-1.6		-3.9
								1.1		1.5
Derivatives business	**12.7**	13.7	-	-	**-14.4**	-17.5	**-1.6**	17.1	-3.9	23.6
								-3.0		-3.9
								-16.8		-25.1
								51.6		43.6
								39.9		27.7
Money market business	**1.5**	2.6	-	-	**50.1**	37.4	**51.6**	0.8	43.6	1.1
								0.2		0.2
								10.3		14.2
								0.4		0.4
Total	**375.2**	387.7	**2.0**	1.8	**28.8**	20.3	**405.9**		409.8	
								Balance as at Dec. 31, 2017	**30.7**	**8.2 %**
								Balance as at Dec. 31, 2016	22.1	5.7 %

Not relevant

As at December 31, 2017, a significant proportion (35 percent) of the lending volume in the **Bank sector** continued to be concentrated in the financial sector (December 31, 2016: 33 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, 2017, a significant proportion (59 percent) of **DZ BANK's** lending volume was also concentrated in the financial sector (December 31, 2016: 55 percent). The composition of this customer segment is the same both at DZ BANK and in the Bank sector. Loans and advances to public-sector borrowers declined by €7.2 billion year on year, with a particularly large decrease 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.

Lending volume for the consolidated financial statements	Note
Loans and advances to banks	
of which: loans and advances to banks excluding money market placements	50
of which: allowances for losses on loans and advances to banks	52
Loans and advances to customers	
Loans and advances to customers excluding money market placements	51
of which: allowances for losses on loans and advances to customers	52
Financial guarantee contracts and loan commitments	87
Bonds and other securities	
of which: financial assets held for trading/bonds excluding money market placements	54
of which: financial assets held for trading/promissory notes, registered bonds, and loans and advances	54
of which: investments/bonds excluding money market placements	55
Derivatives	
of which: derivatives used for hedging (positive fair values)	53
of which: financial assets held for trading/derivatives (positive fair values)	54
of which: derivatives used for hedging (negative fair values)	65
of which: financial liabilities held for trading/derivatives (negative fair values)	66
Money market placements	
of which: loans and advances to banks/money market placements	50
of which: loans and advances to customers/money market placements	51
of which: financial assets held for trading/money market instruments	54
of which: financial assets held for trading/money market placements	54
of which: investments/money market instruments	55
Total	

8.6.5 Geographical structure of the credit portfolio

Fig. 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, 2017, 96 percent of the lending in the **Bank sector** (December 31, 2016: 95 percent) and likewise 96 percent of the total lending by **DZ BANK** (unchanged on the figure as at December 31, 2016) was concentrated in Germany and other industrialized countries.

FIG. 25 – BANK SECTOR: LENDING VOLUME, BY SECTOR

	Traditional lending business		Securities business		Derivatives and money market business		Total	
€ billion	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Financial sector	94.5	88.7	26.1	28.2	10.9	11.5	131.6	128.4
Public sector	10.4	11.1	43.2	54.5	0.5	1.0	54.2	66.6
Corporates	104.5	110.4	7.7	8.6	2.3	2.9	114.4	122.0
Retail	62.9	58.6	2.4	2.8	-	-	65.3	61.4
Industry conglomerates	7.0	6.5	1.6	1.4	0.5	0.9	9.2	8.8
Other	0.5	0.5	-	-	-	-	0.5	0.5
Total	279.8	275.8	81.1	95.5	14.2	16.3	375.2	387.7

FIG. 26 – BANK SECTOR: LENDING VOLUME, BY COUNTRY GROUP

€ billion	Traditional lending business		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Germany	243.6	232.9	50.6	60.3	8.9	10.7	303.1	303.8
Other industrialized countries	25.2	29.5	27.2	31.3	4.7	5.1	57.2	65.8
Advanced economies	2.9	3.5	0.6	0.5	0.1	0.1	3.6	4.1
Emerging markets	8.1	9.9	0.9	0.8	0.2	0.1	9.1	10.9
Supranational institutions	-	-	1.9	2.7	0.3	0.4	2.2	3.0
Total	**279.8**	275.8	**81.1**	95.5	**14.2**	16.3	**375.2**	387.7

8.6.6 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 Fig. 27 for the **Bank sector** as at December 31, 2017 shows that the lending volume had decreased by €3.0 billion in the short-term maturity band compared with December 31, 2016, which was largely attributable to the ending of transactions at DVB and to maturities of German public-sector bonds held by DG HYP. The decrease in the medium-term maturity band amounted to €11.8 billion and was mainly accounted for by DZ BANK. By contrast, the lending volume in the longer-term maturity band went up by a total of €2.4 billion, primarily attributable to BSH.

Lending volume past due but not impaired

Fig. 28 and Fig. 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. Recoverable collateral is also available. 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 fall in loans in the corporates sector that were past due but not impaired, which went down from €1,134 million as at December 31, 2016 to €338 million as at December 31, 2017, was largely attributable to DVB's shipping and offshore businesses. Most of the loans in this category were past due by more than 3 months and corresponding specific loan loss allowances have now been recognized. The past-due loans in arrears by more than 3 months amounting to €207 million (December 31, 2016: €812 million) were predominantly loans secured by mortgages.

At **DZ BANK**, the volume of loans that were past due but not impaired went up slightly from €61 million as at December 31, 2016 to €86 million as at December 31, 2017.

8.6.7 Rating structure of the credit portfolio

Rating structure of the total lending volume

Fig. 30 shows the Bank sector's consolidated lending volume by rating class according to the VR credit rating master scale.

In the **Bank sector**, the proportion of the total lending volume accounted for by rating classes 1A to 3A (investment grade) as at December 31, 2017 was unchanged year on year at 78 percent. Rating classes 3B to 4E (non-investment grade) represented 20 percent of the total lending volume as at the reporting date, which was also unchanged compared with the end of 2016. Defaults in rating classes 5A to 5E accounted for 2 percent of the Bank sector's total lending volume as at December 31, 2017, remaining at a low level similar to that at the end of 2016 (1 percent).

Rating classes 1A to 3A (investment grade) also dominated lending at **DZ BANK**, where they accounted for 88 percent of the total lending volume (December 31, 2016: 89 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 2016.

FIG. 27 – BANK SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

€ billion	Traditional lending business		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
≤ 1 year	49.4	49.9	13.6	15.0	9.8	11.0	72.8	75.9
> 1 year to ≤ 5 years	53.1	55.2	29.1	38.5	1.8	2.1	84.0	95.8
> 5 years	177.3	170.7	38.4	42.1	2.7	3.3	218.4	216.0
Total	**279.8**	**275.8**	**81.1**	**95.5**	**14.2**	**16.3**	**375.2**	**387.7**

FIG. 28 – BANK SECTOR: LENDING VOLUME PAST DUE BUT NOT IMPAIRED, BY SECTOR

€ million	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	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Financial sector	25	13	-	1	3	-	-	-	-	-	28	14
Public sector	-	-	-	-	-	-	-	-	-	-	-	-
Corporates	44	18	94	301	65	127	68	5	67	684	338	1,134
Retail	34	37	141	123	65	63	37	38	140	128	417	388
Industry conglomerates	2	9	-	-	-	-	-	-	-	-	2	9
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total	**105**	**76**	**236**	**425**	**133**	**190**	**105**	**42**	**207**	**812**	**785**	**1,545**

FIG. 29 – BANK SECTOR: LENDING VOLUME PAST DUE BUT NOT IMPAIRED, BY COUNTRY GROUP

€ million	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	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Germany	77	64	145	201	72	91	43	42	171	188	508	585
Other industrialized countries	25	10	89	224	52	1	59	1	34	175	259	410
Advanced economies	-	3	1	-	-	29	-	-	-	217	1	248
Emerging markets	3	-	1	-	8	69	3	-	2	233	17	302
Supranational institutions	-	-	-	-	-	-	-	-	-	-	-	-
Total	**105**	**76**	**236**	**425**	**133**	**190**	**105**	**42**	**207**	**812**	**785**	**1,545**

Defaults (rating classes 5A to 5E) accounted for 1 percent of the total lending volume as at December 31, 2017, which was again largely unchanged year on year.

Single borrower concentrations

As at December 31, 2017, the 10 counterparties associated with the largest lending volumes accounted for 8 percent of total lending in the **Bank sector** (December 31, 2016: 9 percent). The equivalent proportion for **DZ BANK** was 8 percent (December 31, 2016: 9 percent). These counterparties largely comprised financial-sector and public-sector borrowers domiciled in Germany with an upper investment-grade rating.

Investment-grade lending volume

Fig. 31 and Fig. 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, 2017 was 98 percent, unchanged on December 31, 2016.

FIG. 30 – BANK SECTOR: LENDING VOLUME, BY RATING CLASS

	€ billion	Traditional lending business Dec. 31, 2017	Traditional lending business Dec. 31, 2016	Securities business Dec. 31, 2017	Securities business Dec. 31, 2016	Derivatives and money market business Dec. 31, 2017	Derivatives and money market business Dec. 31, 2016	Total Dec. 31, 2017	Total Dec. 31, 2016
Investment grade	1A	6.3	6.1	30.1	38.4	1.0	1.4	37.4	45.9
	1B	2.0	2.5	8.1	10.1	1.6	1.9	11.8	14.5
	1C	87.7	82.5	8.6	9.2	3.6	4.3	99.9	96.0
	1D	5.1	4.8	2.2	2.4	0.2	0.2	7.5	7.5
	1E	7.9	7.0	1.9	2.2	1.8	1.9	11.5	11.1
	2A	12.3	12.7	3.2	2.5	0.9	0.7	16.5	16.0
	2B	11.4	11.7	10.1	10.4	1.7	1.9	23.2	24.0
	2C	14.3	14.5	2.5	4.8	0.6	0.9	17.4	20.2
	2D	15.0	15.6	3.4	2.5	0.5	0.7	19.0	18.8
	2E	18.7	21.4	5.1	7.2	0.9	1.0	24.8	29.6
	3A	20.1	17.3	1.8	1.4	0.6	0.7	22.5	19.3
Non-investment grade	3B	19.9	17.5	1.4	0.6	0.2	0.2	21.5	18.3
	3C	17.8	16.4	0.3	1.3	0.1	0.1	18.2	17.8
	3D	13.9	13.9	0.5	0.8	0.1	0.1	14.5	14.8
	3E	4.5	4.6	0.6	0.2	-	-	5.2	4.9
	4A	2.5	2.3	0.0	0.1	-	-	2.6	2.4
	4B	5.3	7.2	0.0	0.2	-	-	5.3	7.4
	4C	3.5	6.2	0.1	0.1	-	-	3.5	6.3
	4D	0.7	0.6	-	-	-	-	0.7	0.6
	4E	3.0	3.8	0.1	0.1	-	-	3.1	3.9
Default		6.0	5.6	0.2	0.2	-	-	6.2	5.8
Not rated		2.0	1.7	0.8	0.8	0.3	0.4	3.1	2.8
Total		**279.8**	**275.8**	**81.1**	**95.5**	**14.2**	**16.3**	**375.2**	**387.7**

FIG. 31 – BANK SECTOR: LENDING VOLUME NEITHER IMPAIRED NOR PAST DUE, BY SECTOR

€ billion	Total portfolio Dec. 31, 2017	Total portfolio Dec. 31, 2016	Portfolio neither impaired nor past due Dec. 31, 2017	Portfolio neither impaired nor past due Dec. 31, 2016
Financial sector	131.6	128.4	131.5	128.3
Public sector	54.2	66.6	54.2	66.6
Corporates	114.4	122.0	109.8	117.3
Retail	65.3	61.4	64.0	60.2
Industry conglomerates	9.2	8.8	9.2	8.8
Other	0.5	0.5	0.5	0.5
Total	**375.2**	**387.7**	**369.1**	**381.7**

FIG. 32 – BANK SECTOR: LENDING VOLUME NEITHER IMPAIRED NOR PAST DUE, BY COUNTRY GROUP

€ billion	Total portfolio Dec. 31, 2017	Total portfolio Dec. 31, 2016	Portfolio neither impaired nor past due Dec. 31, 2017	Portfolio neither impaired nor past due Dec. 31, 2016
Germany	303.1	303.8	300.2	300.7
Other industrialized countries	57.2	65.8	55.1	64.2
Advanced economies	3.6	4.1	3.2	3.7
Emerging markets	9.1	10.9	8.4	10.1
Supranational institutions	2.2	3.0	2.2	3.0
Total	**375.2**	**387.7**	**369.1**	**381.7**

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, 2017.

As in previous years, the large proportion of investment-grade business is attributable to the risk-conscious lending policy pursued by the entities in the Bank sector.

8.6.8 Collateralized lending volume

Fig. 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, 2017, the collateralized lending volume in the **Bank sector** had declined marginally to €116.1 billion from €116.2 billion as at December 31, 2016. The collateralization rate was 30.9 percent at the reporting date (December 31, 2016: 30.0 percent).

In the Bank sector's **traditional lending business**, most of the collateralized lending volume – 85 percent as at December 31, 2017 – remained 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 €12.3 billion, **DZ BANK's** collateralized lending volume at December 31, 2017 was marginally down year on year (December 31, 2016: €12.4 billion). The collateralization rate of 6 percent at the reporting date was the same as it had been a year earlier.

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**.

8.6.9 Securitizations

The asset-backed securities (ABS) portfolio in the Bank sector is predominantly held by DZ BANK and DG HYP. This portfolio at **Bank sector** level had a fair value of €2,796 million as at the reporting date (December 31, 2016: €3,430 million). The fair value for **DZ BANK** as at December 31, 2017 came to €2,048 million (December 31, 2016: €2,013 million).

These figures included the ABS wind-down portfolio from the period before the financial crisis with a fair value of €1,854 million (December 31, 2016: €2,474 million) at **Bank sector** level and €1,106 million (December 31, 2016: €1,182 million) in respect of **DZ BANK**. The changes in the wind-down portfolio in 2017 were largely within 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 ABCP or liquidity lines. The ABCP programs are made available for DZ BANK customers who then securitize their own assets via these companies.

As at December 31, 2017, the fair value of the securitization exposures arising from **DZ BANK's** activities in which it acts as a sponsor amounted to €1,022 million (December 31 2016: €996 million). The year-on-year increase in the exposures was largely due to fluctuations in the drawdown of liquidity lines.

8.7 Credit 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.

8.7.1 European sovereign debt portfolio

As at December 31, 2017, 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 €7,982 million (December 31, 2016: €8,721 million) and €2,302 million (December 31, 2016: €2,670 million) respectively.

Fig. 34 shows the borrower structures of the entities in the Bank sector for the eurozone periphery countries by credit-risk-bearing instrument.

FIG. 33 – BANK SECTOR: COLLATERALIZED LENDING VOLUME, BY TYPE OF COLLATERAL

	Traditional lending business		Securities business		Derivatives and money market business		Total	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Guarantees, indemnities, risk subparticipation (€ billion)	6.7	7.0	-	-	0.2	0.3	6.9	7.3
Credit insurance (€ billion)	3.1	3.1	-	-	-	-	3.1	3.1
Land charges, mortgages, ship mortgages (€ billion)	98.7	98.0	-	-	-	-	98.8	98.0
Pledged loans and advances, assignments, other pledged assets (€ billion)	5.3	5.8	-	-	-	-	5.4	5.8
Financial collateral (€ billion)	1.4	1.5	-	-	0.2	0.1	1.6	1.6
Other collateral (€ billion)	0.3	0.4	-	-	-	-	0.3	0.4
Collateralized lending volume (€ billion)	**115.6**	**115.7**	**-**	**-**	**0.5**	**0.5**	**116.1**	**116.2**
Gross lending volume (€ billion)	279.8	275.8	81.1	95.5	14.2	16.3	375.2	387.7
Uncollateralized lending volume (€ billion)	**164.2**	**160.1**	**81.1**	**95.5**	**13.7**	**15.8**	**259.1**	**271.5**
Collateralization rate (%)	**41.3**	**41.9**	**-**	**-**	**3.4**	**3.0**	**30.9**	**30.0**

FIG. 34 – BANK SECTOR: LOANS AND ADVANCES TO BORROWERS IN EUROZONE PERIPHERY COUNTRIES

	Traditional lending business[1]		Securities business		Derivatives and money market business		Total	
€ million	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Portugal	**80**	**117**	**1,035**	**1,017**	**-**	**-**	**1,115**	**1,134**
of which: public sector	-	-	919	894	-	-	919	894
of which: non-public sector	80	117	116	122	-	-	196	240
of which: financial sector	-	25	-	3	-	-	-	28
Italy	**158**	**190**	**3,158**	**3,468**	**19**	**15**	**3,336**	**3,673**
of which: public sector	-	-	2,809	2,920	-	-	2,809	2,920
of which: non-public sector	158	190	349	548	19	15	526	753
of which: financial sector	32	33	121	144	19	14	172	192
Greece	**20**	**13**	**13**	**-**	**-**	**-**	**33**	**13**
of which: public sector	-	-	-	-	-	-	-	-
of which: non-public sector	20	13	13	-	-	-	33	13
of which: financial sector	-	-	-	-	-	-	-	-
Spain	**232**	**319**	**3,200**	**3,555**	**67**	**26**	**3,499**	**3,901**
of which: public sector	19	26	2,094	2,132	-	-	2,113	2,158
of which: non-public sector	212	293	1,106	1,423	67	26	1,386	1,742
of which: financial sector	31	39	380	575	65	21	477	636
Total	**490**	**639**	**7,406**	**8,040**	**87**	**41**	**7,982**	**8,721**
of which: public sector	19	26	5,821	5,947	-	-	5,841	5,973
of which: non-public sector	470	613	1,584	2,093	87	41	2,141	2,748
of which: financial sector	63	98	502	722	84	36	649	855

1 Unlike the other presentations of lending volume, traditional lending business in this case includes long-term equity investments.

8.7.2 Shipping finance and offshore finance portfolio

Against the backdrop of the crisis in shipping and offshore markets in the year under review, the disclosures presented in this report have been extended in comparison with the 2016 opportunity and risk report. In addition to shipping finance, offshore finance is now shown as a separate segment.

Business background

Within the DZ BANK Group's **Bank sector**, the shipping finance business is mainly operated by DVB. DZ BANK also has shipping finance in its credit portfolio, but the proportion is significantly lower than at DVB. DVB is also involved in offshore finance business.

At **DVB**, the criteria for granting **shipping loans** include the credit standing of the ship owner and operator, 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 shipping finance arrangements for which the financed ship can be used as collateral.

DVB's offshore credit portfolio consists of various financing arrangements with broad links to the shipping sector. The portfolio includes finance for drilling platforms, drill ships, offshore construction ships, and supply ships for oil platforms.

DVB initiated various corrective measures in response to the crisis. For example, the lending policy for shipping finance was considerably tightened, the impact of which was to reduce new business activity to a low level, well below budget. In addition, DVB no longer takes on any new business in the offshore segment. Existing finance is to be scaled back, preserving as much value as possible. In view of the tough market conditions, strategic options are being reviewed in relation to DVB.

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.

Shipping finance lending volume

As at December 31, 2017, the **Bank sector's** shipping finance portfolio had a value of €10,180 million (December 31, 2016: €12,763 million). The breakdown of the shipping finance portfolio by country group is set out in Fig. 35.

FIG. 35 – BANK SECTOR: SHIPPING FINANCE LENDING VOLUME, BY COUNTRY GROUP

	Traditional lending business		Securities business		Derivatives business		Total	
€ million	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Germany	1,421	1,504	-	-	3	3	1,424	1,507
Other industrialized countries	6,122	7,453	-	-	1	5	6,124	7,458
Advanced economies	1,336	1,907	-	-	-	-	1,336	1,907
Emerging markets	1,294	1,885	-	-	2	5	1,296	1,890
Total	**10,174**	**12,749**	**-**	**-**	**6**	**14**	**10,180**	**12,763**

As at December 31, 2017, **DVB's** shipping finance portfolio comprised finance provided for 1,427 vessels and 0.3 million containers (December 31, 2016: 1,328 vessels and 0.5 million containers). The average exposure as at the reporting date was €32 million (December 31, 2016: €40 million) and the largest single exposure was €189 million (December 31, 2016: €237 million).

DVB's exposure fell significantly from €11,948 million as at December 31, 2016 to €9,523 million as at December 31 2017. As at the reporting date, 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, 2017, this proportion had risen slightly by 0.8 percentage points to 48.8 percent of DVB's total volume of shipping finance. This relative increase related mainly to the product tanker segment (and to a very small extent, the gas tanker segment) of the shipping market, whereas the proportion of the portfolio attributable to crude oil tankers and chemical tankers declined. The portfolio was almost fully collateralized in compliance with DVB strategy.

The ongoing overcapacity in some shipping sectors continued to be the source of downward pressure on ship asset values and charter rates. A further overall rise in default rates was evident in the shipping industry because liquidity reserves have been exhausted.

DZ BANK's shipping finance exposures amounted to €657 million as at December 31, 2017 (December 31, 2016: €815 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 2016, DZ BANK's shipping finance portfolio in 2017 was mainly concentrated in Germany but broadly diversified by type of vessel, borrower, charterer, and shipping activity.

Offshore finance lending volume

As at December 31, 2017, the Bank sector's lending volume in the offshore finance business attributable exclusively to **DVB** amounted to €1,767 million (December 31, 2016: €2,358 million). Fig. 36 shows the breakdown of the offshore finance portfolio by country group.

8.8 Non-performing lending volume

8.8.1 Impaired lending volume

Fig. 37 and Fig. 38 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.

In the **Bank sector**, the lending volume after loan loss allowances rose slightly from €2,622 million as at December 31, 2016 to €3,030 million as at December 31, 2017.

At **DZ BANK**, the lending volume after specific loan loss allowances rose from €835 million as at December 31, 2016 to €894 million as at December 31, 2017. This increase was almost entirely the result of a higher volume of impaired loans to corporates.

FIG. 36 – BANK SECTOR: OFFSHORE FINANCE LENDING VOLUME, BY COUNTRY GROUP

	Traditional lending business		Securities business		Derivatives business		Total	
€ million	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Germany	60	35	-	-	-	-	60	35
Other industrialized countries	1,041	1,360	-	-	-	3	1,041	1,364
Advanced economies	96	91	-	-	-	-	96	91
Emerging markets	570	866	-	-	-	2	570	868
Total	1,766	2,352	-	-	-	5	1,767	2,358

FIG. 37 – BANK SECTOR: IMPAIRED LENDING VOLUME AND COLLATERAL, BY SECTOR

€ million	Amount before specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Amount after specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Collateral Dec. 31, 2017	Dec. 31, 2016
Financial sector	54	81	26	41	28	40	21	31
Public sector	-	-	-	-	-	-	-	-
Corporates	4,327	3,517	1,837	1,436	2,490	2,081	1,845	1,237
Retail	923	859	411	358	512	501	496	491
Industry conglomerates	-	2	-	1	-	1	-	-
Other	-	-	-	-	-	-	-	-
Total	**5,304**	**4,458**	**2,274**	**1,836**	**3,030**	**2,622**	**2,361**	**1,758**

FIG. 38 – BANK SECTOR: IMPAIRED LENDING VOLUME AND COLLATERAL, BY COUNTRY GROUP

€ million	Amount before specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Amount after specific loan loss allowances Dec. 31, 2017	Dec. 31, 2016	Collateral Dec. 31, 2017	Dec. 31, 2016
Germany	2,403	2,521	1,131	1,221	1,272	1,300	937	913
Other industrialized countries	1,900	1,226	656	365	1,244	861	910	459
Advanced economies	370	219	268	132	102	87	165	101
Emerging markets	630	492	219	118	411	374	350	285
Supranational institutions	-	-	-	-	-	-	-	-
Total	**5,304**	**4,458**	**2,274**	**1,836**	**3,030**	**2,622**	**2,361**	**1,758**

8.8.2 Volume of non-performing loans

The rise in the volume of non-performing loans reported for the **Bank sector** from €5.8 billion to €6.2 billion in conjunction with the decrease in the total lending volume from €387.7 billion to €375.2 billion caused the NPL ratio to go up year on year to 1.7 percent at the end of 2017 (December 31, 2016: 1.5 percent).

At **DZ BANK**, there was a marginal fall in the volume of non-performing loans, which declined from €2.3 billion as at December 31, 2016 to €2.2 billion as at the 2017 balance sheet date. As this change was accompanied by a contraction in the overall lending volume from €205.8 billion to €197.2 billion, the NPL ratio remained at the prior-year level of 1.1 percent.

Fig. 39 shows key figures relating to the volume of non-performing loans.

FIG. 39 – BANK SECTOR: KEY FIGURES FOR THE VOLUME OF NON-PERFORMING LOANS

€ billion	Bank sector Dec. 31, 2017	Dec. 31, 2016	DZ BANK Dec. 31, 2017	Dec. 31, 2016
Total lending volume (€ billion)	375.2	387.7	197.2	205.8
Volume of non-performing loans (€ billion)[1]	6.2	5.8	2.2	2.3
Balance of allowances for losses on loans and advances (€ billion)[2]	3.1	2.7	1.3	1.3
Loan loss allowance ratio (%)[3]	0.8	0.7	0.6	0.6
Risk cover ratio (%)[4]	50.1	47.0	59.1	57.4
NPL ratio (%)[5]	1.7	1.5	1.1	1.1

1 Volume of non-performing loans excluding collateral.
2 Total of specific loan loss allowances (including specific loan loss allowances evaluated on a group basis), portfolio loan loss allowances, provisions for loan commitments, and liabilities under financial guarantee contracts.
3 Balance of allowances for losses on loans and advances as a proportion of total lending volume.
4 Balance of allowances for losses on loans and advances as a proportion of the volume of non-performing loans.
5 Volume of non-performing loans as a proportion of total lending volume.

8.9 Allowances for losses on loans and advances

The disclosures in this section relate to the level of allowances for losses on loans and advances. Details of allowances for losses on loans and advances in the income statement are presented in sections 3.1 and 3.2 of the business report in this group management report.

8.9.1 Allowances for losses on loans and advances in the total portfolio

Fig 40 and Fig. 41 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 2017 and 2016 for the entire credit portfolio of the Bank sector and DZ BANK.

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 €438 million. This increase was primarily attributable to DVB's shipping and offshore businesses. The volume of specific loan loss allowances at DZ BANK rose by €27 million in the year under review to €813 million. As at December 31, 2016, there had been a year-on-year increase in the volume of specific loan loss allowances of €229 million in the Bank sector and €39 million at DZ BANK.

The **volume of portfolio loan loss allowances** in the **Bank sector** decreased by €38 million during the reporting year (2016: increase of €92 million) and totaled €520 million at the end of 2017. The equivalent figure at **DZ BANK** also declined, by €14 million to €165 million (2016: increase of €60 million).

The volume of **provisions for loan commitments and liabilities under financial guarantee contracts** went down in 2017, in the **Bank sector** by €20 million to €234 million (December 31, 2016: up by €106 million) and at **DZ BANK** by €37 million to €205 million (December 31, 2016: up by €104 million).

FIG 40 – 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	2017	2016	2017	2016	2017	2016	2017	2016
Balance as at Jan. 1	**1,836**	1,607	**558**	466	**2,394**	2,073	**254**	148
Additions	1,363	908	207	218	1,570	1,126	116	117
Utilizations	-354	-244	-	-	-354	-244	-	-
Reversals	-442	-416	-244	-139	-686	-555	-133	-71
Interest income	-40	-31	-	-	-40	-31	2	2
Other changes	-89	12	-1	13	-90	25	-5	58
Balance as at Dec. 31	**2,274**	1,836	**520**	558	**2,794**	2,394	**234**	254
Directly recognized impairment losses	47	48	-	-	47	48		
Recoveries on loans and advances previously impaired	-127	-116	-	-	-127	-116		

1 Including specific loan loss allowances evaluated on a group basis.
2 Excluding other provisions for loans and advances.

Not relevant

FIG. 41 – 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	2017	2016	2017	2016	2017	2016	2017	2016
Balance as at Jan. 1	786	825	179	119	965	944	242	138
Additions	340	256	43	92	383	348	97	114
Utilizations	-47	-103	-	-	-47	-103	-	-
Reversals	-234	-192	-57	-32	-291	-224	-134	-66
Interest income	-13	-10	-	-	-13	-10	4	3
Other changes	-19	10	-	-	-19	10	-4	53
Balance as at Dec. 31	813	786	165	179	978	965	205	242
Directly recognized impairment losses	1	-	-	-	1	-		
Recoveries on loans and advances previously impaired	-81	-59	-	-	-81	-59		

Not relevant

8.9.2 Allowances for losses on loans and advances in portfolios with increased risk content

Allowances for losses on loans and advances in the European sovereign debt portfolio

The level of specific loan loss allowances for the Bank sector's exposure in the peripheral countries of the eurozone increased marginally in the year under review.

Portfolio loan loss allowances in this subportfolio amounted to a total of €12 million as at December 31, 2017 (December 31, 2016: €11 million).

Allowances for losses on loans and advances in the shipping finance and offshore finance portfolio

The challenging market conditions in the international shipping and offshore markets persisted throughout the year under review, with a further sharp deterioration in some parts of the market compared with 2016. As also happened at the other banks operating in this market segment, the shipping finance and offshore finance portfolios in the Bank sector of the DZ BANK Group were subjected to a detailed examination by the banking supervisor in 2017. One of the consequences at DVB was a significantly more conservative approach in the parameters used for measuring allowances for losses on loans and advances. Compounded by the protracted crisis in shipping markets and a deterioration in offshore markets, this led to a significant rise in the level of allowances for losses on loans and advances at DVB in the second half of 2017.

The level of specific loan loss allowances for DVB's **shipping finance portfolio** had risen by €202 million year on year to €552 million at the end of 2017, although the level of portfolio loan loss allowances had fallen by €12 million. The specific and portfolio loan loss allowances for the shipping finance portfolio at DZ BANK rose by €41 million to €201 million and by €2 million to €20 million respectively.

The level of specific loan loss allowances in DVB's **offshore finance portfolio** as at December 31, 2017 had gone up by €331 million year on year. However, the level of portfolio loan loss allowances for this market segment declined by €11 million.

Changes in the individual components of the allowances for losses on loans and advances for portfolios with increased risk content for 2017 and 2016 are shown in Fig. 42 (Bank sector) and in Fig. 43 (DZ BANK).

FIG. 42 – 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	2017	2016	2017	2016	2017	2016	2017	2016
Eurozone periphery countries portfolio								
Balance as at Jan. 1	10	13	10	14	20	27	-	-
Balance as at Dec. 31	11	10	12	10	24	20	-	-
Shipping finance portfolio								
Balance as at Jan. 1	510	327	46	43	556	369	-	2
Balance as at Dec. 31	753	510	36	46	789	556	-	-
Offshore finance portfolio								
Balance as at Jan. 1	61	20	14	3	75	23	-	-
Balance as at Dec. 31	392	61	3	14	395	75	13	-

1 Including specific loan loss allowances evaluated on a group basis.
2 Excluding other provisions for loans and advances.

FIG. 43 – 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	2017	2016	2017	2016	2017	2016	2017	2016
Eurozone periphery countries								
Balance as at Jan. 1	5	5	2	3	7	8	-	-
Balance as at Dec. 31	7	5	2	2	9	7	-	-
Shipping finance portfolio								
Balance as at Jan. 1	160	184	18	20	178	204	-	2
Balance as at Dec. 31	201	160	20	18	221	178	-	-

8.10 Risk position

The risk capital requirement (including capital buffer requirement) for 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, 2017, the **Bank sector's** risk capital requirement amounted to €4,245 million (December 31, 2016: €4,472 million). The risk capital requirement (including capital buffer requirement) at the end of 2017 amounted to €5,772 million with an upper loss limit of €7,628 million (December 31, 2016: €6,606 million).

Most of the fall in the risk capital requirement is explained by the lower lending volume and the migration of shipping finance and offshore finance to default ratings at DVB.

As at December 31, 2017, the risk capital requirement for **DZ BANK** was calculated at €1,515 million (December 31, 2016: €1,577 million). The risk capital requirement (including capital buffer requirement) at the end of 2017 amounted to €2,152 million with an upper loss limit of €2,700 million (December 31, 2016: €2,200 million).

The risk capital requirements (including capital buffer requirements) for the Bank sector and for DZ BANK were within the applicable upper loss limits at all times during the course of 2017.

Fig. 44 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 Fig. 45.

FIG. 44 – BANK SECTOR: FACTORS DETERMINING THE CREDIT VALUE-AT-RISK

	Average probability of default				Expected loss (€ million)				Credit value-at-risk[1] (€ million)			
	Bank sector		DZ BANK		Bank sector		DZ BANK		Bank sector		DZ BANK	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Traditional lending business	0.6%	0.7%	0.2%	0.2%	426	503	113	112	2,282	2,566	926	974
Securities business	0.2%	0.2%	0.2%	0.2%	66	70	37	38	1,636	1,571	345	325
Derivatives and money market business	0.1%	0.2%	0.1%	0.1%	10	12	9	10	327	335	245	278
Total					**501**	585	**159**	161	**4,245**	4,472	**1,515**	1,577
Average	**0.5%**	0.5%	**0.2%**	0.2%								

1 Excluding decentralized capital buffer requirement.

Not relevant

FIG. 45 – BANK SECTOR: CREDIT VALUE-AT-RISK FOR CREDIT PORTFOLIOS WITH INCREASED RISK CONTENT

	Bank sector		DZ BANK	
€ million	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Eurozone periphery countries portfolio	1,090	946	13	16
Shipping finance portfolio	206	361	48	58
Offshore finance portfolio	99	176		

Not relevant

The year-on-year increase of 15 percent in the risk capital requirement for exposures held by entities in the Bank sector to **European periphery countries** was caused by changes to some of the model-based parameters for calculating the loss given default for countries.

The risk capital requirement in the Bank sector for **shipping finance and offshore finance** stemmed primarily from DVB. The significant year-on-year decrease was to a large degree due to the lower lending volume and the migration of shipping finance and offshore finance to default ratings, which was accompanied by higher allowances for losses on loans and advances in relation to these exposures.

8.11 Summary and outlook

All internal **rating systems** approved by the banking supervisor for solvency reporting were validated in 2017. The supervisory review of material model changes in IRB approaches relating to VR rating banks is scheduled for 2018.

A portfolio-based approach (**portfolio simulation**) for measuring replacement risk at DZ BANK was introduced in 2017 for the bulk of the derivatives portfolio (simple interest-rate swaps).

EMIR requires the exchange of an initial margin in OTC derivatives transactions in addition to the variation margin. This **initial margin exchange** is expected to be mandatory for the entities in the Bank sector from September 2019. In addition, there are plans to initiate further measures in the coming year as part of the continuous optimization of the internal credit risk measurement system. In 2018, 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 2018, but within the expected level of allowances for losses on loans and advances.

DVB is aiming to significantly reduce its shipping finance portfolio and completely eliminate its offshore finance portfolio over the course of 2018 and subsequent years. This will be accompanied by greater concentration on the aviation finance and land transport finance segments. DVB has put in place a separate strategy and new structures to help it manage the portfolio wind-down while at the same time preserving value as far as possible.

9 Equity investment risk

9.1 Definition and business background

Equity investment risk is defined as the 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.

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

The carrying amounts of the long-term equity investments are 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 the impairment tests, the carrying amounts of the long-term equity investments are compared against the amount that could be realized on the market on the same date.

Since the first quarter of 2017, the risk capital requirement for the vast majority of the long-term equity investments in the **Bank sector** including **DZ BANK** has been determined using a Monte Carlo simulation. In this method, portfolio concentrations in sectors and individual counterparties are taken into account by simulating industry-wide and individual investment-related risk factors.

The risk capital requirement is influenced, in particular, by 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 risk capital requirement for long-term equity investments in the transport sector has been determined using an earnings-at-risk approach since the second quarter of 2017.

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 Specific risk factors

If a future impairment test determines that the carrying amount 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 and DZ BANK.

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.

9.5 Risk position

The **carrying amounts of long-term equity investments** in the **Bank sector** relevant for the measurement of equity investment risk amounted to €2,714 million as at December 31, 2017 (December 31, 2016: €2,786 million). As at December 31, 2017, the carrying amounts of the long-term equity investments of **DZ BANK** totaled €1,588 million (December 31, 2016: €1,709 million). This contraction was primarily attributable to the sale of one long-term equity investment.

As at the reporting date, the **economic capital requirement** for equity investment risk in the **Bank sector** was measured at €1,093 million, which was lower than the corresponding figure at the end of 2016 of €1,263 million. This decrease was mainly accounted for by the sale of one long-term equity investment at DZ BANK and by changes in the risk modeling. The upper loss limit was €1,422 million (December 31, 2016: €1,468 million). The upper loss limit was not exceeded at any time in 2017.

As at December 31, 2017, the economic capital requirement for equity investment risk at **DZ BANK** amounted to €618 million (December 31, 2016: €722 million). The upper loss limit at December 31, 2017 was €650 million (December 31, 2016: €760 million). The upper loss limit was not exceeded at any point during 2017.

10 Market risk

10.1 Definition and business background

Market risk in the Bank sector including DZ BANK 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, and asset-management risk. Commodity risk is not material for the entities in the Bank sector. This type of market risk is therefore not covered below.

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, funds business, capital markets business, 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

10.2.1 General market risk strategy in the Bank sector

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.
- Market liquidity risk is consciously assumed following an analysis that takes into account the prevailing market liquidity.

10.2.2 Market risk strategy at DZ BANK

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 from primary business activities arise principally in connection with customer business and from holding securities portfolios for trading on behalf of customers. The risks predominantly comprise **spread risk and migration risk**. 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 arising from its lending business, own issues, and from holding issues from the cooperative 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.

10.2.3 Market risk strategy at BSH

For regulatory purposes, BSH is classed as an institution with a banking book and is exposed to market risk primarily in the form of interest-rate risk, spread risk, and migration risk.

Interest-rate risk arises mainly from its customer business (in particular building society operations). Interest-rate risk comprises traditional interest-rate risk, for example as a result of interest rates in building society operations for which BSH has given a firm commitment, and the risk from customer rights enshrined in home savings contracts, the exercise of which may partly depend on interest rates. Traditional interest-rate risk is managed mainly through the maturities in the investment portfolio. The risk from customer rights is controlled through the design of home savings rates. The objective is to manage the interest-rate risk within the existing limits, which will rise slightly over the medium term as a result of the small increase in new business.

Spread risk and migration risk arise at BSH from investing surplus home savings deposits in securities. These risks are consciously assumed within the framework of a conservative investment policy and it is planned to keep them at a similar level, even following further diversification in the range of investments.

10.2.4 Market risk strategy at DG HYP

For regulatory purposes, DG HYP is also classed as an institution with a banking book. DG HYP's business model means that the main risks relevant to its management of market risk are spread risk and migration risk.

DG HYP consciously takes on **spread risk and migration risk**. 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.

10.2.5 Market risk strategy at UMH

The main market risks faced by UMH are fund price risk and asset-management risk.

Fund price risk arises if UMH or its subsidiaries acquire their own investment funds for investment purposes. UMH and its subsidiaries also acquire units in their own newly launched 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.

Asset-management risk occurs if UMH enters into obligations to pay additional capital in connection with products offering long-term guarantees. 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.

10.2.6 Market risk strategy at WL BANK

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 spread risk and migration risk.

Spread risk and migration risk at WL BANK mainly result from holding securities as Pfandbrief cover assets. These risks are consciously assumed for the purposes of managing liquidity. WL BANK is aiming to further reduce spread risk and migration risk, primarily by scaling back its holdings of government bonds. New business is also limited to issuers with a minimum rating A- in order to keep the impact from a deterioration in credit ratings as low as possible.

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 in the banking book. Market risk arising at **DG HYP** 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 the treasury for Pfandbriefe within the limits decided by the Board of Managing Directors of WL BANK.

10.3.2 Risk reporting

Market 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.

At **DZ BANK**, **BSH**, **DG HYP**, and **WL BANK**, Risk Controlling uses the internal reporting system to provide 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. The other key figures relating to market risk are reported in UMH's quarterly risk report.

Market liquidity risk reporting

The economic stress test report for the DZ BANK Group is used to inform the Board of Managing Directors of DZ BANK of the results of the market liquidity risk stress test carried out for the **Bank sector** and **DZ BANK**.

At **DG HYP**, the daily market risk report sent to the members of the Board of Managing Directors and portfolio managers also includes reports on market liquidity risk. The results of the market liquidity risk stress test for **WL BANK** are included in the economic stress test report for the DZ BANK Group. This report is also received by the Board of Managing Directors and selected heads of division at WL BANK.

10.4 Management of market risk

10.4.1 Measurement of market risk

DZ BANK, BSH, DG HYP, 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), and 1 year (own-account investments of UMH).

DZ BANK, **BSH**, **DG HYP**, and **WL BANK** 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 99.90 percent and a holding period of 1 year.

For **DZ BANK**, **BSH**, **DG HYP**, 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, and currency 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. Migration risk does not represent a separate type of risk in the short-term perspective. The risk arising from changes in credit ratings is covered by spread risk in this case. 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.

10.4.2 Backtesting and stress tests

The methods used by the entities in the Bank sector to quantify market risk on a continuous basis 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. The following are deemed to be risk factors: interest-rate risk, spread risk, migration risk, equity risk, and currency risk.

10.4.3 Management of limits for market risk

Market risk is managed at **DZ BANK**, **BSH**, **DG HYP**, and **WL BANK** 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 **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.

10.4.4 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.

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.

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.

10.4.5 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.

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 in accordance with 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 has only taken on new spread risk or migration risk if it is necessary as part of the management of cover assets.

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.

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 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 Management of market liquidity risk

At **Bank sector** level, excluding DZ BANK, market liquidity effects are taken into account centrally when determining the risk capital requirement for spread risk and migration risk. A market liquidity risk stress test is also carried out for the Bank sector using special stress scenarios as part of the calculation of the risk capital requirement for market risk. The economic capital requirement calculated in the 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.

At **DZ BANK**, the market liquidity risk associated with interest-rate risk, spread risk, equity risk, and currency risk is measured as part of the planning of upper loss limits. Market risk including market liquidity risk is limited at strategic level by the upper loss limit for market risk. At operational level, the limits are determined in a manner that is consistent with the assumptions made in the planning of the upper loss limit.

BSH takes market liquidity risk into account in its day-to-day calculation of liquidity by means of changes in interest rates and credit spreads. At **DG HYP**, market liquidity risk is factored into the calculation of the risk capital requirement and limited via the risk model used at the level of the Bank sector in the DZ BANK Group. It is managed operationally as part of the management of market risk and liquidity. **UMH** could be exposed to market liquidity risk in rare extreme situations as a result of its own-account investing in funds. Market liquidity risk is measured at individual fund level and by carrying out additional stress tests. Market liquidity risk at **WL BANK** is reflected in credit spreads and volatility, and is taken into account centrally by DZ BANK when determining the risk capital requirement for spread risk and migration risk.

10.6 Specific risk factors

Interest-rate risk, spread risk, migration risk, equity risk, fund price risk, currency risk, and asset-management risk are caused by changes in the yield curve, credit spreads, exchange rates, and share prices. Credit spreads and market liquidity squeezes are the critical risk factors for the overall market risk in the Bank sector, including DZ BANK.

Some credit risk premiums for bank bonds and corporate bonds continued to decline significantly over the course of 2017. In the case of European government bonds, especially those issued by France, some **narrowing of credit spreads** was also evident. 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.

A market-wide liquidity squeeze could be detrimental to the business activities of the entities in the Bank sector and therefore also to the financial position and financial performance of the DZ BANK Group and DZ BANK. **Tighter market liquidity** arises particularly in stressed market conditions, as it did, for example, during the financial crisis.

10.7 Risk position

10.7.1 Risk capital requirement

As at December 31, 2017, the risk capital requirement (including capital buffer requirement) for market risk used to determine the risk-bearing capacity of the **Bank sector** amounted to €4,097 million (December 31, 2016: €4,347 million) with an upper loss limit of €6,863 million (December 31, 2016: €7,582 million). The decrease in the risk was largely due to capital market and merger effects.

The Bank sector's risk capital requirement (including capital buffer requirement) encompasses the **asset-management risk** of UMH. The asset-management risk for guarantee funds was measured at €36 million as at December 31, 2017 (December 31, 2016: €50 million). The asset-management risk for UniProfiRente as at the reporting date amounted to €34 million (December 31, 2016: €28 million).

As at December 31, 2017, **DZ BANK's** risk capital requirement (including capital buffer requirement) for market risk amounted to €1,059 million (December 31, 2016: €1,200 million) with an upper loss limit of €2,270 million (December 31, 2016: €2,400 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.

10.7.2 Value-at-risk

Fig. 46 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, Fig. 47 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, 2017, the **aggregate risk** in the **Bank sector** was measured at €51 million (December 31, 2016: €119 million). The aggregate risk for **DZ BANK** as at December 31, 2017 was calculated at €14 million (December 31, 2016: €33 million). The main reason for the significant drop in risk was the fall in the volatility of credit spreads over time. There were no fundamental changes in the portfolio structure.

The value-at-risk for the **trading portfolios** in the Bank sector as at December 29, 2017 was €2 million (December 31, 2016: €4 million) and therefore remained at the low prior-year level.

In the year under review, the hypothetical changes in fair value exceeded the forecast risk value on 6 trading days. Of this total, 4 overruns arose from market movements, which was within the tolerance for model-related overruns, and 2 were attributable to valuation adjustments.

As at December 31, 2017, the value-at-risk for the **Bank sector's non-trading portfolios** was calculated at €49 million (December 31, 2016: €119 million). Once again, the fall in the volatility of credit spreads was the principal reason behind the decrease in risk.

10.8 Summary and outlook

DZ BANK fine-tuned the central, sector-wide market-risk model in the year under review as planned and then put it into operation in February 2018. From the beginning of 2019, the model is expected to become relevant for the management of market risk in the Bank sector in relation to economic capital adequacy.

As in previous years, the focus of DZ BANK's trading business will be on customer business in 2018.

11 Technical risk of a home savings and loan company

11.1 Definition and business background

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.

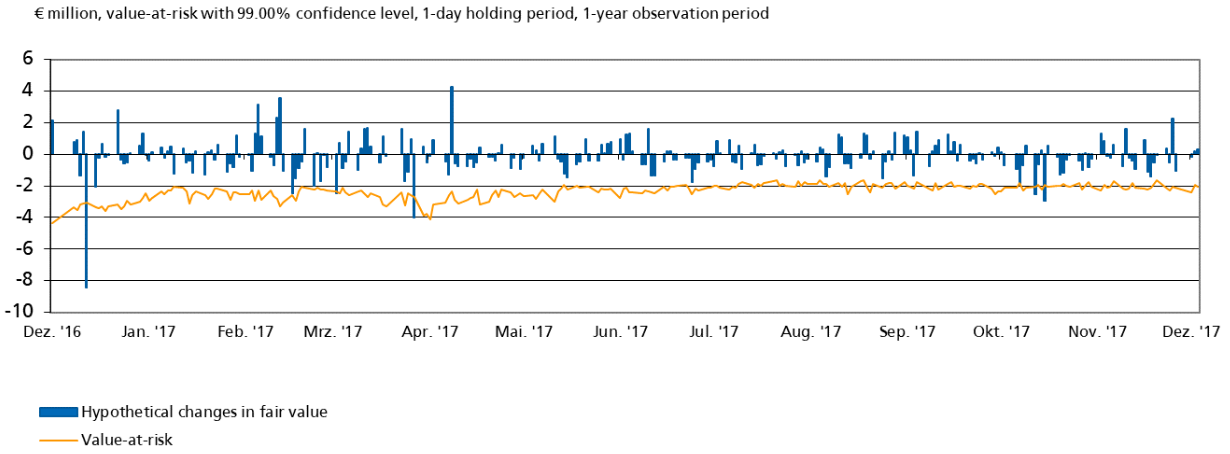
Collective risk refers to the risk of a negative impact that could arise from variances between the actual and forecast performance of the collective building society operations caused by significant long-term changes in customer behavior unrelated to changes in interest rates.

FIG. 46 – BANK SECTOR: VALUE-AT-RISK FOR MARKET RISK IN THE TRADING AND NON-TRADING PORTFOLIOS[1 2]

€ million	Interest-rate risk		Spread risk and migration risk		Equity risk[3]		Currency 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
Aggregate risk[5]												
Dec. 31, 2017	22	6	43	13	5	2	4	3	-23	-11	51	14
Dec. 31, 2016	18	17	108	20	7	3	2	4	-15	-12	119	33
Trading portfolios												
Dec. 31, 2017	2	2	1	1	1	1	-	-	-2	-2	2	2
Average	2	2	2	2	1	1	1	1	-3	-3	2	2
Maximum	2	2	3	3	1	1	1	1	-2	-2	3	3
Minimum	1	1	1	1	-	-	-	-	-3	-3	2	2
Dec. 31, 2016	2	2	4	4	1	1	1	1	-4	-4	4	4
Non-trading portfolios												
Dec. 31, 2017	22	5	42	12	5	1	4	3	-23	-9	49	13
Average	22	12	68	15	5	2	3	4	-26	-15	72	18
Maximum	33	17	75	16	6	2	5	5	-15	-9	80	22
Minimum	9	5	42	12	4	1	1	3	-36	-19	49	13
Dec. 31, 2016	19	17	104	17	7	3	2	4	-13	-9	119	32

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. 47 – BANK SECTOR: VALUE-AT-RISK FOR MARKET RISK AND HYPOTHETICAL CHANGES IN FAIR VALUE IN THE TRADING PORTFOLIOS



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 from the collective simulation for the technical risk of a home savings and loan company are fed into a long-term forecast of earnings. The variance between the actual earnings in the risk scenario and the earnings in a base forecast with the same reference date 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 Specific 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 financial 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, 2017, the capital requirement for the technical risk of a home savings and loan company amounted to €558 million (December 31, 2016: €541 million) with an upper loss limit of the same amount (December 31, 2016: €600 million). A capital buffer requirement was not calculated for the technical risk of a home savings and loan company as at the reporting date.

The risk capital requirement for the financial year is calculated on November 30 of the previous year and, due to the nature of building society operations, remains constant throughout the financial year. This is why the upper loss limit is deliberately set so close to the risk capital requirement. Its utilization does not fluctuate during the year. Full utilization of the upper loss limit is acceptable.

12 Business risk

12.1 Definition and business background

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. In this context, business risk can arise from corporate banking, retail banking, capital markets business, and transaction banking.

The key entities incurring business risk in the Bank sector in addition to DZ BANK are the management units DVB and DZ PRIVATBANK.

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** increased the involvement of the cooperative banks in the joint development and marketing of the DZ BANK Group's products and services and it worked closely with the BVR and its Special Committees. The Financial Services Advisory Council therefore acted as a recommendation committee on product and sales issues arising from the partnership between the cooperative banks and the DZ BANK Group. This approach endeavored 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 Financial Services Advisory Council formed the nucleus of the Central Advisory Council introduced in 2018.

The purpose of the **Central Advisory Council** is to facilitate in-depth discussion of key strategic issues in the DZ BANK Group. These issues include the fundamental ongoing development of the entities in the DZ BANK Group, strategic planning considerations, and current business performance. The Central Advisory Council also addresses core questions relating to the design of new products and services, and their marketing to cooperative banks and their customers. The Central Advisory Council commenced its activities with a constituent meeting in March 2018, at which point the work of the Financial Services Advisory Council came to an end.

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 Specific 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).

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**. Since competitors are giving greater focus to retail banking – increasingly with new, digital business models – than to their core businesses, 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. For example, a contraction in capital spending by businesses, and an associated drop in demand for bank finance, would add to the competitive pressure. Again, this could give rise to margins that are economically unattractive or that do not adequately cover the risk arising from the corresponding transactions.

Greater competition in capital markets business

DZ BANK's capital markets business is faced with the ongoing challenges presented by **low interest rates**, accompanied by a fall in market liquidity and historically low risk premiums.

Moreover, the reorganization of the customer business in line with the **MiFID II** provisions will tighten the squeeze on margins because of the greater transparency requirements.

In DZ BANK's **own-account investing activities with the local cooperative banks**, it is exposed to rising price sensitivity caused by a contraction in operating profits and increases in the size of the banks resulting from mergers.

In addition, 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.

The trends referred to above could have an adverse impact on future financial performance at both DZ BANK Group and DZ BANK levels.

Digitalization and new competitors in transaction banking

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. No more so than in **transaction banking**, where banks are frequently finding themselves up against new unregulated competitors, often from outside the banking sector and offering innovative solutions to meet the changes in customer needs. The situation will become even tougher with the implementation of the requirements under Directive (EU) 2015/2366, the revised Payment Services Directive (PSD2), as a result of which third-party providers will have to be granted access to account data. These developments are increasingly changing the role played by banks as product providers and are likely to reduce fee and commission income from transaction banking, thereby diminishing the income prospects for entities in the Bank sector.

The **opportunities** presented by digitalization are described in section 4.2.2.

12.4 Risk position

As at December 31, 2017, the **Bank sector's** risk capital requirement (including capital buffer requirement) for business risk (including reputational risk) amounted to €781 million (December 31, 2016: €912 million). The decrease is primarily attributable to the adjustment of cost time series at DZ BANK to remove non-recurring items. The upper loss limit as at the reporting date was €1,040 million (December 31, 2016: €1,024 million). The upper loss limit was not exceeded at any point during 2017.

As at December 31, 2017, the economic capital requirement for **DZ BANK** was calculated at €579 million (December 31, 2016: €717 million).

The upper loss limit as at December 31, 2017 was €790 million (December 31 2016: €750 million).

13 Reputational risk

13.1 Definition and business background

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 from any operating process or business activity in the entities within the Bank sector. 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 Specific 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 stakeholders, such as shareholders and employees, necessary to conduct business operations.

14 Operational risk

14.1 Definition and business background

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. It follows then that operational risk could arise in any division of the entities in the Bank sector. 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. They apply the following principles:

- Reinforce risk awareness
- Handle operational risk openly and largely without penalties
- Avoid, reduce, transfer, or accept risk as optional courses of action
- Ensure that the impact of decisions on operational risk is taken into account
- Manage operational risk on a decentralized basis but within the 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 some operational risk tasks. 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 covers a number of areas but 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 using 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 upper loss limits 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, a comprehensive **contingency and crisis management system** (with business continuity plans covering critical processes) has 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. The contingency and crisis management system at DZ BANK has been certified in accordance with ISO 22301, which applies worldwide.

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 help the management units to manage their HR activities. To this end, the cockpit specifies 21 key performance indicators (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 monitored using the following four risk factors: exit risk, availability risk, skills and qualifications risk, motivational risk.

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.

Risk Controlling at DZ BANK has specified relevant KPIs for HR management 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, employee workload, 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.

Specific 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.

Other HR measures, such as job cuts in response to a permanent fall in demand or to increase efficiency, could lead to industrial disputes between the workforce (or the employee representatives/labor unions) and the entities in the Bank sector.

In accordance with their 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.

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.

Specific 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. The RSA Archer outsourcing management tool is used within COM as the central application for recording outsourcing projects at DZ BANK and for managing outsourcing partners.

At DZ BANK, outsourcing partners are managed by the department responsible for the outsourcing 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.

Specific 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.

Specific 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

Tax risk with legal risk implications is not included in this section; 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 circumstances 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.

The entities in the Bank sector have recognized provisions for legal risk arising in connection with capital market and credit products.

Specific risk factors
Legal risk could arise, in particular, from changes in the legal environment, changes in official interpretations of relevant regulations, government interventions, court or arbitration proceedings, and changes in the business environment.

14.5.6 Tax risk

Risk management
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 groupwide 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.

Specific risk factors
Tax risk can arise, in particular, from adverse changes in tax circumstances (tax legislation, decisions by the courts), adverse changes in the interpretation by tax authorities of existing tax legislation, and changes in non-tax regulations.

As a result of tax audits, an alternative assessment of the tax risk or, in some cases, other information could give rise to **retrospective tax liabilities** for periods that have already been assessed. 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.

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.

Specific 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.

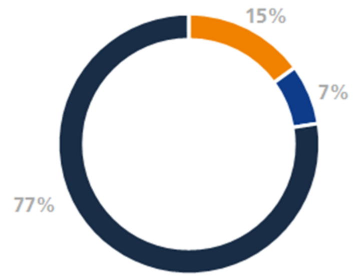
A violation of legal provisions may have legal implications for the entity concerned, for the members of its decision-making bodies, or for its employees. It may give rise, for example, to fines, penalties, retrospective tax payments, or claims for damages by third parties. The reputation of the DZ BANK 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.

Fig. 48 shows the losses for the **Bank sector** reported in 2017, 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.

FIG. 48 – BANK SECTOR: NET LOSSES BY EVENT CATEGORY IN 2017[1]



1 In accordance with the CRR, losses caused by operational risks that are associated with risks such as credit risk are also shown.

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 event category was attributable to 7 loss events. Of the total, 3 loss events resulted from changes arising from court decisions and legal interpretation. A further 3 loss events related to potential legal disputes and 1 event was in connection with tax matters.

Accounting for 81 percent of total net losses, the largest loss event category at **DZ BANK** was also 'Clients, products, and business practices'. The loss amount was attributable to some of the loss events referred to above.

Losses did not reach a critical level relative to the expected loss from operational risk at any point during 2017 either in the Bank sector or at DZ BANK.

14.7 Risk position

Using the internal portfolio model, the **Bank sector's** risk capital requirement (including capital buffer requirement) for operational risk as at December 31, 2017 was calculated at €821 million (December 31, 2016: €892 million) with an upper loss limit of €1,147 million (December 31, 2016: €1,152 million).

As at December 31, 2017, the corresponding requirement at **DZ BANK** was €390 million (December 31, 2016: €439 million). The upper loss limit as at December 31, 2017 was €565 million (December 31, 2016: €479 million). The risk capital requirements (including capital buffer requirement) 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 2017.

14.8 Summary and outlook

The methodology for managing operational risk remained fundamentally unchanged in 2017. The results from the portfolio model used to calculate the economic capital requirement for operational risk and the materiality thresholds specified for the loss database, scenario-based risk self-assessment, and risk indicators ensure that operational risk is efficiently managed.

In 2018, it is planned to carry out more analysis using the portfolio model. Efforts will also focus on improving the qualitative management of operational risk and the management of risk-mitigating measures.

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 the risk strategy of the DZ BANK Group for the Insurance sector. 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 within the product portfolio. 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 underwriting 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 in 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 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, avoid concentrations of issuers at portfolio level, and 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 (BCM) system. Risk-bearing capacity is reviewed and measured at least once a quarter and the process includes a 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.

The central **reporting of risk** at R+V is intended to provide transparent reporting. Reports are submitted to the Board of Managing Directors of R+V in the event of material changes in risk. 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 business background

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 Business background

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 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 annually 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, 2017, R+V used the new PKV mortality table valid for 2017 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 net claims provisions in the form of a best-estimate valuation constitute the volume measure for the **reserve risk**.

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 main countries and natural hazards related to the underwritten risk in the inward reinsurance concerned. In the case of countries and natural hazards for which there is no event catalog, modeling is based on R+V's own claims history. This involves generating scenarios for the current portfolio on the basis of historical major claims.

For inward reinsurance purposes, modeling based on the group's own claims history is also 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 concentrations 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. Insurance liabilities are measured separately for premium and claims provisions. 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 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 earnings-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 underwriting 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. To minimize peak risk in connection with European natural events, R+V entered into a retrocession agreement on July 1, 2017 as part of its inward reinsurance business.

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 Specific 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 **health insurance**, which accounts for a substantial proportion of health actuarial risk, there is a risk of higher claims caused by the behavior of the policyholders and service providers.

R+V's **direct non-life insurance and inward non-life reinsurance business** involves the provision of cover for a range of 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.

16.6 Claims rate trend in non-life insurance

In the reporting period, the claims rate trend in the **direct non-life insurance business** was within expectations. The only items worth highlighting were the summer hail storm Paul, which caused losses of €25 million, and an individual fire loss amounting to €11 million. As a result, the claims rate for major and cumulative claims was below that in previous financial years. By contrast, the underlying cost of claims (excluding major and cumulative claims) exceeded the 5-year average in 2017. Overall, this resulted in an annual claims rate that was slightly lower than the average rate for previous years.

In the **inward reinsurance business** R+V, together with other reinsurers, was hit by a number of major loss events in the year under review, notably Hurricane Harvey, Hurricane Irma, Hurricane Maria, and the earthquake in Mexico. The claims from these exceptional events were expected to amount to around €200 million. As a consequence, the claims incurred in the inward reinsurance business were higher than forecast in the year under review. This also included the impact of the lowering of the discount rate used for personal injury claims in motor insurance in the United Kingdom (known as the Ogden rate).

Changes in claims rates and settlements (net of reinsurance) in direct non-life insurance and inward non-life reinsurance business are shown in Fig. 49.

16.7 Risk position

As at December 31, 2017, the **overall solvency requirement** for **life actuarial risk** amounted to €697 million (December 31, 2016: €574 million). The increase was predominantly attributable to the change in interest rates and new business. The **upper loss limit** was set at €1,200 million as at the balance sheet date (December 31, 2016: €1,200 million). The upper loss limit was not exceeded at any time during 2017.

As at December 31, 2017, the **overall solvency requirement for health actuarial risk** was measured at €165 million (December 31, 2016: €214 million) with an **upper loss limit** of €370 million (December 31, 2016: €330 million). Again, the risk capital requirement was below the upper loss limit at all times during the course of 2017.

As at December 31, 2017, the **overall solvency requirement** for **non-life actuarial risk** amounted to €3,094 million (December 31, 2016: €2,835 million). The increase was primarily the result of the growth in the volume of business. The **upper loss limit** was set at €3,580 million as at the balance sheet date (December 31, 2016: €3,250 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 Fig. 50.

FIG. 49 – INSURANCE SECTOR: CLAIMS RATE AND SETTLEMENTS (NET OF REINSURANCE)[1]

	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Claims rate (net) as percentage of premiums earned										
Including major/natural disaster claims	76.6	76.1	76.2	75.5	78.2	75.6	77.7	77.3	73.0	72.6
Excluding major/natural disaster claims	72.8	72.3	74.0	73.8	69.1	72.7	71.4	75.0	73.0	70.6
Settlements (net) as percentage of provision for incoming claims										
Non-life	3.1	3.6	1.6	2.1	0.5	0.3	1.9	4.8	4.8	8.4

1 Direct non-life insurance business and inward non-life reinsurance.

FIG. 50 – INSURANCE SECTOR: OVERALL SOLVENCY REQUIREMENT FOR NON-LIFE ACTUARIAL RISK

€ million	Dec. 31, 2017	Dec. 31, 2016
Premium and reserve risk	1,891	1,671
Non-life catastrophe risk	2,020	1,909
Lapse risk	69	57
Total (after diversification)	**3,094**	**2,835**

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 2018 will continue to be shaped by the strategy of achieving long-term profitable growth in all segments of R+V.

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.

R+V is currently examining the implications of the UK's exit from the EU (Brexit) in a working group and in consultation with consultants in the UK. As things stand at the moment, any necessary action will not have an impact on the continuation of the inward reinsurance business in its current form.

17 Market risk

17.1 Definition and business background

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 maturities.

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.

– **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 included 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. R+V uses the shock factors in the standard formula to calculate the overall solvency requirement for interest-rate risk.

The capital requirements for **spread risk** are calculated using a factor approach based on the relevant lending volume. The level of the shock 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 shock factors are used. R+V uses its own shock 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 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 shock 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 for 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 shock 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 in 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 through 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. A portion of the fixed-income investment portfolio has also been protected against a fall in prices.

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 also Fig 56 in section 17.6). A significant proportion of the portfolio is also backed by further collateral. The use of third-party credit risk evaluations and internal expert assessments, 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 default 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. 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.

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. The prudent investment strategy means that these risks are of secondary importance 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 integral components 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 2017, R+V added a total of €827 million to these supplementary reserves in its life insurance business, bringing the overall amount to €2,967 million. The addition to these reserves for casualty insurance with premium refund was €9 million, bringing the total to €32 million. R+V expects to make further additions in 2018 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 Fig. 51.

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.

FIG. 51 – INSURANCE SECTOR: BENEFIT RESERVES BY DISCOUNT RATE FOR THE MAIN INSURANCE PORTFOLIOS[1]

Discount rate	Proportion of total benefit reserve in 2017[2]		Proportion of total benefit reserve in 2016[2]	
	(€ million)	(%)	(€ million)	(%)
0.00 %	5,213	8.9	4,532	8.2
0.25 %	729	1.2	607	1.1
0.50 %	17	0.0	-	-
0.75 %	58	0.1	66	0.1
0.90 %	1,088	1.9	-	-
1.00 %	12	-	18	-
1.25 %	2,119	3.6	1,892	3.4
1.50 %	41	0.1	55	0.1
1.75 %	5,067	8.6	4,798	8.7
1.80 %	15	-	-	-
2.00 %	352	0.6	258	0.5
2.25 %	9,837	16.8	9,319	16.9
2.50 %	88	0.1	91	0.2
2.75 %	7,510	12.8	6,888	12.5
3.00 %	3,213	5.5	3,690	6.7
3.25 %	6,940	11.8	6,716	12.2
3.50 %	4,122	7.0	4,325	7.8
3.75 %	293	0.5	305	0.6
4.00 %	7,476	12.7	7,373	13.4

1 The table covers the following insurance products that include a guaranteed rate of return:
- 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.

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 was reduced in 2017 for observation units with a premium adjustment effective January 1, 2017. The reason for this action was the persistently low level of interest rates.

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 Specific 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.

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.

Fig. 52 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, 2017, the total lending volume of R+V had increased by 4 percent to €84.8 billion (December 31, 2016: €81.7 billion). This increase was attributable to the expansion of the investment portfolios in connection with the growth in the insurance business.

The volume of lending in the home finance business stood at €9.5 billion as at December 31, 2017. This was the same as the figure at the end of 2016. 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, 2016. The volume of home finance was broken down by finance type as at the reporting date as follows (figures as at December 31, 2016 shown in parentheses):

- Consumer home finance: €9.1 billion (€9.1 billion)
- Commercial home finance: €0.1 billion (€0.2 billion)
- Commercial finance: €0.3 billion (€0.3 billion).

In the home finance business, the entire volume disbursed is usually backed by traditional **loan collateral**.

FIG. 52 – 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, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Investments held by insurance companies (note 56 to the consolidated financial statements)
								9.1	9.0	of which: mortgage loans
								7.8	8.2	of which: promissory notes and loans
								9.1	9.3	of which: registered bonds
								0.6	0.4	of which: other loans
								9.3	8.4	of which: variable-yield securities
								44.6	40.6	of which: fixed-income securities
								0.3	0.4	of which: derivatives (positive fair values)
								0.2	0.2	of which: deposits with ceding insurers
84.8	81.7	**-0.9**	-0.7	**0.2**	-	**-3.2**	-4.5	**81.0**	76.6	**Total**
				Balance as at Dec. 31, 2017				**-3.8**	**-4.5 %**	
				Balance as at Dec. 31, 2016				-2.6	-3.2 %	

Grey shaded cells: Not relevant

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, 2017, as was also the case at the end of 2016. 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.

Fig. 53 shows the sectoral breakdown of the lending volume in the Insurance sector.

An analysis of the **geographical breakdown** of the lending volume in Fig. 54 reveals that Germany and other industrialized countries accounted for the lion's share – 91 percent – of the lending volume as at the balance sheet date (December 31, 2016: 92 percent). 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 Fig. 55.

As at December 31, 2017, 81 percent of the total lending volume had a residual maturity of more than 5 years, a situation that was unchanged compared to the end of 2016. By contrast, 4 percent of the total

FIG. 53 – INSURANCE SECTOR: LENDING VOLUME, BY SECTOR

€ billion	Dec. 31, 2017	Dec. 31, 2016
Financial sector	39.2	37.5
Public sector	21.9	21.5
Corporates	14.4	12.9
Retail	9.0	9.1
Industry conglomerates	0.4	0.7
Other	-	-
Total	**84.8**	81.7

FIG. 54 – INSURANCE SECTOR: LENDING VOLUME, BY COUNTRY GROUP

€ billion	Dec. 31, 2017	Dec. 31, 2016
Germany	32.1	32.5
Other industrialized countries	44.8	42.4
Advanced economies	1.1	1.1
Emerging markets	3.7	3.6
Supranational institutions	3.1	2.1
Total	**84.8**	81.7

FIG. 55 – INSURANCE SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

€ billion	Dec. 31, 2017	Dec. 31, 2016
≤ 1 year	3.0	2.9
> 1 year to ≤ 5 years	13.1	12.9
> 5 years	68.7	65.9
Total	**84.8**	81.7

lending volume was due to mature within 1 year as at December 31, 2017, which was also unchanged on the previous year. 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 Fig 56. Of the total lending volume as at December 31, 2017, 80 percent was attributable to investment-grade borrowers, the same percentage as at the end of 2016. This reflects the regulatory requirements and the safety-oriented risk strategy of R+V. The lending volume that is not rated, which made up 17 percent of the total lending volume (December 31, 2016: 18 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 Fig. 23 (section 8.4.1).

As at the reporting date, the 10 counterparties associated with the largest lending volumes accounted for 22 percent of R+V's total lending volume (December 31, 2016: 23 percent).

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 €7,576 million as at December 31, 2017 (December 31, 2016: €7,687 million), which constituted a year-on-year decrease of 1 percent. Fig. 57 shows the country breakdown of the exposure.

17.6 Risk position

As at December 31, 2017, the **overall solvency requirement for market risk** amounted to €2,966 million (December 31, 2016: €2,802 million). The **upper loss limit** was €3,800 million (December 31, 2016: €3,540 million). The changes in market risk resulted first and foremost from the trend in interest rates and business growth. The risk figure also increased as a result of the inclusion of the decentralized capital buffer, which has been calculated since June 30, 2017 for the spread and migration risk arising from sub-portfolios of Italian government bonds. As at December 31, 2017, the decentralized capital buffer amounted to €257 million.

FIG 56 – INSURANCE SECTOR: LENDING VOLUME, BY RATING CLASS

€ billion		Dec. 31, 2017	Dec. 31, 2016
Investment grade	1A	22.5	23.2
	1B	8.9	5.8
	1C	-	-
	1D	10.1	8.9
	1E	-	-
	2A	5.7	6.1
	2B	5.1	5.2
	2C	5.4	6.3
	2D	8.3	8.5
	2E	-	-
	3A	2.2	1.3
Non-investment grade	3B	0.6	0.5
	3C	0.3	0.3
	3D	-	-
	3E	0.5	0.5
	4A	0.1	0.2
	4B	0.1	0.2
	4C	0.2	0.2
	4D	-	-
	4E	-	-
Default		-	0.1
Not rated		14.7	14.8
Total		**84.8**	**81.7**

FIG. 57 – INSURANCE SECTOR: EXPOSURE IN EUROZONE PERIPHERY COUNTRIES

€ million	Dec. 31, 2017	Dec. 31, 2016
Portugal	**2**	7
of which: public sector	-	-
of which: non-public sector	2	7
of which: financial sector	1	1
Italy	**5,569**	5,763
of which: public sector	4,174	4,257
of which: non-public sector	1,395	1,506
of which: financial sector	896	986
Spain	**2,005**	1,917
of which: public sector	1,322	1,239
of which: non-public sector	682	678
of which: financial sector	431	429
Total	**7,576**	7,687
of which: public sector	5,496	5,496
of which: non-public sector	2,080	2,190
of which: financial sector	1,328	1,415

Fig. 58 shows the overall solvency requirement for the various types of market risk.

17.7 Summary and outlook

As in prior years, market risks were manageable in 2017 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 business background

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.

FIG. 58 – INSURANCE SECTOR: OVERALL SOLVENCY REQUIREMENT FOR MARKET RISK

€ million	Dec. 31, 2017	Dec. 31, 2016
Interest-rate risk	1,140	960
Spread risk	1,334	1,184
Equity risk	1,361	1,320
Currency risk	230	203
Real-estate risk	270	374
Total (after diversification)	**2,966**	2,802

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

18.2.1 Measurement of counterparty default risk and management of limits

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.

18.2.2 Mitigating counterparty default risk

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 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, 2016.

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 2016, virtually all receivables arising from ceded reinsurance, which amounted to €10 million as at December 31, 2017 (December 31, 2016: €30 million), were due from entities with a rating of A or higher. In 2017, 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 2017 or in previous years.

Receivables more than 90 days past due as at the balance sheet date amounted to €31 million as at December 31, 2017 (December 31, 2016: €34 million).

18.3 Specific risk factors

Risk factors in connection with counterparty default risk include unexpected defaults or deterioration in the credit quality of mortgage borrowers, counterparties of derivatives, reinsurance counterparties or policyholders, or insurance brokers.

18.4 Risk position

As at December 31, 2017, the **overall solvency requirement for counterparty default risk** amounted to €51 million (December 31, 2016: €65 million) with an **upper loss limit** of €130 million (December 31, 2016: €110 million). The upper loss limit was not exceeded at any point during 2017.

19 Operational risk

19.1 Definition and business background

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. It follows then that operational risk could arise in any division of R+V.

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. This also includes the contingency and crisis management system and is documented in the business continuity, contingency, and crisis management guidelines. The security and BCM conference with representatives from all divisions provides specialist support and helps to coordinate activities within the R+V subgroup. Reports on significant findings relevant to risk and on any exercises and tests that have been carried out are also submitted to the Risk Committee.

BCM ensures that R+V's operating activities can be maintained in the event of an emergency or crisis. To this end, time-critical business processes are recorded with the necessary resources. Any necessary documentation (such as business continuity planning) is prepared and regularly reviewed. Special organizational structures, such as the R+V crisis management team and the individual business continuity teams in the divisions, have also been set up to deal with emergency and crisis situations. The entire BCM system is subject to ongoing further development in a process of continuous improvement.

For information on the management of significant special operational risks, i.e. HR risk, IT risk, legal risk, and tax risk, please refer to the details on the management of these special risks in the Bank sector, which also apply to the Insurance sector (sections 14.5.1, 14.5.2, 14.5.5, and 14.5.6).

19.3 Specific 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. R+V 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

Legal disputes arising from the processing of insurance claims or benefit payments are covered by 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.

Legal risk could arise, in particular, from changes in the legal environment, changes in official interpretations of relevant regulations, government interventions, court or arbitration proceedings, and changes in the business environment.

19.3.4 Tax risk

Tax risk can arise, in particular, from adverse changes in tax circumstances (tax legislation, decisions by the courts), adverse changes in the interpretation by tax authorities of existing tax legislation, and changes in non-tax regulations.

As a result of tax audits, an alternative assessment of the tax risk or, in some cases, other information could give rise to **retrospective tax liabilities** for periods that have already been assessed. 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.

19.4 Risk position

As at December 31, 2017, the **overall solvency requirement for operational risk** amounted to €531 million (December 31, 2016: €509 million). The **upper loss limit** applicable at the reporting date was set at €650 million (December 31, 2016: €640 million). The upper loss limit was not exceeded at any time during 2017.

20 Risks from non-controlling interests in insurance companies and from 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, 2017, the overall solvency requirement for risks in connection with non-controlling interests in insurance companies and entities in other financial sectors stood at €115 million (December 31, 2016: €110 million) with an **upper loss limit** of €140 million (December 31, 2016: €120 million). The upper loss limit was not exceeded at any point during 2017.

Consolidated financial statements

Income statement for the period January 1 to December 31, 2017

€ million	(Note)	2017	2016
Net interest income	(34)	2,941	2,660
Interest income and current income and expense		6,692	6,811
Interest expense		-3,751	-4,151
Allowances for losses on loans and advances	(35)	-786	-569
Net fee and commission income	(36)	1,864	1,698
Fee and commission income		3,585	3,236
Fee and commission expenses		-1,721	-1,538
Gains and losses on trading activities	(37)	506	780
Gains and losses on investments	(38)	10	127
Other gains and losses on valuation of financial instruments	(39)	289	51
Premiums earned	(40)	15,181	14,658
Gains and losses on investments held by insurance companies and other insurance company gains and losses	(41)	3,474	3,815
Insurance benefit payments	(42)	-15,312	-15,400
Insurance business operating expenses	(43)	-2,436	-2,313
Administrative expenses	(44)	-3,868	-3,600
Other net operating income	(45)	38	34
Net income from the business combination with WGZ BANK		-91	256
Profit before taxes		1,810	2,197
Income taxes	(46)	-712	-591
Net profit		**1,098**	**1,606**
Attributable to:			
Shareholders of DZ BANK		957	1,468
Non-controlling interests		141	138

APPROPRIATION OF PROFITS

€ million	2017	2016
Net profit	1,098	1,606
Non-controlling interests	-141	-138
Appropriation to retained earnings	-633	-1,142
Unappropriated earnings	**324**	**326**

Statement of comprehensive income for the period January 1 to December 31, 2017

€ million	(Note)	2017	2016
Net profit		1,098	1,606
Other comprehensive income		23	179
Items that may be reclassified to the income statement		**1**	**300**
Gains and losses on available-for-sale financial assets	(47)	28	323[1]
Gains and losses on cash flow hedges	(47)	20	-5
Exchange differences on currency translation of foreign operations	(47)	-43	17
Gains and losses on hedges of net investments in foreign operations	(47)	23	-1
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method		-12	-14
Income taxes	(48)	-15	-20
Items that will not be reclassified to the income statement		**22**	**-121**
Gains and losses arising from remeasurement of defined benefit plans		29	-176
Income taxes	(48)	-7	55
Total comprehensive income		**1,121**	**1,785**
Attributable to:			
Shareholders of DZ BANK		977	1,590[1]
Non-controlling interests		144	195[1]

1 Amount restated (see note 2).

Balance sheet as at December 31, 2017

ASSETS

€ million	(Note)	Dec. 31, 2017	Dec. 31, 2016
Cash and cash equivalents	(14, 49)	12,835	8,515
Loans and advances to banks	(15, 50)	120,489	107,253
Loans and advances to customers	(15, 51)	174,376	176,532
Allowances for losses on loans and advances	(16, 52)	-2,794	-2,394
Derivatives used for hedging (positive fair values)	(17, 53)	1,096	1,549
Financial assets held for trading	(18, 54)	38,709	49,279
Investments	(19, 55)	57,486	70,180
Investments held by insurance companies	(56, 60)	96,416	90,373
Property, plant and equipment, and investment property	(20, 57, 60)	1,498	1,752
Income tax assets	(21, 58)	1,127	1,280
Other assets	(22, 59, 60)	4,546	4,970
Non-current assets and disposal groups classified as held for sale	(23, 61)	84	182
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		-274	-24
Total assets		**505,594**	**509,447**

EQUITY AND LIABILITIES

€ million	(Note)	Dec. 31, 2017	Dec. 31, 2016
Deposits from banks	(24, 62)	136,122	129,280
Deposits from customers	(24, 63)	126,319	124,425
Debt certificates issued including bonds	(25, 64)	67,327	78,238
Derivatives used for hedging (negative fair values)	(17, 65)	2,962	3,874
Financial liabilities held for trading	(18, 66)	44,280	50,204
Provisions	(26, 67)	3,372	4,041
Insurance liabilities	(11, 68)	89,324	84,179 [1]
Income tax liabilities	(21, 58)	848	780
Other liabilities	(69)	7,523	6,662
Subordinated capital	(27, 70)	3,899	4,723
Liabilities included in disposal groups classified as held for sale	(23, 61)	-	25
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		113	180
Equity	(71)	23,505	22,836
Shareholders' equity		20,690	20,017
Subscribed capital		4,926	4,657
Capital reserve		5,551	4,904
Retained earnings		7,597	7,822
Revaluation reserve		1,396	1,401 [1]
Cash flow hedge reserve		5	-11
Currency translation reserve		43	70
Additional equity components		848	848
Unappropriated earnings		324	326
Non-controlling interests		2,815	2,819 [1]
Total equity and liabilities		**505,594**	**509,447**

1 Amount restated (see note 2).

Statement of changes in equity

€ million	Subscribed capital	Capital reserve	Equity earned by the group	Revaluation reserve	Cash flow hedge reserve	Currency translation reserve	Additional equity components	**Shareholders' equity**	Non-controlling interests	**Total equity**
Equity as at Jan. 1, 2016	3,646	2,101	7,243	1,228	-7	46	750	15,007	4,722	19,729
Restatements according to IAS 8	-	-	-	-42	-	-	-	-42	-6	-48
Equity restated as at Jan. 1, 2016	3,646	2,101	7,243	1,186	-7	46	750	14,965	4,716	19,681
Net profit	-	-	1,468	-	-	-	-	1,468	138	1,606
Other comprehensive income/loss	-	-	-101	213	-4	14	-	122	57	179
Total comprehensive income/loss	**-**	**-**	**1,367**	**213**	**-4**	**14**	**-**	**1,590**	**195**	**1,785**
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	1,401	-11	70	848	20,017	2,819	22,836
Net profit	-	-	957	-	-	-	-	957	141	1,098
Other comprehensive income/loss	-	-	22	9	16	-27	-	20	3	23
Total comprehensive income/loss	**-**	**-**	**979**	**9**	**16**	**-27**	**-**	**977**	**144**	**1,121**
Capital increase/ capital repaid	269	647	-916	-	-	-	-	-	-1	-1
Changes in scope of consolidation	-	-	14	-14	-	-	-	-	-	-
Acquisition/disposal of non-controlling interests	-	-	41	-	-	-	-	41	-60	-19
Dividends paid	-	-	-322	-	-	-	-	-322	-87	-409
Distribution of dividend on additional equity components	-	-	-23	-	-	-	-	-23	-	-23
Equity as at Dec. 31, 2017	**4,926**	**5,551**	**7,921**	**1,396**	**5**	**43**	**848**	**20,690**	**2,815**	**23,505**

The composition of equity is explained in note 71.

Statement of cash flows

€ million	2017	2016
Net profit	**1,098**	**1,606**
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	465	-1,333
Non-cash changes in provisions	-348	909
Changes in insurance liabilities	4,435	5,489
Other non-cash income and expenses	717	948
Gains and losses on the disposal of assets and liabilities	-1,152	122
Other adjustments (net)	-2,619	-5,806
Subtotal	2,596	1,935
Cash changes in assets and liabilities arising from operating activities		
Loans and advances to banks	-13,379	-1,323
Loans and advances to customers	827	-7,043
Other assets from operating activities	-37	-653
Derivatives used for hedging (positive and negative fair values)	27	1,447
Financial assets and financial liabilities held for trading	5,860	4,177
Deposits from banks	6,946	-9,862
Deposits from customers	2,799	6,251
Debt certificates issued including bonds	-10,599	2,087
Other liabilities from operating activities	1,235	-33
Interest, dividends, and operating lease payments received	7,751	7,497
Interest paid	-4,670	-4,339
Income taxes paid	-397	-392
Cash flows from operating activities	**-1,041**	**-251**
Proceeds from the sale of investments	21,090	11,090
Proceeds from the sale of investments held by insurance companies	20,298	21,627
Proceeds from the sale of property, plant and equipment, and investment property (excluding assets subject to operating leases)	29	14
Proceeds from the sale of intangible non-current assets	6	14
Payments for the acquisition of investments	-8,983	-6,680
Payments for the acquisition of investments held by insurance companies	-25,912	-25,921
Payments for the acquisition of property, plant and equipment, and investment property (excluding assets subject to operating leases)	-81	-83
Payments for the acquisition of intangible non-current assets	-147	-173
Changes in scope of consolidation	7	236
of which: Proceeds from the sale of investments in consolidated subsidiaries net of cash divested	4	2
Cash flows from investing activities	**6,307**	**124**
Proceeds from capital increases by shareholders of DZ BANK	-	4,730
Proceeds from capital increases by non-controlling interests	-	31
Dividends paid to shareholders of DZ BANK	-322	-224
Dividends paid to non-controlling interests	-87	-143
Distribution of dividend on additional equity components	-23	-18
Other payments to shareholders of DZ BANK	-	-916
Other payments to non-controlling interests	-1	-
Net change in cash and cash equivalents from other financing activities (including subordinated capital)	-513	-1,360
Cash flows from financing activities	**-946**	**2,100**

€ million	2017	2016
Cash and cash equivalents as at January 1	8,515	6,542
Cash flows from operating activities	-1,041	-251
Cash flows from investing activities	6,307	124
Cash flows from financing activities	-946	2,100
Cash and cash equivalents as at December 31	**12,835**	**8,515**

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, in particular from subordinated capital.

The first-time consolidation of subsidiaries generated a cash inflow of €3 million (2016: €236 million). There were no cash outflows as a result of the deconsolidation of subsidiaries (2016: €2 million).

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 2017 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 315e (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 April 11, 2018.

>> 02 Accounting policies and estimates

Changes in accounting policies

The financial statements of the entities consolidated in the DZ BANK Group have been prepared using uniform accounting policies.

First-time application in 2017 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 2017 financial year:
- *Disclosure Initiative* (Amendments to IAS 7),
- *Recognition of Deferred Tax Assets for Unrealised Losses* (Amendments to IAS 12),
- Amendments to IFRS 12 *Disclosure of Interests in Other Entities* as part of the *Annual Improvements to IFRSs 2014–2016 Cycle.*

In January 2016, the International Accounting Standards Board (IASB) published the *Disclosure Initiative* (Amendments to IAS 7) aimed at enabling users of financial statements to better evaluate 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. A number of new disclosures are required where this definition is met. These new stipulations have no material impact on DZ BANK's consolidated financial statements. The amendments must be applied to financial years beginning on or after January 1, 2017.

Recognition of Deferred Tax Assets for Unrealised Losses (Amendments to IAS 12), which was published by the IASB in January 2016, is designed to address various issues relating to the accounting treatment of deferred tax assets for unrealized losses that arise, in particular, as a result of changes in the fair value of debt instruments and are recognized in other comprehensive income. These new stipulations have no material impact on DZ BANK's consolidated financial statements. The amendments must be applied to financial years beginning on or after January 1, 2017.

The amendments to IFRS 12 *Disclosure of Interests in Other Entities* as part of the *Annual Improvements to IFRSs 2014–2016 Cycle* clarify the scope of IFRS 12, specifying that the disclosure requirements also apply to investments in subsidiaries, joint arrangements, associates, and unconsolidated structured entities classified as held for sale and discontinued operations within the meaning of IFRS 5. These amendments, which have no material significance for the consolidated financial statements of DZ BANK, must be applied to financial years beginning on or after January 1, 2017.

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, amendments and clarifications to IFRS, and improvements to IFRS that have been endorsed by the EU:
- IFRS 9 *Financial Instruments*,
- IFRS 15 *Revenue from Contracts with Customers*,
- Clarifications to IFRS 15 *Revenue from Contracts with Customers*,
- IFRS 16 *Leases*,
- *Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts* (Amendments to IFRS 4),
- *Annual Improvements to IFRSs 2014-2016 Cycle.*

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 'financial assets measured at fair value through profit or loss', 'financial assets measured at fair value through other comprehensive income', or 'financial assets measured at amortized cost'. If individual financial assets are classified as 'financial assets measured at fair value through other comprehensive income' or 'financial assets measured at amortized cost', the standard also allows the reporting entity the option of irrevocably designating the financial assets concerned as 'financial assets designated as measured at fair value through profit or loss' (fair value option).
The DZ BANK Group uses the fair value option. In the case of equity instruments, it is mandatory to assign these instruments to the category 'financial assets measured at fair value through profit or loss' if the instruments

concerned are held for trading. For equity instruments not held for trading, reporting entities may optionally categorize them as 'financial assets measured at fair value through other comprehensive income' (fair value OCI option). The DZ BANK Group generally uses the fair value OCI option. If the fair value OCI option is not applied, equity instruments must be assigned to the category 'financial assets measured at fair value through profit or loss'.

Unlike IAS 39, IFRS 9 specifies that, as regards financial liabilities in the category 'financial liabilities designated as measured at fair value through profit or loss' (fair value option), any changes in such liabilities resulting from a change in default 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 default risk attaching to the financial assets has increased significantly 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 default 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 default risk unless these criteria have already been incorporated into the probability of default. In the case of securities, the DZ BANK Group makes use of the exemption provided for in the standard whereby the requirement to test for a significant increase in default risk can be disregarded for instruments subject to low default risk.

IFRS 9's new hedge accounting model helps to improve presentation of internal risk management and entails numerous disclosure requirements. The changes to hedge accounting in IFRS 9 do not apply to the rules on applying the portfolio fair value hedge, which continue to be governed by the provisions of IAS 39. Under IFRS 9, 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 is now only possible to discontinue a hedging relationship in very specific circumstances. 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 is provided using methods that document the relevant features of the hedges. These methods can be either a quantitative assessment or, in certain cases, a qualitative assessment.

Initial application of the rules of IFRS 9 with effect from January 1, 2018 is expected to cause equity after taxes to increase by less than €100 million. As a result, there will be no material impact on the common equity Tier 1 capital ratio of the DZ BANK banking group. The change in equity after taxes is due in roughly equal measure to the provisions of IFRS 9 on classification and measurement and to the provisions on the accounting treatment of impairment of financial assets. Further refinements and the review of implementation of the IFRS 9 rules may potentially lead to more changes in the related material impact on equity.

With the exception of the rules on hedge accounting, the provisions of IFRS 9 must be applied to financial years beginning on or after January 1, 2018. They are required to be adopted retrospectively, although there are exemptions regarding the restatement of comparative prior-year figures. The DZ BANK Group is making use of these exemptions.

The provisions in IFRS 15 *Revenue from Contracts with Customers* will supersede the rules in IAS 18 *Revenue* and IAS 11 *Construction Contracts* as well as the related interpretations IFRIC 13 *Customer Loyalty Programmes*, IFRIC 15 *Agreements for the Construction of Real Estate*, IFRIC 18 *Transfers of Assets from Customers*, and SIC-31 *Revenue – Barter Transactions Involving Advertising Services*. 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. The principles for the recognition and measurement of revenue, which have been standardized in IFRS 15, are derived from the 5 steps defined in IFRS 15. 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 or of income arising from insurance contracts pursuant to IFRS 4 or leases pursuant to IAS 17.

The implementation of IFRS 15 may give rise to contract assets and contract liabilities. Impairment on receivables and contract assets accounted for in accordance with IFRS 15 must be determined in accordance with IFRS 9. In this context, IFRS 15 makes reference to the rules of the simplified approach in IFRS 9, which requires the expected losses over the lifetime to be recognized immediately. The significant increase in default risk in connection with stage allocation is not required for allowances for losses on loans and advances in respect of IFRS 15 line items.

IFRS 15 must be applied for financial years beginning on or after January 1, 2018, using either a fully retrospective approach or a modified retrospective approach. The DZ BANK Group is adopting IFRS 15 using the modified retrospective application method. In this method, IFRS 15 is applied to new contracts and to existing contracts that have not yet been completed on the date of initial application. To ascertain the effect of initial application of IFRS 15, the revenue for each as yet uncompleted contract recognized in accordance with IAS 18 from the start of the contract up to December 31, 2017 has to be compared with the revenue that would have been recognized if IFRS 15 had been applied from the start of the contract. The difference between these two amounts must be recognized as a cumulative adjustment to retained earnings in the opening balance sheet as at January 1, 2018.

The DZ BANK Group had started a preliminary assessment of the impact of IFRS 15 in 2016 and continued with it in 2017. All group companies have analyzed their contracts from the perspective of the 5 steps defined in IFRS 15. In this analysis, the identified items were judged to be either insignificant or unaffected by the new rules. Implementation of the changes will therefore not have any material impact on the consolidated financial statements. In individual cases, contract assets and contract liabilities in the DZ BANK Group may be recognized under other assets and other liabilities. The DZ BANK Group is using the simplified approach to determine impairment pursuant to IFRS 9 consistently for contract assets and receivables accounted for in accordance with IFRS 15.

The clarifications to IFRS 15 published in April 2016 relate to 3 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 DZ BANK Group will apply the exemptions for the first-time adoption of IFRS 15 to all contractual changes made before January 1, 2018 and will not amend the presentation of these contracts retrospectively. Instead, the aggregate effect of all modifications will be recognized at this time. The clarifications must be applied for the first time to financial years beginning on or after January 1, 2018.

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 the DVB and VR LEASING subgroups as lessors and all group companies that are lessees with leased or rented assets. Based on a preliminary assessment, a substantial proportion of the payment agreements under non-cancellable leases will satisfy the definition of a lease pursuant to IFRS 16. This means that the DZ BANK Group will have to recognize corresponding right-of-use assets and lease liabilities when it applies IFRS 16, unless the exemptions for short-term leases or low-value assets apply in individual cases.

The group companies have started to analyze their contracts from the perspective of IFRS 16. However, it will only be possible to quantify the effects reliably when the detailed analyses have been completed. At present, the implementation of IFRS 16 is not expected to have any material impact on DZ BANK's consolidated financial statements.

The amendments in IFRS 16 must be applied to financial years beginning on or after January 1, 2019. They must be adopted using either a fully retrospective approach or a modified retrospective approach. The DZ BANK Group will adopt IFRS 16 using the modified retrospective application method by recognizing the cumulative effect of initially applying the standard as at January 1, 2019 in retained earnings. In this method, IFRS 16 will be applied to new contracts and to existing contracts that have not yet been completed on the date of initial application.

In September 2016, the IASB published *Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts* (Amendments to IFRS 4). The additions to IFRS 4 in the version in the regulation in which it is endorsed by the EU not only include the overlay approach but also give insurers that are part of a financial conglomerate the option to postpone first-time adoption of IFRS 9 until January 1, 2021. The DZ BANK Group will not be postponing first-time adoption of IFRS 9 for its insurance companies, so IFRS 9 will be implemented groupwide with effect from January 1, 2018. The overlay approach will not be used in the DZ BANK Group either. The new rules must be applied to financial years beginning on or after January 1, 2018.

The amendments to IAS 28 *Investments in Associates and Joint Ventures* as part of the *Annual Improvements to IFRSs 2014–2016 Cycle* clarify that the option for venture capital organizations, investment funds, and similar entities to measure their investments in associates and joint ventures at fair value through profit or loss may be exercised separately for each individual investment. These amendments have no material significance for DZ BANK's consolidated financial statements. The clarifications must be applied for the first time to financial years beginning on or after January 1, 2018.

Changes in IFRS that have not been endorsed by the EU

The following new accounting standards, amended accounting standards, interpretations of the IFRS Interpretations Committee (IFRIC interpretations), and IFRS improvements, which have been issued by the IASB, have not yet been endorsed by the EU:

- IFRS 17 *Insurance Contracts*,
- *Classification and Measurement of Share-based Payment Transactions* (Amendments to IFRS 2),
- *Transfers of Investment Property* (Amendments to IAS 40),
- *Prepayment Features with Negative Compensation* (Amendments to IFRS 9),
- *Long-term Interests in Associates and Joint Ventures* (Amendments to IAS 28),
- *Plan Amendment, Curtailment or Settlement* (Amendments to IAS 19),
- IFRIC 22 *Foreign Currency Transactions and Advance Consideration*,
- IFRIC 23 *Uncertainty over Income Tax Treatments*,
- *Annual Improvements to IFRSs 2015–2017 Cycle.*

IFRS 17 *Insurance Contracts*, which was published by the IASB in May 2017, is aimed at achieving consistent, principles-based accounting treatment for all insurance contracts and requires insurance liabilities to be measured at their current fulfillment value. In the general model, measurement is based on a '3 building blocks' approach. Insurance contracts with a term of less than a year can be recognized using a simplified method, the premium allocation approach. The group companies are currently examining the impact on DZ BANK's consolidated financial statements. IFRS 17 must be applied for financial years beginning on or after January 1, 2021. Early adoption of IFRS 17 is permitted.

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 main change or addition is that IFRS 2 now contains provisions that govern 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.

Transfers of Investment Property (Amendments to IAS 40) relates to the accounting treatment of investment property that is under construction or development. Under IAS 40, a property's classification as investment property starts or finishes when there is a change of use. The list in IAS 40.57 sets out evidence of a change of use. As this list was formulated as an exhaustive list, it was uncertain whether a property under construction or development would be covered by this principle. The amendments to IAS 40 clarify that this principle does also apply to unfinished property. The list in IAS 40.57 is now explicitly described as non-exhaustive. These amendments are required to be applied from January 1, 2018. Earlier adoption is permitted subject to incorporation into EU law.

Prepayment Features with Negative Compensation (Amendments to IFRS 9) provides clarity on the classification and measurement of financial instruments with symmetric termination rights. The amendments explicitly state that the cash flow criterion under IFRS 9 is not breached in the event of reasonable negative compensation for early termination of the contract. The amendments are required to be applied for the first time from January 1, 2019. Early adoption is permitted subject to incorporation into EU law.

Long-term Interests in Associates and Joint Ventures (Amendments to IAS 28) clarifies that an entity applies the rules of IFRS 9 to long-term interests in associates or joint ventures that form part of its net investment in the associate or joint venture but to which the equity method is not applied. The initial application date for the amendments is January 1, 2019. Earlier adoption is permitted subject to incorporation into EU law.

The impact of the aforementioned amendments and improvements to IFRS and the new IFRIC interpretations on DZ BANK's consolidated financial statements is currently being examined.

The initial application dates for the issued amendments to IFRS and IFRIC interpretations are subject to the proviso that the amendments must first be incorporated into EU law.

Changes in presentation

As a result of the new version of the accounting guidance statement issued by the Institut der Wirtschaftsprüfer (IDW) [Institute of Public Auditors in Germany] on disclosures pursuant to section 285 no. 17 and section 314 (1) no. 9 HGB about auditor fees (IDW AcP HFA 36, new), the disclosure of the individual components of the auditor fees has been partly amended. The changes have been highlighted with a footnote in note 93.

Restatements

The carrying amount of the provision for premium refunds has been restated in line with the provisions of IAS 8.41 et seq. This has been done because the calculation of expenses for deferred premium refunds on equity instruments included an unjustified deduction for the casualty cover pool, which meant the provision for premium refunds recognized for the revaluation reserve for 2014 to 2016 was too low. This restatement has resulted in changes to insurance liabilities, the revaluation reserve recognized under equity, and non-controlling interests.

The restatements have all been carried out retrospectively. Consequently, the comparative figures for 2016 have been restated in the consolidated financial statements for 2017. The resulting effects are shown below.

Statement of comprehensive income for the period January 1 to December 31, 2016

€ million	2016 before restatement	Amount of restatement	2016 after restatement
Net profit	1,606	-	1,606
Other comprehensive income	185	-6	179
Items that may be reclassified to the income statement	**306**	**-6**	**300**
Gains and losses on available-for-sale financial assets	329	-6	323
Gains and losses on cash flow hedges	-5	-	-5
Exchange differences on currency translation of foreign operations	17	-	17
Gains and losses on hedges of net investments in foreign operations	-1	-	-1
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-14	-	-14
Income taxes	-20	-	-20
Items that will not be reclassified to the income statement	**-121**	**-**	**-121**
Gains and losses arising from remeasurement of defined benefit plans	-176	-	-176
Income taxes	55	-	55
Total comprehensive income	**1,791**	**-6**	**1,785**
Attributable to:			
Shareholders of DZ BANK	1,595	-5	1,590
Non-controlling interests	196	-1	195

Balance sheet as at January 1, 2016

EQUITY AND LIABILITIES

€ million	Jan. 1, 2016 before restatement	Amount of restatement	Jan. 1, 2016 after restatement
…			
Insurance liabilities	78,929	48	78,977
…			
Equity	19,729	-48	19,681
Shareholders' equity	15,007	-42	14,965
…			
Revaluation reserve	1,228	-42	1,186
…			
Non-controlling interests	4,722	-6	4,716
Total equity and liabilities	**408,341**	**-**	**408,341**

Balance sheet as at December 31, 2016

EQUITY AND LIABILITIES

€ million	Dec. 31, 2016 before restatement	Amount of restatement	Dec. 31, 2016 after restatement
…			
Insurance liabilities	84,125	54	84,179
…			
Equity	22,890	-54	22,836
Shareholders' equity	20,064	-47	20,017
…			
Revaluation reserve	1,448	-47	1,401
…			
Non-controlling interests	2,826	-7	2,819
Total equity and liabilities	**509,447**	**-**	**509,447**

There was no impact on the income statement for the period January 1 to December 31, 2016.

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.

>> 03 Scope of consolidation

In addition to DZ BANK as the parent, the consolidated financial statements for the year ended December 31, 2017 include 27 subsidiaries (2016: 28) and 6 subgroups (2016: 6) comprising a total of 401 subsidiaries (2016: 442). 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.

WGZ FINANCE plc, Dublin, (until July 3, 2017: DZ BANK Ireland plc) was deconsolidated in 2017 because it is now of minor significance for the financial position and financial performance of the DZ BANK Group.

There were no other material changes.

The consolidated financial statements include 21 joint arrangements in the form of joint ventures with at least one other entity outside the group (2016: 22) and 44 associates (2016: 37) 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.

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 conducts a review at least once every six months to decide which subsidiaries are to be consolidated.

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, 2017. There is one subsidiary (2016: 1 subsidiary) included in the consolidated financial statements with a different reporting date for its annual financial statements. With 40 (2016: 42) 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.

>> 05 Financial instruments

Categories of 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.

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 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 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’ and ‘loans and receivables’ as well as the category ‘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’.

>> 06 Hedge accounting

General information on 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’ and ‘financial liabilities measured at amortized cost’ 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 completely cancel each other out. 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 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 semi-retirement 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.

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 since 2015. 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. This procedure is based on a fundamental professional principle issued by the DAV for determining an appropriate discount rate. In accordance with these calculations, the discount rate was reduced in 2017 for observation units with a premium adjustment effective January 1, 2017. The reason for this action is the persistently low level of interest rates. 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 have been used since 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 the level of delayed claims reports observed 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.

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 liability to the extent that the investment risk is borne by the policyholders.

Other insurance liabilities for health insurance contain a cancellation provision. It contains the expected losses arising from 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.

>> 13 Income

Interest and dividends received

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 for economic management purposes and timing effects from currency swaps used for economic management of net interest income are recognized under net interest income or 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.

>>26 Provisions

Provisions for employee benefits

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

>> 29 Investments in subsidiaries

Proportion of the DZ BANK Group's activities and cash flow attributable to non-controlling interests

In the DZ BANK Group, material non-controlling interests in the capital and net income exist in the following subsidiaries:

€ million	Dec. 31, 2017	Dec. 31, 2016
Bausparkasse Schwäbisch Hall subgroup	233	221
DZ PRIVATBANK	87	86
R+V Versicherung subgroup	1,032	1,009
Union Asset Management Holding subgroup	36	25
DZ BANK Capital Funding Trust II	497	497
DZ BANK Capital Funding Trust III	348	349
DZ BANK Capital Funding Trust I	299	299
DZ BANK Perpetual Funding Issuer (Jersey) Limited	240	240
Other	43	93
Total	**2,815**	**2,819**

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, 2016: 96.9 percent). The share of voting rights is equal to the shareholding. Non-controlling interests account for 3.1 percent of the voting rights and shares (December 31, 2016: 3.1 percent). As was the case a year earlier, most of these non-controlling interests are held by local cooperative banks.

The net income for the year attributable to non-controlling interests was €20 million (2016: €13 million); this includes the net income for the year attributable to the non-controlling interests within the BSH subgroup of €11 million (2016: €10 million). The carrying amount of the non-controlling interests within the DZ BANK Group was €233 million (December 31, 2016: €221 million), of which €95 million was attributable to non-controlling interests within the BSH subgroup (December 31, 2016: €88 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. Guaranteed dividends of €1 million were paid to outside shareholders of BSH in 2017 (2016: €1 million). In the BSH subgroup, dividends of €4 million were paid to non-controlling interests (2016: €4 million).

Aggregated financial information for the BSH subgroup:

€ million	Dec. 31, 2017	Dec. 31, 2016
Assets	68,337	65,852
Liabilities	63,233	60,930

€ million	2017	2016
Interest income and fee and commission income	1,751	1,735
Net profit	222	94
Other comprehensive loss	-37	-41
Total comprehensive income	185	53
Cash flow	-25	41

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, and IPConcept (Schweiz) AG, Zurich, Switzerland, is the cooperative center of excellence for the private banking business of the local cooperative banks in Germany.

DZ BANK directly holds 90.7 percent (December 31, 2016: 90.6 percent) of the shares in DZ PRIVATBANK S.A. The share of voting rights is equal to the shareholding. The other shares are held by local cooperative banks and cooperative investors.

The net income for the year attributable to non-controlling interests was €4 million (2016: no net income attributable). The carrying amount of the non-controlling interests was €87 million (December 31, 2016: €86 million). The dividend distributed to the non-controlling interests came to €1 million in 2017 (2016: €3 million).

Aggregated financial information for the DZ PRIVATBANK subgroup:

€ million	Dec. 31, 2017	Dec. 31, 2016
Assets	16,802	17,669
Liabilities	15,802	16,655

€ million	2017	2016
Interest income and fee and commission income	579	554
Net profit	13	4
Other comprehensive income/loss	-15	5
Total comprehensive income/loss	-2	9
Cash flow	1,229	1,626

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, 2016: 92.1 percent). The share of voting rights is equal to the shareholding. Non-controlling interests account for 7.9 percent of the voting rights and shares (December 31, 2016: 7.9 percent). Within this figure, local cooperative banks hold 6.1 percent (December 31, 2016: 6.1 percent). The other 1.8 percent (December 31, 2016: 1.8 percent) is held by other entities in the cooperative sector.

The net income for the year attributable to non-controlling interests was €64 million (2016: €76 million); this includes the net income for the year attributable to the non-controlling interests within the R+V subgroup of €29 million (2016: €42 million). The carrying amount of the non-controlling interests within the DZ BANK Group was €1,032 million (December 31, 2016: €1,009 million), of which €570 million was attributable to the non-controlling interests within the R+V subgroup (December 31, 2016: €549 million). DZ BANK has concluded a profit-transfer agreement with R+V. This guarantees an annual cash settlement of €6.30 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of R+V until the end of the 2021 financial year. Up to the end of the 2016 financial year, another profit transfer agreement was in force, guaranteeing a cash settlement of €9.95 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of R+V. Guaranteed dividends of €7 million were paid to outside shareholders of R+V in 2017 (2016: €11 million). In the R+V subgroup, dividends of €9 million were paid to non-controlling interests (2016: €8 million).

Aggregated financial information for the R+V subgroup:

€ million	Dec. 31, 2017	Dec. 31, 2016
Assets	103,419	97,286
Liabilities	96,636	90,918

€ million	2017	2016
Premiums earned	15,181	14,658
Net profit	402	351
Other comprehensive income	22	264
Total comprehensive income	424	615

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 96.6 percent (December 31, 2016: 96.5 percent). The share of voting rights is equal to the aggregated shareholding. Non-controlling interests account for 3.4 percent of the shares (December 31, 2016: 3.5 percent). Most of this 3.4 percent (December 31, 2016: 3.5 percent) is held by local cooperative banks. The proportion held indirectly by DZ BANK is 95.8 percent (December 31, 2016: 95.7 percent).

The carrying amount of the non-controlling interests within the DZ BANK Group was €36 million (December 31, 2016: €25 million) and related to the multiplicative share of the capital of UMH. Of this amount, €23 million was attributable to non-controlling interests within the UMH subgroup (December 31, 2016: €15 million). The net income for the year attributable to non-controlling interests was €21 million (2016: €20 million); this includes the net income for the year attributable to the non-controlling interests within the UMH subgroup of €7 million (2016: €6 million). The dividend distributed to the non-controlling interests totaled €12 million in 2017 (2016: €98 million). €6 million of this amount was paid as dividends to non-controlling interests in the UMH subgroup (2016: €5 million).

Aggregated financial information for the UMH subgroup:

€ million	Dec. 31, 2017	Dec. 31, 2016
Assets	2,445	2,038
Liabilities	1,070	925

€ million	2017	2016
Interest income and fee and commission income	2,342	1,982
Net profit	421	334
Other comprehensive income/loss	15	-12
Total comprehensive income	436	322

DZ BANK Capital Funding Trust I, II, and III and DZ BANK Perpetual Funding 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.

The companies were established at their current registered office. The Delaware companies are headquartered in New York, USA. The Channel Islands company is 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	2017	2016
DZ BANK Capital Funding Trust I	7	7
DZ BANK Capital Funding Trust II	6	7
DZ BANK Capital Funding Trust III	4	4
DZ BANK Perpetual Funding Issuer (Jersey) Limited	1	2

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	2017	2016
DZ BANK Capital Funding Trust I	7	7
DZ BANK Capital Funding Trust II	6	7
DZ BANK Capital Funding Trust III	4	4
DZ BANK Perpetual Funding Issuer (Jersey) Limited	1	2

Aggregated financial information for the DZ BANK Capital Funding Trust companies and the DZ BANK Perpetual Funding Issuer company:

€ million	Dec. 31, 2017	Dec. 31, 2016
Non-current assets	1,410	1,410
Liabilities	-	-

€ million	2017	2016
Interest income and fee and commission income	18	20
Net profit	18	20
Total comprehensive income	18	20

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, 2017	Dec. 31, 2016
Assets	**81,559**	**78,322**
Loans and advances to customers	2,812	3,345
Investments	5	308
Investments held by insurance companies	78,738	74,665
Other assets	4	4
Liabilities	**132,474**	**126,234**
Deposits from banks	1,776	1,903
Deposits from customers	56,642	53,771
Provisions	983	915
Insurance liabilities	73,073	69,645

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.

>> 30 Interests in joint arrangements and associates

Nature, extent, and financial effects of interests in joint arrangements

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, 2016. The other 55.0 percent is held by ČSOB (December 31, 2016: 55.0 percent). In the DZ BANK Group, the interests in ČMSS are accounted for using the equity method. ČMSS paid a dividend of €20 million to BSH in 2017 (2016: €18 million).

Aggregated financial information for ČMSS:

€ million	Dec. 31, 2017	Dec. 31, 2016
Current assets	1,202	1,022
of which: cash and cash equivalents	874	572
Non-current assets	4,627	4,508
Current liabilities	1,160	1,144
of which: financial liabilities	1,125	1,077
Non-current liabilities	4,321	4,036
of which: financial liabilities	4,281	4,020

€ million	2017	2016
Interest income	175	182
Interest expense	-87	-87
Fee and commission income	39	32
Fee and commission expenses	-18	-12
Administrative expenses	-54	-51
Income taxes	-8	-11
Profit from continuing operations, net of tax	42	45
Other comprehensive loss	-1	-3
Total comprehensive income	41	42

Reconciliation from the aggregated financial information to the carrying amount of the interests in ČMSS:

€ million	Dec. 31, 2017	Dec. 31, 2016
Total net assets	348	350
Share of net assets	157	158
Carrying amount under the equity method	157	158

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, 2016. 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 2017 (2016: €7 million).

Aggregated financial information for PSS:

€ million	Dec. 31, 2017	Dec. 31, 2016
Current assets	721	658
of which: cash and cash equivalents	103	23
Non-current assets	2,301	2,211
Current liabilities	904	807
of which: financial liabilities	855	785
Non-current liabilities	1,864	1,802
of which: financial liabilities	1,851	1,788

€ million	2017	2016
Interest income	106	114
Interest expense	-49	-53
Fee and commission income	17	17
Fee and commission expenses	-1	-2
Administrative expenses	-35	-34
Income taxes	-5	-8
Profit from continuing operations, net of tax	18	20
Other comprehensive income/loss	-3	-
Total comprehensive income	15	20

Reconciliation from the aggregated financial information to the carrying amount of the interests in PSS:

€ million	Dec. 31, 2017	Dec. 31, 2016
Total net assets	254	260
Share of net assets	82	84
Carrying amount under the equity method	82	84

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse)

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse) Ltd., 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, 2016. In the DZ BANK Group, the interests in SGB are accounted for using the equity method. SGB did not pay a dividend in 2017, as had been the case in the previous year.

Aggregated financial information for SGB:

€ million	Dec. 31, 2017	Dec. 31, 2016
Current assets	1,268	629
of which: cash and cash equivalents	649	452
Non-current assets	2,424	3,254
Current liabilities	2,948	2,700
of which: financial liabilities	2,358	2,660
Non-current liabilities	372	793
of which: financial liabilities	362	793

€ million	2017	2016
Interest income	140	146
Interest expense	-101	-76
Fee and commission income	14	21
Fee and commission expenses	-11	-11
Administrative expenses	-35	-38
Income taxes	-2	-9
Profit from continuing operations, net of tax	6	27
Other comprehensive loss	-23	-14
Total comprehensive income/loss	-17	13

Reconciliation from the aggregated financial information to the carrying amount of the interests in SGB:

€ million	Dec. 31, 2017	Dec. 31, 2016
Total net assets	**372**	390
Share of net assets	**93**	97
Cumulative impairment losses on the carrying amount of the investment	-44	-42
Carrying amount under the equity method	**49**	55

Deutsche WertpapierService Bank

Deutsche WertpapierService Bank AG, Frankfurt am Main, (dwpbank) is a joint venture of DZ BANK and is accounted for 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 €4 million to DZ BANK in 2017 (2016: €6 million).

Aggregated financial information for dwpbank:

€ million	Dec. 31, 2017	Dec. 31, 2016
Assets	917	569
Liabilities	721	389
of which: financial liabilities	509	194

dwpbank only has a small amount of cash and cash equivalents.

€ million	2017	2016
Interest income	4	4
Interest expense	-1	-1
Fee and commission income	873	762
Fee and commission expenses	-651	-540
Administrative expenses	-214	-208
Income taxes	-6	-4
Profit from continuing operations, net of tax	25	9
Total comprehensive income	25	9

Reconciliation from the aggregated financial information to the carrying amount of the interests in dwpbank:

€ million	Dec. 31, 2017	Dec. 31, 2016
Total net assets	**196**	180
Share of net assets	**98**	90
Capitalization of goodwill	29	29
Carrying amount under the equity method	**127**	119

VB-Leasing International

VB-Leasing International Holding GmbH, Vienna, Austria, (VBLI) is a joint venture of the VR LEASING subgroup and is accounted for 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, 2016. VBLI did not pay a dividend to the VR LEASING subgroup in 2017 or 2016.

Aggregated financial information for VBLI:

€ million	Dec. 31, 2017	Dec. 31, 2016
Current assets	60	51
Non-current assets	64	192
Current liabilities	12	51
of which: financial liabilities	2	42
Non-current liabilities	1	80
of which: financial liabilities	1	80

€ million	2017	2016
Interest income	11	21
Interest expense	-1	-4
Fee and commission income	-	-
Fee and commission expenses	-	-
Administrative expenses	-10	-11
Income taxes	-	-2
Profit/loss from continuing operations, net of tax	-1	6
Other comprehensive income/loss	-	-
Total comprehensive income/loss	-1	6

Reconciliation from the aggregated financial information to the carrying amount of the interests in VBLI:

€ million	Dec. 31, 2017	Dec. 31, 2016
Total net assets	**111**	112
Share of net assets	**56**	56
Cumulative impairment losses on the carrying amount of the investment	-33	-43
Carrying amount under the equity method	**23**	13

Other joint ventures

The carrying amount of the equity-accounted joint ventures that, individually, are not material totaled €104 million on the balance sheet date (December 31, 2016: €131 million).

Aggregated financial information for equity-accounted joint ventures that, individually, are not material:

€ million	2017	2016
Share of profit/loss from continuing operations, net of tax	-7	2
Share of other comprehensive income/loss	-9	3
Share of total comprehensive income/loss	-16	5

Nature, extent, and financial effects of investments in associates

Cassa Centrale Banca

At the end of 2016 and until December 6, 2017, DZ BANK held 25.0 percent of the voting shares in Cassa Centrale Banca – Credito Cooperativo del Nord Est S.p.A., Trento, Italy, (CC Banca). 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. Following a capital increase at CC Banca, DZ BANK's share since December 7, 2017 has been just 3.7 percent. For this reason, CC Banca has no longer been accounted for under the equity method since that date. The carrying amount of the investment when using the equity method had been €31 million as at December 31, 2016.

Other associates

The carrying amount of the equity-accounted associates that, individually, are not material totaled €315 million on the balance sheet date (December 31, 2016: €318 million).

Aggregated financial information for equity-accounted associates that, individually, are not material:

€ million	2017	2016
Share of profit/loss from continuing operations, net of tax	-44	-
Share of other comprehensive income/loss	6	-
Share of total comprehensive income/loss	-38	-

>> 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, 2017		Dec. 31, 2016	
€ million	Volume	Number	Volume	Number
Mutual funds	171,793	391	153,018	416
of which: guarantee funds	4,131	48	5,845	59
Special funds	94,927	384	88,584	389
of which: guarantee funds	-	-	-	-
Total	**266,720**	**775**	**241,602**	**805**
of which: guarantee funds	4,131	48	5,845	59

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, 2017

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Assets	**1,707**	**-**	**4,534**	**-**	**6,241**
Loans and advances to banks	11	-	-	-	11
Loans and advances to customers	3	-	204	-	207
Investments	1,434	-	222	-	1,656
Investments held by insurance companies	106	-	4,095	-	4,201
Other assets	126	-	13	-	139
Non-current assets and disposal groups classified as held for sale	27	-	-	-	27
Liabilities	**7**	**6**	**-**	**-**	**7**
Derivatives used for hedging (negative fair values)	6	6	-	-	6
Other liabilities	1	-	-	-	1
Net exposure recognized on the balance sheet	1,700	-6	4,534	-	6,234
Contingent liabilities	**-**	**-**	**-**	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**3,808**	**3,808**	**9**	**-**	**3,817**
Financial guarantee contracts	-	-	-	-	-
Loan commitments	-	-	9	-	9
Other obligations	3,808	3,808	-	-	3,808
Actual maximum exposure	**5,508**	**3,802**	**4,543**	**-**	**10,051**

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**

Regarding the disclosure of the maximum exposure, it must be noted that the 'Other obligations' line item in the preceding tables includes market price guarantees in the amount of the nominal amounts of the guarantee commitments for guarantee funds of €3,814 million (December 31, 2016: €5,495 million), less negative fair values of €6 million (December 31, 2016: €10 million) recognized as a liability for the put options embedded in these products. 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 of €4,131 million on the balance sheet date (December 31, 2016: €5,845 million) (net asset value) 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. The put options embedded in the guarantee funds 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 €77 million in the financial year (2016: losses of €22 million). Distributions in 2017 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 losses of €2 million that only impacted on other comprehensive income/loss (2016: no losses). An amount of €1 million (2016: €15 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:

2017

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	**Total**
Interest income and current income and expense	13	-	2	-	15
Fee and commission income	1,793	41	135	-	1,928
Other gains and losses on valuation of financial instruments	9	4	-	-	9
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	-	32	-	32
Total	**1,815**	**45**	**169**	**-**	**1,984**

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
Other gains and losses on valuation of financial instruments	-2	-7	1	-	-1
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	-	35	-	35
Total	**1,507**	**54**	**163**	**-**	**1,670**

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 €37,852 million (December 31, 2016: €32,059 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 €7,498 million (December 31, 2016: €7,031 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, 2017	Dec. 31, 2016
Assets	**3,836**	**2,433**
Loans and advances to customers	3,836	2,433
Liabilities	-	-
Net exposure recognized on the balance sheet	3,836	2,433
Contingent liabilities	-	-
Financial guarantee contracts, loan commitments and other obligations	**186**	**78**
Financial guarantee contracts	-	-
Loan commitments	186	78
Other obligations	-	-
Maximum exposure	**4,022**	**2,511**

The revenue generated from interests in investment funds not issued by the DZ BANK Group was as follows:

€ million	2017	2016
Interest income	61	44
Fee and commission income	72	67
Total	**133**	**111**

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, 2017	Dec. 31, 2016
Assets	**1,128**	**1,134**
Loans and advances to customers	1,022	997
Financial assets held for trading	29	43
Investments	77	94
Liabilities	**4**	**8**
Net exposure recognized on the balance sheet	1,124	1,126
Contingent liabilities	-	-
Financial guarantee contracts, loan commitments and other obligations	**2,859**	**3,254**
Financial guarantee contracts	-	-
Loan commitments	2,859	3,254
Other obligations	-	-
Maximum exposure	**3,983**	**4,380**

The revenue generated from interests in securitization vehicles was as follows:

€ million	2017	2016
Interest income	7	6
Fee and commission income	47	55
Gains and losses on trading activities and gains and losses on investments	2	3
Total	**56**	**64**

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 2017, 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 incurred only negligible losses in the year under review (2016: no losses).

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, 2017	Dec. 31, 2016
Assets	**5**	**4**
Loans and advances to customers	4	3
Investments	1	1
Liabilities	**20**	**18**
Deposits from customers	20	18
Net exposure recognized on the balance sheet	-15	-14
Contingent liabilities	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**2**	**2**
Financial guarantee contracts	2	2
Loan commitments	-	-
Other obligations	-	-
Maximum exposure	**-13**	**-12**

The interest income and current income and expense generated from interests in asset-leasing vehicles totaled €5 million (2016: €4 million).

There are guarantees to asset-leasing vehicles of €1 million (December 31, 2016: €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.

In 2017, the DZ BANK Group acted as sponsor for an unconsolidated structured entity for the first time because it is linked with the structured entity by name and it does not have any interests in the structured entity within the meaning of IFRS 12. The structured entity is an open-ended real estate fund for which the DZ BANK Group receives a fee for sales and for services. The fee amounted to €2 million in 2017 and is recognized in net fee and commission income.

In 2016, there were 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

>> 33 Segment information

Information on operating segments

2017

€ million	DZ BANK	BSH	DG HYP
Net interest income	1,276	833	340
Allowances for losses on loans and advances	22	-20	23
Net fee and commission income	350	-48	9
Gains and losses on trading activities	485	-	11
Gains and losses on investments	49	18	2
Other gains and losses on valuation of financial instruments	21	1	246
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	-1,472	-470	-132
Other net operating income	112	20	5
Net income from the business combination with WGZ BANK	-91	-	-
Profit/loss before taxes	**752**	**334**	**504**
Cost/income ratio (%)	64.2	57.0	21.5
Regulatory RORAC (%)	9.7	32.5	47.2
Average own funds/solvency requirement	4,583	1,027	1,083
Total assets/total equity and liabilities as at Dec. 31, 2017	265,843	68,337	42,970

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

DVB	DZ PRIVAT-BANK	R+V	TeamBank	UMH	VR LEASING	WL BANK	Other/ Consolidation	**Total**
168	117	-	426	29	143	205	-596	2,941
-728	-	-	-70	-	-10	-5	2	-786
93	126	-	1	1,415	15	-9	-88	1,864
-26	10	-	-	-	-	-	26	506
-64	-	-	-	8	10	1	-14	10
-23	7	-	-	13	-	45	-21	289
-	-	15,181	-	-	-	-	-	15,181
-	-	3,531	-	-	-	-	-57	3,474
-	-	-15,312	-	-	-	-	-	-15,312
-	-	-2,595	-	-	-	-	159	-2,436
-175	-217	-	-214	-858	-136	-101	-93	-3,868
-19	-23	-10	5	3	-39	-3	-13	38
-	-	-	-	-	-	-	-	-91
-774	**20**	**795**	**148**	**610**	**-17**	**133**	**-695**	**1,810**
>100.0	91.6	-	49.5	58.4	>100.0	42.3	-	59.0
>100.0	6.8	11.4	34.6	>100.0	-7.6	33.5	-	11.3
506	301	6,970	430	350	330	404	-	15,984
23,414	16,802	103,419	8,009	2,445	4,749	42,885	-73,279	505,594

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

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, WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK), and the BSH, DVB, R+V, UMH, and VR LEASING subgroups. 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. The WGZ BANK Group has been included in the income statement since July 1, 2016.

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. 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 average own funds for the year (determined on a quarterly basis) in accordance with the own funds/solvency requirement for the financial conglomerate. It therefore shows the return on the regulatory risk capital employed.

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 for the prior year were 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.

DZ BANK Group-wide disclosures

Information about geographical areas

The DZ BANK Group's operating income was generated in the following geographical areas:

€ million	2017	2016
Germany	5,728	5,260
Rest of Europe	691	849
Rest of World	351	192
Consolidation/reconciliation	-215	-191
Total	**6,555**	**6,110**

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	2017	2016
INTEREST INCOME AND CURRENT INCOME AND EXPENSE	**6,692**	**6,811**
Interest income from	**6,667**	**6,698**
Lending and money market business	6,802	6,464
of which relating to: local authority loans	619	698
mortgage loans	893	700
home savings loans	83	101
advance and interim financing	886	864
other building loans	63	71
finance leases	129	153
Fixed-income securities	663	894
Portfolio hedges of interest-rate risk	-624	-566
Financial assets with a negative effective interest rate	-174	-94
Current income and expense from	**-20**	**70**
Shares and other variable-yield securities	31	87
of which: income from other shareholdings	16	76
Investments in subsidiaries	4	3
Investments in associates	8	1
Operating leases	-63	-21
Income from using the equity method for	**41**	**31**
Investments in joint ventures	40	17
Investments in associates	1	14
Income from profit-pooling, profit-transfer and partial profit-transfer agreements	**4**	**12**
INTEREST EXPENSE ON	**-3,751**	**-4,151**
Deposits from banks and customers	-3,414	-3,483
of which: relating to home savings deposits	-837	-1,006
Debt certificates issued including bonds	-491	-577
Subordinated capital	-179	-191
Portfolio hedges of interest-rate risk	172	12
Financial liabilities with a positive effective interest rate	169	94
Provisions and other liabilities	-8	-6
Total	**2,941**	**2,660**

>> 35 Allowances for losses on loans and advances

€ million	2017	2016
Allowances for losses on loans and advances to banks	**23**	**-18**
Additions	-6	-33
Reversals	23	14
Recoveries on loans and advances previously impaired	6	1
Allowances for losses on loans and advances to customers	**-827**	**-485**
Additions	-1,564	-1,093
Reversals	663	541
Directly recognized impairment losses	-47	-48
Recoveries on loans and advances previously impaired	121	115
Other allowances for losses on loans and advances	**18**	**-66**
Change in provisions for loan commitments	7	-35
Change in other provisions for loans and advances	-2	-21
Change in liabilities from financial guarantee contracts	13	-10
Total	**-786**	**-569**

>> 36 Net fee and commission income

€ million	2017	2016
Fee and commission income	**3,585**	**3,236**
Securities business	2,688	2,321
Asset management	216	187
Payments processing including card processing	239	231
Lending business and trust activities	149	228
Financial guarantee contracts and loan commitments	51	53
International business	13	8
Building society operations	25	11
Other	204	197
Fee and commission expenses	**-1,721**	**-1,538**
Securities business	-1,032	-885
Asset management	-147	-124
Payments processing including card processing	-123	-125
Lending business	-117	-116
Financial guarantee contracts and loan commitments	-10	-6
Building society operations	-97	-120
Other	-195	-162
Total	**1,864**	**1,698**

>> 37 Gains and losses on trading activities

€ million	2017	2016
Gains and losses on non-derivative financial instruments and embedded derivatives	-228	-225
Gains and losses on derivatives	435	627
Gains and losses on exchange differences	299	378
Total	**506**	**780**

>> 38 Gains and losses on investments

€ million	2017	2016
Gains and losses on bonds and other fixed-income securities	**55**	**45**
Disposals	57	17
Impairment losses	-10	-14
Reversals of impairment losses	8	42
Gains and losses on shares and other variable-yield securities	**-9**	**99**
Disposals	2	102
Impairment losses	-11	-3
Gains and losses on investments in subsidiaries	**2**	**-8**
Disposals	5	1
Impairment losses	-3	-9
Gains and losses on investments in joint ventures	**4**	**-3**
Impairment losses	-15	-7
Reversals of impairment losses	19	4
Gains and losses on investments in associates	**-42**	**-6**
Disposals	1	11
Impairment losses	-43	-17
Total	**10**	**127**

>> 39 Other gains and losses on valuation of financial instruments

€ million	2017	2016
Gains and losses from hedge accounting	**-27**	**-15**
Gains and losses on derivatives used for purposes other than trading	**-15**	**18**
Gains and losses on financial instruments designated as at fair value through profit or loss	**331**	**48**
Gains and losses on non-derivative financial instruments and embedded derivatives	275	206
Gains and losses on derivatives	56	-158
Total	**289**	**51**

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	2017	2016
Net premiums written	**15,235**	**14,668**
Gross premiums written	15,338	14,767
Reinsurance premiums ceded	-103	-99
Change in provision for unearned premiums	**-54**	**-10**
Gross premiums	-59	-8
Reinsurers' share	5	-2
Total	**15,181**	**14,658**

>>41 Gains and losses on investments held by insurance companies and other insurance company gains and losses

€ million	2017	2016
Income from investments held by insurance companies	**4,901**	**5,255**
Interest income and current income	2,548	2,567
Income from reversals of impairment losses and unrealized gains	114	389
Gains on valuation through profit or loss of investments held by insurance companies	982	1,158
Gains on disposals	1,257	1,141
Expenses in connection with investments held by insurance companies	**-1,711**	**-1,577**
Administrative expenses	-131	-132
Depreciation/amortization expense, impairment losses, and unrealized losses	-873	-562
Losses on valuation through profit or loss of investments held by insurance companies	-483	-456
Losses on disposals	-224	-427
Other gains and losses of insurance companies	**284**	**137**
Other insurance gains and losses	333	178
Other non-insurance gains and losses	-49	-41
Total	**3,474**	**3,815**

The income and expenses relating to investments and other gains and losses include losses of €524 million on currency translation (2016: gains of €138 million).

>> 42 Insurance benefit payments

€ million	2017	2016
EXPENSES FOR CLAIMS	**-10,138**	**-10,601**
Payments for claims	**-8,983**	**-9,777**
Gross payments for claims	-9,064	-9,826
Reinsurers' share	81	49
Change in the provision for claims outstanding	**-1,155**	**-824**
Gross change in the provision for claims outstanding	-1,097	-844
Reinsurers' share	-58	20
CHANGE IN THE BENEFIT RESERVE AND IN OTHER INSURANCE LIABILITIES	**-4,695**	**-3,411**
Change in the benefit reserve	**-4,692**	**-3,398**
Gross change in the benefit reserve	-4,689	-3,395
Reinsurers' share	-3	-3
Change in other insurance liabilities	**-3**	**-13**
EXPENSES FOR PREMIUM REFUNDS	**-479**	**-1,388**
Gross expenses for premium refunds	-794	-670
Expenses for deferred premium refunds	315	-718
Total	**-15,312**	**-15,400**

The net reinsurance expense amounted to €61 million (2016: net expense of €12 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	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
At the end of the year	4,276	4,173	3,856	3,634	3,901	3,345	3,341	3,324	2,953	2,704	2,672
1 year later	-	4,103	3,767	3,523	3,847	3,336	3,359	3,135	2,901	2,623	2,601
2 years later	-	-	3,682	3,457	3,769	3,247	3,279	3,160	2,763	2,527	2,531
3 years later	-	-	-	3,389	3,731	3,220	3,254	3,139	2,756	2,533	2,472
4 years later	-	-	-	-	3,696	3,189	3,241	3,122	2,756	2,505	2,487
5 years later	-	-	-	-	-	3,198	3,250	3,139	2,768	2,513	2,478
6 years later	-	-	-	-	-	-	3,183	3,080	2,710	2,469	2,434
7 years later	-	-	-	-	-	-	-	3,065	2,685	2,466	2,422
8 years later	-	-	-	-	-	-	-	-	2,680	2,449	2,426
9 years later	-	-	-	-	-	-	-	-	-	2,447	2,419
10 years later	-	-	-	-	-	-	-	-	-	-	2,412
Settlements	**-**	**70**	**174**	**245**	**205**	**147**	**158**	**259**	**273**	**257**	**260**

Net claims provisions in direct business and payments made against the original provisions:

€ million	2017	2016	2015	2014	2013	2012	2011	2010
At the end of the year	4,255	4,110	3,827	3,574	3,669	3,313	3,298	3,254
1 year later	-	4,050	3,736	3,460	3,613	3,300	3,317	3,056
2 years later	-	-	3,655	3,393	3,533	3,211	3,236	3,077
3 years later	-	-	-	3,331	3,490	3,180	3,208	3,057
4 years later	-	-	-	-	3,465	3,139	3,194	2,939
5 years later	-	-	-	-	-	3,166	3,191	3,049
6 years later	-	-	-	-	-	-	3,144	2,957
7 years later	-	-	-	-	-	-	-	2,981
Settlements	**-**	**60**	**172**	**243**	**204**	**147**	**154**	**273**

Claims rate trend for inward reinsurance business

Gross claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Gross provisions for claims outstanding	**3,197**	**2,718**	**2,433**	**1,976**	**1,710**	**1,506**	**1,409**	**1,190**	**892**	**712**	**596**
Cumulative payments for the year concerned and prior years											
1 year later	-	569	622	464	481	385	463	437	282	232	127
2 years later	-	-	867	783	685	630	640	632	399	347	203
3 years later	-	-	-	919	897	764	345	739	468	410	250
4 years later	-	-	-	-	987	930	891	856	516	447	282
5 years later	-	-	-	-	-	996	1,029	922	588	475	307
6 years later	-	-	-	-	-	-	1,072	1,043	626	528	324
7 years later	-	-	-	-	-	-	-	1,067	652	555	366
8 years later	-	-	-	-	-	-	-	-	658	574	384
9 years later	-	-	-	-	-	-	-	-	-	585	396
10 years later	-	-	-	-	-	-	-	-	-	-	409
Gross provisions for claims outstanding and payments made against the original provision											
At the end of the year	3,197	2,718	2,433	1,976	1,710	1,506	1,409	1,190	892	712	596
1 year later	-	2,654	2,434	2,157	1,840	1,593	1,536	1,401	1,026	779	583
2 years later	-	-	2,271	2,004	1,859	1,569	1,472	1,343	872	765	529
3 years later	-	-	-	1,915	1,779	1,628	1,014	1,338	826	696	518
4 years later	-	-	-	-	1,720	1,580	1,528	1,360	837	680	479
5 years later	-	-	-	-	-	1,550	1,501	1,396	858	691	470
6 years later	-	-	-	-	-	-	1,486	1,379	870	709	480
7 years later	-	-	-	-	-	-	-	1,368	876	719	498
8 years later	-	-	-	-	-	-	-	-	873	725	504
9 years later	-	-	-	-	-	-	-	-	-	725	505
10 years later	-	-	-	-	-	-	-	-	-	-	509
Settlements	**-**	**64**	**162**	**61**	**-10**	**-44**	**-77**	**-178**	**19**	**-13**	**87**

Net claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	2017	2016	2015	2014	2013	2012	2011	2010
Net provisions for claims outstanding	**3,193**	**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	-	567	622	464	473	383	461	432
2 years later	-	-	866	782	677	620	636	625
3 years later	-	-	-	918	888	754	333	729
4 years later	-	-	-	-	978	919	878	839
5 years later	-	-	-	-	-	985	1,016	904
6 years later	-	-	-	-	-	-	1,059	1,025
7 years later	-	-	-	-	-	-	-	1,049
Net provisions for claims outstanding and payments made against the original provision								
At the end of the year	3,193	2,710	2,428	1,970	1,695	1,491	1,389	1,164
1 year later	-	2,648	2,429	2,152	1,827	1,576	1,519	1,377
2 years later	-	-	2,267	1,999	1,845	1,554	1,454	1,321
3 years later	-	-	-	1,911	1,766	1,612	997	1,314
4 years later	-	-	-	-	1,708	1,566	1,510	1,337
5 years later	-	-	-	-	-	1,536	1,484	1,372
6 years later	-	-	-	-	-	-	1,470	1,357
7 years later	-	-	-	-	-	-	-	1,346
Settlements	**-**	**62**	**161**	**59**	**-13**	**-45**	**-81**	**-182**

>>43 Insurance business operating expenses

€ million	2017	2016
Gross expenses	-2,452	-2,335
Reinsurers' share	16	22
Total	**-2,436**	**-2,313**

>>44 Administrative expenses

€ million	2017	2016
Staff expenses	**-1,808**	**-1,760**
Wages and salaries	-1,487	-1,444
Social security contributions	-186	-174
Pension and other post-employment benefit expenses	-124	-129
Expenses for share-based payment transactions	-11	-13
General and administrative expenses	**-1,873**	**-1,683**
Expenses for temporary staff	-23	-19
Contributions and fees	-161	-150
of which: contributions to the German restructuring fund for banks	-61	-57
Consultancy	-509	-398
Office expenses	-214	-193
IT expenses	-440	-386
Property and occupancy costs	-169	-204
Information procurement	-82	-65
Public relations/marketing	-164	-163
Other general and administrative expenses	-104	-98
Expenses for administrative bodies	-7	-7
Depreciation and amortization	**-187**	**-157**
Property, plant and equipment, and investment property	-77	-71
Other assets	-110	-86
Total	**-3,868**	**-3,600**

>>45 Other net operating income

€ million	2017	2016
Gains and losses on non-current assets and disposal groups classified as held for sale	126	8
Other changes in provisions and accruals	105	117
Restructuring expenses	-86	-55
Gains and losses on deconsolidation of subsidiaries	-8	2
Expenses for other taxes	-16	4
Expenses for transfer of losses	-9	-8
Residual other net operating income	-74	-34
Total	**38**	**34**

Gains and losses on non-current assets and disposal groups classified as held for sale included realized gains of €126 million on disposals (2016: gains of €4 million); no reversals of impairment losses were included (2016: reversals of €4 million).

Restructuring expenses included additions of €54 million to provisions for termination benefits linked with restructuring (2016: €40 million).

Gains and losses on deconsolidation of subsidiaries largely consisted of losses from the deconsolidation of WGZ FINANCE plc, Dublin (until July 3, 2017: DZ BANK Ireland plc).

Residual other net operating income included rental income from investment property of €14 million (2016: €13 million) and directly assignable expenses of €3 million (2016: €3 million).

>>46 Income taxes

€ million	2017	2016
Current tax expense	-445	-348
Deferred tax expense	-267	-243
Total	**-712**	**-591**

The total for current taxes includes expenses of €33 million (2016: income of €95 million) attributable to previous years. Deferred taxes include expenses of €311 million (2016: expenses of €267 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 2017 was unchanged from the rate used in 2016. The effective rate of trade tax for DZ BANK and subsidiaries that are members of the tax group is unchanged on the previous year at 15.330 percent.

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	2017	2016
Profit before taxes	**1,810**	**2,197**
Group income tax rate	31.155%	31.155%
Expected income taxes	**-564**	**-684**
Income tax effects	**-148**	**93**
Impact of tax-exempt income and non-deductible expenses	37	-5
Adjustments resulting from other types of income tax, other trade tax multipliers, and changes in tax rates	10	35
Tax rate differences on income subject to taxation in other countries	-155	-46
Current and deferred taxes relating to prior years	-4	109
Change in impairment losses on deferred tax assets	-92	-28
Other effects	56	28
Recognized income taxes	**-712**	**-591**

>>47 Items reclassified to the income statement

The following amounts were reclassified from other comprehensive income/loss to the income statement:

€ million	2017	2016
Gains and losses on available-for-sale financial assets	**28**	**323**
Gains (+)/losses (-) arising during the reporting period	383	651
Gains (-)/losses (+) reclassified to the income statement	-355	-328
Gains and losses on cash flow hedges	**20**	**-5**
Gains (+)/losses (-) arising during the reporting period	18	-15
Gains (-)/losses (+) reclassified to the income statement	2	10
Exchange differences on currency translation of foreign operations	**-43**	**17**
Gains (+)/losses (-) arising during the reporting period	-44	20
Gains (-)/losses (+) reclassified to the income statement	1	-3
Gains and losses on hedges of net investments in foreign operations	**23**	**-1**
Gains (+)/losses (-) arising during the reporting period	28	-6
Gains (-)/losses (+) reclassified to the income statement	-5	5
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	**-12**	**-14**
Gains (+)/losses (-) arising during the reporting period	-16	-14
Gains (-)/losses (+) reclassified to the income statement	4	-

>> 48 Income taxes relating to components of other comprehensive income

The table below shows the income taxes on the various components of other comprehensive income:

€ million	2017 Amount before taxes	2017 Income taxes	2017 Amount after taxes	2016 Amount before taxes	2016 Income taxes	2016 Amount after taxes
Items that may be reclassified to the income statement	**16**	**-15**	**1**	**320**	**-20**	**300**
Gains and losses on available-for-sale financial assets	28	-	28	323	-22	301
Gains and losses on cash flow hedges	20	-4	16	-5	2	-3
Exchange differences on currency translation of foreign operations	-43	3	-40	17	-	17
Gains and losses on hedges of net investments in foreign operations	23	-14	9	-1	-	-1
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-12	-	-12	-14	-	-14
Items that will not be reclassified to the income statement	**29**	**-7**	**22**	**-176**	**55**	**-121**
Gains and losses arising from remeasurement of defined benefit plans	29	-7	22	-176	55	-121
Total	**45**	**-22**	**23**	**144**	**35**	**179**

D Balance sheet disclosures

>> 49 Cash and cash equivalents

€ million	Dec. 31, 2017	Dec. 31, 2016
Cash on hand	273	205
Balances with central banks and other government institutions	12,562	8,310
of which: with Deutsche Bundesbank	6,366	3,333
Total	**12,835**	**8,515**

The average target minimum reserve for 2017 was €1,787 million (2016: €1,903 million).

>> 50 Loans and advances to banks

	Repayable on demand		Other loans and advances		Total	
€ million	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Domestic banks	**36,885**	**23,608**	**77,370**	**74,880**	**114,255**	**98,488**
Affiliated banks	2,994	3,126	69,257	65,964	72,251	69,090
Other banks	33,891	20,482	8,113	8,916	42,004	29,398
Foreign banks	**4,762**	**6,051**	**1,472**	**2,714**	**6,234**	**8,765**
Total	**41,647**	**29,659**	**78,842**	**77,594**	**120,489**	**107,253**

The following table shows the breakdown of loans and advances to banks by type of business:

€ million	Dec. 31, 2017	Dec. 31, 2016
Local authority loans	6,557	6,702
Mortgage loans and other loans secured by mortgages on real estate	150	76
Finance leases	22	14
Money market placements	39,916	27,738
Other loans and advances	73,844	72,723
Total	**120,489**	**107,253**

>> 51 Loans and advances to customers

€ million	Dec. 31, 2017	Dec. 31, 2016
Loans and advances to domestic customers	140,018	136,344
Loans and advances to foreign customers	34,358	40,188
Total	**174,376**	**176,532**

The following table shows the breakdown of loans and advances to customers by type of business:

€ million	Dec. 31, 2017	Dec. 31, 2016
Local authority loans	20,989	23,540
Mortgage loans and other loans secured by mortgages on real estate	44,853	46,753
Loans secured by ship mortgages	1,127	1,413
Home savings loans advanced by building society	41,005	37,253
of which: from allotment (home savings loans)	2,668	3,031
for advance and interim financing	36,311	32,219
other building loans	2,026	2,003
Finance leases	2,918	3,156
Money market placements	817	1,075
Other loans and advances	62,667	63,342
Total	**174,376**	**176,532**

>> 52 Allowances for losses on loans and advances

The changes in allowances for losses on loans and advances recognized under assets were as follows:

€ million	Allowances for losses on loans and advances to banks		Allowances for losses on loans and advances to customers		Total
	Specific loan loss allowances	Portfolio loan loss allowances	Specific loan loss allowances	Portfolio loan loss allowances	
Balance as at Jan. 1, 2016	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
Additions	-	6	1,363	201	1,570
Utilizations	-	-	-354	-	-354
Reversals	-5	-18	-437	-226	-686
Interest income	-	-	-40	-	-40
Other changes	-	-	-89	-1	-90
Balance as at Dec. 31, 2017	**2**	**17**	**2,272**	**503**	**2,794**

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, 2017	Dec. 31, 2016
Derivatives used as fair value hedges	**1,086**	**1,545**
Interest-linked contracts	1,086	1,545
Derivatives used as cash flow hedges	**8**	**2**
Currency-linked contracts	8	2
Derivatives used for hedges of net investments in foreign operations	**2**	**2**
Currency-linked contracts	2	2
Total	**1,096**	**1,549**

>> 54 Financial assets held for trading

€ million	Dec. 31, 2017	Dec. 31, 2016
DERIVATIVES (POSITIVE FAIR VALUES)	**17,100**	**23,585**
Interest-linked contracts	14,747	20,438
Currency-linked contracts	813	1,794
Share-/index-linked contracts	257	298
Other contracts	916	811
Credit derivatives	367	244
BONDS AND OTHER FIXED-INCOME SECURITIES	**9,094**	**9,459**
Money market instruments	**244**	**172**
from public-sector issuers	193	172
from other issuers	51	-
Bonds	**8,850**	**9,287**
from public-sector issuers	1,646	1,676
from other issuers	7,204	7,611
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,408**	**1,047**
Shares	1,397	1,026
Investment fund units	6	16
Other variable-yield securities	5	5
RECEIVABLES	**11,107**	**15,188**
Money market placements	**10,258**	**14,238**
with banks	8,128	10,742
of which: with affiliated banks	666	1,181
with other banks	7,462	9,561
with customers	2,130	3,496
Promissory notes, registered bonds, and other loans and advances	**849**	**950**
with banks	507	532
of which: with other banks	507	532
with customers	342	418
Total	**38,709**	**49,279**

>> 55 Investments

€ million	Dec. 31, 2017	Dec. 31, 2016
BONDS AND OTHER FIXED-INCOME SECURITIES	**54,504**	**67,384**
Money market instruments	**410**	**366**
from other issuers	410	366
Bonds	**54,094**	**67,018**
from public-sector issuers	26,074	32,144
from other issuers	28,020	34,874
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,808**	**1,609**
Shares and other shareholdings	380	327
Investment fund units	1,422	1,274
Other variable-yield securities	6	8
INVESTMENTS IN SUBSIDIARIES	**311**	**270**
of which: in banks	30	16
in financial services institutions	3	3
INVESTMENTS IN JOINT VENTURES	**545**	**562**
of which: in banks	416	416
INVESTMENTS IN ASSOCIATES	**318**	**355**
of which: in banks	-	31
Total	**57,486**	**70,180**

The carrying amount of investments in joint ventures accounted for using the equity method totaled €542 million (December 31, 2016: €560 million). €315 million of the investments in associates has been accounted for using the equity method (December 31, 2016: €349 million).

>> 56 Investments held by insurance companies

€ million	Dec. 31, 2017	Dec. 31, 2016
Investment property	2,539	2,470
Investments in subsidiaries	698	604
Investments in joint ventures	15	16
Investments in associates	2	1
Mortgage loans	9,142	9,049
Promissory notes and loans	7,764	8,211
Registered bonds	9,114	9,338
Other loans	871	768
Variable-yield securities	9,276	8,430
Fixed-income securities	44,907	40,927
Derivatives (positive fair values)	299	360
Deposits with ceding insurers and other investments	240	188
Assets related to unit-linked contracts	11,549	10,011
Total	**96,416**	**90,373**

The fair value of investment property was €3,290 million as at the balance sheet date (December 31, 2016: €3,086 million). Government grants of €18 million were deducted from the carrying amount of investment property (December 31, 2016: €5 million). 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 €790 million (December 31, 2016: €803 million). The group also has capital expenditure commitments amounting to €21 million (December 31, 2016: €92 million). A total of €24 million was spent on the repair and maintenance of investment property in 2017 (2016: €25 million). Vacant property resulted in repair and maintenance expenses of €1 million (2016: €1 million).

>> 57 Property, plant and equipment, and investment property

€ million	Dec. 31, 2017	Dec. 31, 2016
Land and buildings	928	953
Office furniture and equipment	178	158
Assets subject to operating leases	138	388
Investment property	254	253
Total	**1,498**	**1,752**

The fair value of investment property was €365 million as at the balance sheet date (December 31, 2016: €329 million). Payments in advance are allocated to the relevant item of property, plant and equipment.

>> 58 Income tax assets and liabilities

€ million	Dec. 31, 2017	Dec. 31, 2016
Income tax assets	**1,127**	**1,280**
Current income tax assets	494	432
Deferred tax assets	633	848
Income tax liabilities	**848**	**780**
Current income tax liabilities	290	297
Deferred tax liabilities	558	483

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:

€ million	Deferred tax assets		Deferred tax liabilities	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Tax loss carryforwards	103	59		
Loans and advances to banks and customers (net)	51	82	209	293
Financial assets and liabilities held for trading, derivatives used for hedging (positive and negative fair values)	525	787	20	29
Investments	26	57	630	610
Investments held by insurance companies	53	147	676	589
Property, plant and equipment, and investment property	35	36	46	47
Deposits from banks and customers	581	690	198	169
Debt certificates issued including bonds	46	119	6	11
Provisions for employee benefits and for share-based payment transactions	506	511	41	183
Other provisions	246	170	-1	3
Insurance liabilities	75	73	399	395
Other balance sheet items	147	66	95	103
Total (gross)	**2,394**	**2,797**	**2,319**	**2,432**
Netting of deferred tax assets and deferred tax liabilities	-1,761	-1,949	-1,761	-1,949
Total (net)	**633**	**848**	**558**	**483**

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 €334 million (December 31, 2016: €203 million), which can be carried forward indefinitely, or for trade tax loss carryforwards amounting to €271 million (December 31, 2016: €161 million). There remained foreign loss carryforwards of €623 million (December 31, 2016: €489 million) for which no deferred tax assets are recognized. Of this total, €380 million will expire by 2031 and €243 million can be used indefinitely. In 2017, there were no companies (or permanent establishments of companies) in the DZ BANK Group that suffered tax losses in 2017 or 2016 in their tax jurisdiction and recognized deferred tax assets. Consequently, there are no deferred tax assets to disclose (December 31, 2016: €58 million) whose realization depends on a corresponding level of taxable income being available in the future.

Overall, there was a net deferred tax liability of €281 million (December 31, 2016: €260 million) for which a charge was recognized in other comprehensive income. The net deferred tax liability primarily relates to investments and investments held by insurance companies.

Deferred tax assets of €101 million (December 31, 2016: €208 million) and deferred tax liabilities of €60 million (December 31, 2016: no deferred tax liabilities) are expected to be realized only after a period of 12 months.

As at December 31, 2017, no deferred tax liabilities were recognized for temporary differences of €172 million (December 31, 2016: €126 million) relating to long-term equity investments in subsidiaries.

>> 59 Other assets

€ million	Dec. 31, 2017	Dec. 31, 2016
Other assets held by insurance companies	3,090	3,719
Goodwill	169	169
Other intangible assets	466	462
of which: software	357	326
acquired customer relationships	62	79
Other loans and advances	251	213
Residual other assets	570	407
Total	**4,546**	**4,970**

Other intangible assets include internally generated intangible assets amounting to €24 million (December 31, 2016: €28 million).

The breakdown of other assets held by insurance companies is as follows:

€ million	Dec. 31, 2017	Dec. 31, 2016
Intangible assets	**151**	**156**
Reinsurance assets	**168**	**224**
Provision for unearned premiums	11	6
Benefit reserve	60	63
Provision for claims outstanding	97	155
Receivables	**679**	**633**
Receivables arising out of direct insurance operations	305	362
Receivables arising out of reinsurance operations	294	203
Other receivables	80	68
Credit balances with banks, checks and cash on hand	**110**	**738**
Residual other assets	**1,982**	**1,968**
Property, plant and equipment	387	418
Prepaid expenses	31	23
Remaining assets held by insurance companies	1,564	1,527
Total	**3,090**	**3,719**

The intangible assets in the other assets held by insurance companies include internally generated intangible assets amounting to €13 million (December 31, 2016: €20 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	2017	2016
Balance as at Jan. 1	6	8
Additions	18	19
Utilizations/reversals	-13	-21
Balance as at Dec. 31	**11**	**6**

REINSURERS' SHARE OF THE CHANGES IN THE BENEFIT RESERVE

€ million	2017	2016
Balance as at Jan. 1	63	65
Additions	2	4
Utilizations/reversals	-5	-6
Balance as at Dec. 31	**60**	**63**

REINSURERS' SHARE OF THE CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2017	2016
Balance as at Jan. 1	155	135
Claims expenses	17	63
less payments	-75	-43
Balance as at Dec. 31	**97**	**155**

The breakdown of maturities for reinsurance assets is shown in the following tables:

AS AT DECEMBER 31, 2017

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	10	-	1	-
Benefit reserve	2	8	23	27
Provision for claims outstanding	28	21	48	-
Total	**40**	**29**	**72**	**27**

AS AT DECEMBER 31, 2016

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	5	1	-	-
Benefit reserve	3	9	25	26
Provision for claims outstanding	75	58	22	-
Total	**83**	**68**	**47**	**26**

>> 60 Changes in non-current assets

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:

€ million	Investments held by insurance companies Investment property	
Carrying amounts as at Jan. 1, 2016	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	
Reclassifications to non-current assets and disposal groups classified as held for sale	-	
Disposals	-	
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
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**

€ million	Investments held by insurance companies Investment property	
Carrying amounts as at Jan. 1, 2017	2,470	
Cost as at Jan. 1, 2017	2,885	
Additions	135	
Additions in respect of borrowing costs eligible for capitalization	-	
Reclassifications	-1	
Reclassifications to non-current assets and disposal groups classified as held for sale	-11	
Disposals	-60	
Changes attributable to currency translation	-	
Changes in scope of consolidation	38	
Cost as at Dec. 31, 2017	**2,986**	
Reversals of impairment losses as at Jan. 1, 2017	17	
Additions	1	
Reclassifications	-	
Reclassifications to non-current assets and disposal groups classified as held for sale	-1	
Disposals	-1	
Reversals of impairment losses as at Dec. 31, 2017	**16**	
Depreciation/amortization and impairment losses as at Jan. 1, 2017	-432	
Depreciation/amortization expense for the year	-72	
Impairment losses for the year	-1	
Reclassifications	-	
Reclassifications to non-current assets and disposal groups classified as held for sale	6	
Disposals	36	
Changes attributable to currency translation	-	
Changes in scope of consolidation	-	
Depreciation/amortization and impairment losses as at Dec. 31, 2017	**-463**	
Carrying amounts as at Dec. 31, 2017	**2,539**	

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
953	158	388	253	169	462
1,293	500	527	270	272	1,436
3	65	68	11	-	149
-	-	-	-	-	-
-1	8	-49	-7	-	-
-	-	-	-	-	-
-4	-35	-229	-	-	-23
-	-1	-39	-	-	-1
-	-	-	-	-	2
1,291	**537**	**278**	**274**	**272**	**1,563**
13	-	41	5	-	-
-	-	18	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
13	**-**	**59**	**5**	**-**	**-**
-353	-342	-180	-22	-103	-974
-25	-48	-22	-4	-	-131
-	-	-83	-	-	-9
-1	-	-	1	-	-
-	-	-	-	-	-
3	30	72	-	-	18
-	1	14	-	-	1
-	-	-	-	-	-2
-376	**-359**	**-199**	**-25**	**-103**	**-1,097**
928	**178**	**138**	**254**	**169**	**466**

In 2017, the useful life of the assets varied from 8 to 50 years for buildings (as it had in 2016), from 3 to 25 years for office furniture and equipment (2016: 2.5 to 25 years), and – as in 2016 – from 6 months to 25 years for assets subject to an operating lease; the useful life for investment property was 4 to 75 years (2016: 5 to 77 years). As in 2016, software included in other intangible assets was amortized over a useful life of 1 to 11 years, while – as in 2016 – the useful life of the customer relationships acquired was 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.

In 2017, a small volume of borrowing costs was capitalized for investment property held by insurance companies (2016: €1 million). The capitalization rate used for borrowing costs was 3.06 percent for investment property held by insurance companies (2016: 1.28 percent).

Disclosures regarding the changes in goodwill are included in note 89.

Other intangible assets include acquired customer relationships amounting to €62 million (December 31, 2016: €79 million). The associated amortization expense came to €18 million (2016: €17 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 and assets from disposal groups not qualifying as discontinued operations. Furthermore, there had been assets and liabilities of subsidiaries to be sold within one year as at December 31, 2016, which were sold in 2017.

The individual non-current assets classified as held for sale comprise long-term equity investments and items of property, plant and equipment. The assets from disposal groups not qualifying as discontinued operations are investment fund units in various funds. The long-term equity investment that had been included as at December 31, 2016 was sold and the gain, which had been reported under equity in the revaluation reserve, was realized.

A sale and purchase agreement has been entered into for an associate that is currently accounted for under the equity method. As the entity will not be sold until 2019, i.e. not within one year, it was not classified as a non-current asset held for sale at the end of 2017.

>> 62 Deposits from banks

€ million	Repayable on demand		With agreed maturity or notice period		Total	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Domestic banks	**42,325**	**38,793**	**82,352**	**79,154**	**124,677**	**117,947**
Affiliated banks	37,716	33,982	21,523	21,883	59,239	55,865
Other banks	4,609	4,811	60,829	57,271	65,438	62,082
Foreign banks	**2,853**	**2,075**	**8,592**	**9,258**	**11,445**	**11,333**
Total	**45,178**	**40,868**	**90,944**	**88,412**	**136,122**	**129,280**

The following table shows the breakdown of deposits from banks by type of business:

€ million	Dec. 31, 2017	Dec. 31, 2016
Home savings deposits	1,633	1,612
Money market deposits	21,599	20,762
Other deposits	112,890	106,906
Total	**136,122**	**129,280**

>> 63 Deposits from customers

€ million	Dec. 31, 2017	Dec. 31, 2016
DEPOSITS FROM DOMESTIC CUSTOMERS	**111,982**	**109,677**
Home savings deposits	**54,630**	**51,905**
Other deposits	**57,352**	**57,772**
Repayable on demand	16,965	13,722
With agreed maturity or notice period	40,387	44,050
DEPOSITS FROM FOREIGN CUSTOMERS	**14,337**	**14,748**
Home savings deposits	**2,012**	**1,865**
Other deposits	**12,325**	**12,883**
Repayable on demand	8,913	7,998
With agreed maturity or notice period	3,412	4,885
Total	**126,319**	**124,425**

The following table shows the breakdown of deposits from customers by type of business:

€ million	Dec. 31, 2017	Dec. 31, 2016
Home savings deposits	56,642	53,770
Money market deposits	10,805	2,652
Other deposits	58,872	68,003
Total	**126,319**	**124,425**

The other deposits from customers are broken down by customer group as follows:

€ million	Dec. 31, 2017	Dec. 31, 2016
Germany	**57,352**	**57,772**
Retail customers	1,898	2,154
Corporate customers	54,802	54,314
Public sector	652	1,304
International	**12,325**	**12,883**
Retail customers	322	405
Corporate customers	11,938	12,030
Public sector	65	448
Total	**69,677**	**70,655**

>> 64 Debt certificates issued including bonds

€ million	Dec. 31, 2017	Dec. 31, 2016
Bonds issued	**50,609**	**52,629**
Mortgage Pfandbriefe	17,798	16,792
Public-sector Pfandbriefe	2,520	3,089
Other bonds	30,291	32,748
Other debt certificates issued	**16,718**	**25,609**
Total	**67,327**	**78,238**

All other debt certificates issued are commercial paper.

>> 65 Derivatives used for hedging (negative fair values)

€ million	Dec. 31, 2017	Dec. 31, 2016
Derivatives used as fair value hedges	**2,959**	**3,858**
Interest-linked contracts	2,959	3,858
Derivatives used as cash flow hedges	**3**	**16**
Currency-linked contracts	3	16
Total	**2,962**	**3,874**

>> 66 Financial liabilities held for trading

€ million	Dec. 31, 2017	Dec. 31, 2016
DERIVATIVES (NEGATIVE FAIR VALUES)	**16,813**	**25,123**
Interest-linked contracts	13,848	19,568
Currency-linked contracts	871	1,171
Share-/index-linked contracts	742	791
Other contracts	1,275	3,492
Credit derivatives	77	101
SHORT POSITIONS	**617**	**508**
BONDS ISSUED	**18,734**	**17,465**
DEPOSITS	**8,116**	**7,108**
Money market deposits	**7,980**	**6,939**
from banks	7,233	6,345
of which: from affiliated banks	1,704	1,375
from other banks	5,529	4,970
from customers	747	594
Promissory notes and registered bonds issued	**136**	**169**
to banks	116	133
of which: to affiliated banks	116	133
to customers	20	36
Total	**44,280**	**50,204**

Bonds issued mainly comprise share certificates and index-linked certificates.

>> 67 Provisions

€ million	Dec. 31, 2017	Dec. 31, 2016
Provisions for employee benefits	**1,673**	**2,467**
Provisions for defined benefit plans	1,266	2,058
Provisions for other long-term employee benefits	148	139
of which: for semi-retirement schemes	21	15
Provisions for termination benefits	235	232
of which: for early retirement schemes	11	15
for restructuring	195	187
Provisions for short-term employee benefits	24	38
Provisions for share-based payment transactions	**44**	**39**
Other provisions	**1,655**	**1,535**
Provisions for onerous contracts	12	10
Provisions for restructuring	29	15
Provisions for loan commitments	128	137
Other provisions for loans and advances	87	85
Provisions relating to building society operations	983	915
Residual provisions	416	373
Total	**3,372**	**4,041**

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 €20 million in 2017 (2016: €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, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Final-salary-dependent plans	2,457	2,480	108	112	2,565	2,592
Defined benefit contributory plans	438	426	216	221	654	647
Accessorial plans	61	55	2	3	63	58
Total	**2,956**	**2,961**	**326**	**336**	**3,282**	**3,297**

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	**2017**	**2016**
Present value of defined benefit obligations as at Jan. 1	3,297	2,769
Current service cost	64	60
Interest expense	57	64
Employee contributions	6	6
Pension benefits paid including plan settlements	-108	-106
of which: relating to plan settlements	-	-1
Unrecognized past service cost	-2	6
Actuarial gains (-)/losses (+)	-18	193
of which: due to changes in demographic assumptions	-	-3
due to changes in financial assumptions	5	213
experience-based	-23	-17
Changes attributable to currency translation	-14	-8
Changes in scope of consolidation	-	313
Present value of defined benefit obligations as at Dec. 31	**3,282**	**3,297**

The following actuarial assumptions were used in the measurement of the defined benefit obligations:

%	Dec. 31, 2017	Dec. 31, 2016
Discount rate	1.75	1.75
Weighted salary increases	1.96	1.88
Weighted pension increases	1.78	1.76

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, 2017		Dec. 31, 2016	
	€ 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	-422	-12.86	-446	-13.53
the discount rate were 100 basis points lower	544	16.58	562	17.05
the future salary increase were 50 basis points higher	40	1.22	44	1.33
the future salary increase were 50 basis points lower	-38	-1.16	-41	-1.24
the future pension increase were 25 basis points higher	76	2.32	77	2.34
the future pension increase were 25 basis points lower	-73	-2.22	-73	-2.21

The duration of the defined benefit obligations as at December 31, 2017 was 15.23 years (December 31, 2016: 15.69 years).

Plan assets

Defined benefit obligations are offset by plan assets. €1,546 million of the plan assets (December 31, 2016: €793 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. 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, 2017	Dec. 31, 2016
Present value of defined benefit obligations funded by plan assets	2,722	2,400
Present value of defined benefit obligations not funded by plan assets	560	897
Present value of defined benefit obligations	**3,282**	**3,297**
less fair value of plan assets	-2,016	-1,239
Provisions for defined benefit plans	**1,266**	**2,058**
Reimbursement rights recognized as assets	3	2

The following table shows the changes in plan assets:

€ million	2017	2016
Fair value of plan assets as at Jan. 1	1,239	1,134
Interest income	24	26
Return on/expenses from plan assets (excluding interest income)	14	35
Contributions to plan assets	814	43
of which: contributions by employer	808	37
employee contributions	6	6
Pension benefits paid	-65	-62
Changes attributable to currency translation	-10	-3
Changes in scope of consolidation	-	66
Fair value of plan assets as at Dec. 31	**2,016**	**1,239**

Contributions to plan assets of €217 million are expected for 2018 (2017: €272 million). Of this total, €201 million will be allocated to the CTA at BSH (2017: €255 million).

65 percent of the plan assets (2016: 56 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:

€ million	Dec. 31, 2017			Dec. 31, 2016		
	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	-	79	79	-	26	26
Bonds and other fixed-income securities	1,301	-	1,301	700	-	700
Shares	113	-	113	76	-	76
Investment fund units	160	107	267	83	96	179
Other variable-yield securities	3	-	3	6	-	6
Other shareholdings	-	28	28	-	28	28
Derivatives	1	-	1	-1	-	-1
Land and buildings	-	5	5	-	5	5
Entitlements arising from insurance policies	-	123	123	-	120	120
Other assets	-	96	96	-	100	100
Total	**1,578**	**438**	**2,016**	**864**	**375**	**1,239**

As at December 31, 2017, the plan assets included €58 million of the group's own financial instruments (December 31, 2016: €33 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 2017:

€ million	Provisions for onerous contracts	Provisions for restructuring	Provisions for loan commitments	Other provisions for loans and advances	Provisions relating to building society operations	Residual provisions	**Total**
Balance as at Jan. 1	10	15	137	85	915	373	1,535
Additions	7	20	86	27	191	298	629
Utilizations	-	-3	-	-	-123	-195	-321
Reversals	-3	-2	-93	-25	-	-68	-191
Interest expense/changes in discount rate	-2	-	1	2	-	3	4
Changes in scope of consolidation	-	-	-	-	-	-2	-2
Other changes	-	-1	-3	-2	-	7	1
Balance as at Dec. 31	**12**	**29**	**128**	**87**	**983**	**416**	**1,655**

The residual provisions include provisions totaling €48 million for litigation risk (December 31, 2016: €58 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 expected maturities of other provisions are shown in the tables below:

AS AT DECEMBER 31, 2017

€ million	≤ 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provisions for onerous contracts	-	-	-	12	-
Provisions for restructuring	2	1	26	-	-
Provisions for loan commitments	4	50	57	-	17
Other provisions for loans and advances	4	76	3	2	2
Provisions relating to building society operations	6	475	390	112	-
Residual provisions	47	138	80	134	17
Total	**63**	**740**	**556**	**260**	**36**

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**

>> 68 Insurance liabilities

€ million	Dec. 31, 2017	Dec. 31, 2016
Provision for unearned premiums	1,169	1,119
Benefit reserve	58,670	55,167
Provision for claims outstanding	11,064	10,071
Provision for premium refunds	8,446	8,972
Other insurance liabilities	68	65
Reserve for unit-linked insurance contracts	9,907	8,785
Total	**89,324**	**84,179**

CHANGES IN THE PROVISION FOR UNEARNED PREMIUMS

€ million	2017	2016
Balance as at Jan. 1	1,119	1,104
Additions	1,235	1,180
Utilizations/reversals	-1,176	-1,172
Changes attributable to currency translation	-9	7
Balance as at Dec. 31	**1,169**	**1,119**

CHANGES IN THE BENEFIT RESERVE

€ million	2017	2016
Balance as at Jan. 1	55,167	52,634
Additions	6,255	6,158
Interest component	1,067	1,128
Utilizations/reversals	-3,818	-4,753
Changes attributable to currency translation	-1	-
Balance as at Dec. 31	**58,670**	**55,167**

Supplementary change-in-discount-rate reserves totaling €2,998 million have been recognized for policies with a discount rate in excess of the reference rate specified in the DeckRV (December 31, 2016: €2,162 million).

CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2017	2016
Balance as at Jan. 1	10,071	9,257
Claims expenses	6,175	5,827
less payments	-5,078	-4,983
Changes attributable to currency translation	-104	-30
Balance as at Dec. 31	**11,064**	**10,071**

CHANGES IN THE PROVISION FOR PREMIUM REFUNDS

€ million	2017	2016
Balance as at Jan. 1	8,972	7,923
Restatements according to IAS 8	-	48
Balance as at Jan. 1 (restated)	8,972	7,971
Additions	672	670
Utilizations/reversals	-1,290	-760
Changes resulting from unrealized gains and losses on investments (through other comprehensive income)	-190	373
Changes resulting from other remeasurements (through profit or loss)	316	718
Changes attributable to currency translation	-34	-
Balance as at Dec. 31	**8,446**	**8,972**

The breakdown of maturities for insurance liabilities is shown in the following tables:

AS AT DECEMBER 31, 2017

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	1,011	124	34	-
Benefit reserve	1,677	6,601	13,258	37,134
Provision for claims outstanding	4,764	3,608	2,692	-
Provision for premium refunds	763	632	754	6,297
Other insurance liabilities	46	14	5	3
Total	**8,261**	**10,979**	**16,743**	**43,434**

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	6,871
Other insurance liabilities	43	15	3	4
Total	**7,706**	**11,000**	**15,412**	**41,276**

>> 69 Other liabilities

€ million	Dec. 31, 2017	Dec. 31, 2016
Other liabilities of insurance companies	5,464	4,948
Liabilities from financial guarantee contracts	106	117
Accruals	1,156	1,048
Other payables	177	139
Residual other liabilities	620	410
Total	**7,523**	**6,662**

The table below gives a breakdown of insurance companies' other liabilities:

€ million	Dec. 31, 2017	Dec. 31, 2016
Other provisions	**354**	**329**
Provisions for employee benefits	317	303
Provisions for share-based payment transactions	1	1
Other provisions	36	25
Payables and residual other liabilities	**5,110**	**4,619**
Subordinated capital	85	76
Deposits received from reinsurers	75	85
Payables arising out of direct insurance operations	1,465	1,523
Payables arising out of reinsurance operations	269	239
Debt certificates issued including bonds	30	30
Deposits from banks	596	613
Derivatives (negative fair values)	39	105
Liabilities from capitalization transactions	1,861	1,345
Other payables	199	197
Residual other liabilities	491	406
Total	**5,464**	**4,948**

>> 70 Subordinated capital

€ million	Dec. 31, 2017	Dec. 31, 2016
Subordinated liabilities	3,573	4,391
Profit-sharing rights	292	291
Other hybrid capital	13	19
Share capital repayable on demand	21	22
Total	**3,899**	**4,723**

>> 71 Equity

Subscribed capital

The subscribed capital of DZ BANK consists of 1,791,344,757 registered non-par-value shares each with an imputed value of €2.75. All shares in issue are fully paid-up. As at December 31, 2016, DZ BANK held 93,247,143 of these shares as treasury shares, reducing the subscribed capital by €243 million.

In 2017, the Annual General Meeting decided to retire the 93,247,143 treasury shares held by DZ BANK without reducing the share capital. As a result of the retirement, the share capital increased by €243 million. The total number of DZ BANK shares decreased by 93,247,143 non-par-value shares from 1,884,591,900 non-par-value shares. Consequently, the imputed value of each remaining non-par-value share of the share capital went up. To smooth out the imputed value per non-par-value share at €2.75, the Annual General Meeting decided to increase the share capital from company funds. This was done by withdrawing €26,259,141.75 from the capital reserve and reclassifying it to the share capital. As a result, the share capital rose from a total of €4,899,938,940.00 to €4,926,198,081.75.

For the 2016 financial year, DZ BANK paid a dividend of €0.18 per share in 2017 (paid in 2016: €0.16 per share). A dividend of €0.18 per share for 2017 will be proposed to the Annual General Meeting.

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 right of shareholders both in the case of capital increases in return for non-cash contributions and in the case of capital increases in return for cash contributions if the capital is increased for the purpose of
– issuing new shares to employees of the corporation (employee shares),
– issuing new shares to one or more cooperative banks which, measured in terms of their total assets, directly and indirectly have a below-average stake in the corporation's share capital, i.e. less than 0.5 percent of their total assets (based on the nominal value of €2.75 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 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 2017, 99.3 percent of shares were held by cooperative enterprises (December 31, 2016: 99.2 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 €516 million (December 31, 2016: loss of €537 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, 2017, non-current assets classified as held for sale accounted for €16 million of the revaluation reserve (December 31, 2016: €136 million).

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 previous years, DZ BANK had 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

2017

€ 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	-	22	-	-	6
Gains and losses on cash flow hedges	-	-	15	-	1
Exchange differences on currency translation of foreign operations	-	-	-	-37	-3
Gains and losses on hedges of net investments in foreign operations	-	-	-	10	-1
Gains and losses arising from remeasurement of defined benefit plans	22	-	-	-	-
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-	-13	1	-	-
Other comprehensive income/loss	**22**	**9**	**16**	**-27**	**3**

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	-	225	-	-	76
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**	**213**	**-4**	**14**	**57**

E Financial instruments and fair value disclosures

>> 72 Classes, categories, and fair values of financial instruments

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):

€ million	Dec. 31, 2017 Carrying amount	Dec. 31, 2017 Fair value	Dec. 31, 2016 Carrying amount	Dec. 31, 2016 Fair value
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**151,850**	**151,850**	**172,583**	**172,583**
Financial instruments held for trading	**39,008**	**39,008**	**49,639**	**49,639**
Financial assets held for trading	38,709	38,709	49,279	49,279
Investments held by insurance companies	299	299	360	360
Fair value option	**16,494**	**16,494**	**21,300**	**21,300**
Loans and advances to banks	2,199	2,199	2,053	2,053
Loans and advances to customers	4,138	4,138	7,564	7,564
Investments	9,587	9,587	11,013	11,013
Investments held by insurance companies	570	570	670	670
Derivatives used for hedging	**1,096**	**1,096**	**1,549**	**1,549**
Derivatives used for hedging (positive fair values)	1,096	1,096	1,549	1,549
Available-for-sale financial assets	**95,252**	**95,252**	**100,095**	**100,095**
Loans and advances to customers	22	22	22	22
Investments	40,741	40,741	50,527	50,527
Investments held by insurance companies	54,489	54,489	49,546	49,546
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**328,558**	**335,806**	**312,778**	**322,074**
Held-to-maturity investments	**1,648**	**1,658**	**2,561**	**2,524**
Investments	1,648	1,658	2,561	2,524
Loans and receivables	**326,612**	**333,850**	**309,879**	**319,212**
Cash and cash equivalents	12,562	12,562	8,310	8,310
Loans and advances to banks	118,249	119,518	105,150	107,118
Loans and advances to customers	164,549	166,378	163,464	166,070
Investments	4,419	4,584	4,919	5,031
Investments held by insurance companies	26,666	30,367	27,041	31,664
Other assets	441	441	1,019	1,019
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	-274		-24	
Available-for-sale financial assets	**298**	**298**	**338**	**338**
Investments	234	234	251	251
Investments held by insurance companies	64	64	87	87
FINANCE LEASES	**2,914**	**2,977**	**3,138**	**3,226**
Loans and advances to banks	22	3	14	15
Loans and advances to customers	2,892	2,974	3,124	3,211

	Dec. 31, 2017		Dec. 31, 2016	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
FINANCIAL LIABILITIES MEASURED AT FAIR VALUE	**78,064**	**78,064**	**84,494**	**84,494**
Financial instruments held for trading	**44,319**	**44,319**	**50,309**	**50,309**
Financial liabilities held for trading	44,280	44,280	50,204	50,204
Other liabilities	39	39	105	105
Fair value option	**30,783**	**30,783**	**30,311**	**30,311**
Deposits from banks	5,176	5,176	5,178	5,178
Deposits from customers	11,224	11,224	11,544	11,544
Debt certificates issued including bonds	13,780	13,780	12,957	12,957
Subordinated capital	603	603	632	632
Derivatives used for hedging	**2,962**	**2,962**	**3,874**	**3,874**
Derivatives used for hedging (negative fair values)	2,962	2,962	3,874	3,874
FINANCIAL LIABILITIES MEASURED AT AMORTIZED COST	**304,404**	**307,178**	**307,811**	**311,873**
Deposits from banks	130,946	132,383	124,102	126,145
Deposits from customers	115,095	116,322	112,881	114,839
Debt certificates issued including bonds	53,547	53,589	65,281	64,785
Other liabilities	1,407	1,409	1,276	1,276
Subordinated capital	3,296	3,475	4,091	4,828
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	113		180	
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**234**	**234**	**254**	**254**
Financial guarantee contracts	**106**	**106**	**117**	**117**
Other liabilities	106	106	117	117
Loan commitments	**128**	**128**	**137**	**137**
Provisions	128	128	137	137

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 financial year 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 term to maturity, interest-rate-related changes in fair value during the term 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 €27,516 million (December 31, 2016: €28,079 million), such investments being measured at amortized cost and reported under loans and receivables.

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 €294 million (December 31, 2016: €335 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 €3 million were sold (2016: €2 million). This resulted in gains on disposal of €2 million (2016: €1 million).

>> 73 Assets and liabilities measured at fair value on the balance sheet

Fair value hierarchy

The fair value measurements are assigned to the levels of the fair value hierarchy as follows:

€ million	Level 1		Level 2		Level 3	
	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Assets	**67,674**	**63,503**	**88,969**	**112,610**	**6,833**	**6,663**
Loans and advances to banks	-	-	1,970	1,824	229	229
Loans and advances to customers	-	-	3,002	6,507	1,158	1,079
Derivatives used for hedging (positive fair values)	-	-	1,096	1,549	-	-
Financial assets held for trading	1,488	1,217	36,513	47,621	708	441
Investments	13,801	14,168	35,116	45,480	1,411	1,892
Investments held by insurance companies	52,385	48,092	11,245	9,609	3,277	2,886
Non-current assets and disposal groups classified as held for sale	-	26	27	20	50	136
of which: non-recurring measurement	-	26	-	-	-	-
Liabilities	**1,096**	**1,170**	**86,562**	**90,865**	**1,854**	**2,393**
Deposits from banks	-	-	5,176	5,177	-	1
Deposits from customers	-	-	11,224	11,544	-	-
Debt certificates issued including bonds	473	492	12,764	11,951	543	514
Derivatives used for hedging (negative fair values)	-	-	2,962	3,874	-	-
Financial liabilities held for trading	612	647	42,590	48,047	1,078	1,510
Financial liabilities arising from unit-linked insurance products	-	-	11,448	9,909	-	-
Other liabilities	11	6	13	80	15	19
Subordinated capital	-	-	385	283	218	349
Liabilities included in disposal groups classified as held for sale	-	25	-	-	-	-

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	**2017**	2016	**2017**	2016
Assets measured at fair value	**312**	**4,303**	**179**	**1,025**
Financial assets held for trading	39	6	2	15
Investments	-	4,193	11	755
Investments held by insurance companies	273	104	166	255
Liabilities measured at fair value	**3**	-	**-**	**4**
Financial liabilities held for trading	3	-	-	4

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 are changes in the inputs that are 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 model-based measurements 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 DCF 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 DCF 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 measurements of standardized derivatives traded in liquid markets are 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, the DZ BANK Group uses customary interpolation and extrapolation mechanisms, historical time series analysis, and fundamentals analysis of economic variables to generate the required inputs. It also uses expert assessments on a small scale.

The fair value measurements of OTC financial instruments apply 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 the spreads of the unobservable inputs 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	0.3 to 3.6
Loans and advances to customers	Loans	370	DCF method	Credit spread	0 to 8.3
		8	DCF method	Internal spread	1.5 to 5
		758	DCF method	BVAL price adjustment	-1.9 to 27.4
	Receivables arising from silent partnerships	22	DCF method	Internal credit ratings	6.7
Financial assets held for trading	ABSs	52	DCF method	Credit spread	0.3 to 5
	Bearer securities	305	DCF method	BVAL price adjustment	-0.3 to 0.6
	Equity/commodity basket products	15	Local volatility model	Correlation of the risk factors considered	9.9 to 91.6
	Collateralized loan obligations	129	Gaussian copula model	Liquidity spread	0.3 to 2
	Syndicated loans	7	DCF method	Credit spread	0 to 8.3
	Loans and advances to issuers in default	5	DCF method	Recovery rate	-
	Registered securities	158	DCF method	BVAL price adjustment	-1.9 to 27.4
	Option in connection with acquisition of long-term equity investments	37	Black-Scholes model	Earnings indicators	-
Investments	Bearer securities	289	DCF method	BVAL price adjustment	-0.3 to 132.3
	VR Circle	543	DCF method	Multiple-year default probabilities	0 to 100
	Investments in subsidiaries	29	Income capitalization approach	Future income	-
		38	DCF method	Assumptions for measurement of risk parameters	4.8 to 10.5
	Other shareholdings	379	Income capitalization approach, net asset value method	Future income	-
		15	DCF method	Assumptions for measurement of risk parameters	4.8 to 10.5
	Investment fund units	31	Net asset value	-	-
	ABSs	64	DCF method	Credit spread	0.3 to 5
	Collateralized loan obligations	23	Gaussian copula model	Liquidity spread	0.3 to 2

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	1,417	Net asset value	-	-
	Investments in subsidiaries and associates, other long-term equity investments, and shares in cooperative banks	328	Income capitalization approach	Future income	6.5 to 8.9
	ABSs	322	Third-party pricing information	-	-
	Profit-participation certificates, silent partnerships, promissory notes, and loan commitments	409	DCF method	Credit spread	0.5 to 7.8
	Fixed-income securities, shares, and shares in cooperative banks	797	Third-party pricing information	-	-
	Derivatives (positive fair values)	4	Third-party pricing information	-	-
Non-current assets and disposal groups classified as held for sale	Other shareholdings	50	Income capitalization approach	Future income	11.7
Debt certificates issued including bonds	VR Circle	543	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	1,073	Local volatility model	Correlation of the risk factors considered	7 to 91.6
	Option in connection with acquisition of long-term equity investments	5	Black-Scholes model	Earnings indicators	-
Other liabilities	Derivatives (negative fair values)	4	Third-party pricing information	-	-
		11	DCF method	Correlation of the risk factors considered	47.5
Subordinated capital	Loans	218	DCF method	Credit spread	0.3 to 3.6

The following table shows the valuation techniques, the unobservable inputs, and the spreads of the unobservable inputs used for the fair value measurements at Level 3 of the fair value hierarchy as at December 31, 2016.

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 cooperative banks	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 cooperative banks	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

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, 2016	-	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
Additions (purchases)	-	389	65	23	821	6
Transfers	-	-110	271	-141	405	-
from Level 3 to Levels 1 and 2	-	-110	-4	-319	-46	-
from Levels 1 and 2 to Level 3	-	-	275	178	451	-
Disposals (sales)	-	-75	-54	-524	-769	-126
Changes resulting from measurement at fair value	-	-9	-19	53	-38	-10
through profit or loss	-	-9	-19	-2	-46	-
through other comprehensive income	-	-	-	55	8	-10
Other changes	-	-116	4	108	-28	44
Balance as at Dec. 31, 2017	**229**	**1,158**	**708**	**1,411**	**3,277**	**50**

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	Debt certificates issued including bonds	Financial liabilities held for trading	Other liabilities	Subordinated capital
Balance as at Jan. 1, 2016	-	501	1,900	1	-
Additions (issues)	-	13	101	-	-
Transfers	1	-	-488	18	356
from Level 3 to Level 2	-	-	-522	-	-
from Level 2 to Level 3	1	-	34	18	356
Disposals (settlements)	-	-	-	-1	-
Changes resulting from measurement at fair value through profit or loss	-	-	-3	1	-7
Balance as at Dec. 31, 2016	1	514	1,510	19	349
Additions (issues)	-	32	23	-	-
Transfers	-1	-	-467	-	-
from Level 3 to Level 2	-1	-	-470	-	-
from Level 2 to Level 3	-	-	3	-	-
Disposals (settlements)	-	-	-	-	-122
Changes resulting from measurement at fair value through profit or loss	-	-3	4	-4	-9
Other changes	-	-	8	-	-
Balance as at Dec. 31, 2017	**-**	**543**	**1,078**	**15**	**218**

As part of the processes for fair value measurement, the DZ BANK Group reviews whether the valuation methods used 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 loss of €44 million during the year under review (2016: gain of €6 million). The gains or losses are mainly included in the line items 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 €5 million loss in the income statement (2016: loss of €16 million) and a loss of €1 million under other comprehensive income/loss (2016: loss of €15 million). In the case of the fair values of loans and advances to customers, the same change would lead to the recognition of an €8 million loss in the income statement (2016: loss of €13 million) and a loss of €1 million under other comprehensive income/loss (2016: loss of €1 million). For the fair values of investments, there would be an €8 million loss under other comprehensive income/loss (2016: loss of €3 million) and a €17 million loss in the income statement (2016: loss of €12 million). As at the balance sheet date, there would be changes within financial assets held for trading giving rise to a loss of €5 million recognized in profit or loss (2016: loss of €4 million), and changes within other liabilities giving rise to a loss of €1 million recognized in profit or loss (2016: €1 million).

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 €43 million loss in the income statement (2016: loss of €76 million) and a gain of €1 million under other comprehensive income/loss (2016: gain of €7 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 €3 million increase in fair value that would be recognized in the income statement (2016: increase of €4 million).

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, an increase of 1 percent in these spreads would lead to the recognition of a €3 million loss in the income statement (2016: loss of €3 million) and a loss of €1 million in other comprehensive income/loss (2016: loss of €1 million).

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 €2 million in the income statement (2016: gain of €28 million).

An alternative assumption about the liquidity spreads used could lead to a significant change in respect of collateralized loan obligations reported under investments and under financial assets held for trading. All other things being equal, a rise in the liquidity spread assumptions by 1 percent would lead to a €4 million decrease in the fair values of these financial assets that would be recognized in the income statement. There would have been no changes in 2016.

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.

>> 74 Assets and liabilities not measured at fair value on the balance sheet

Fair value hierarchy

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, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Assets	**19**	**52**	**188,064**	**173,296**	**151,378**	**152,141**
Cash and cash equivalents	-	-	12,562	8,310	-	-
Loans and advances to banks	9	33	115,884	104,249	3,625	2,836
Loans and advances to customers	-	-	34,197	33,102	132,181	132,968
Investments	-	-	5,319	6,459	1,157	1,347
Investments held by insurance companies	10	19	19,519	20,630	14,192	14,188
Property, plant and equipment, and investment property	-	-	192	164	173	165
Other assets	-	-	391	382	50	637
Liabilities	**4,709**	**617**	**239,336**	**250,234**	**63,367**	**61,276**
Deposits from banks	-	-	130,618	124,364	1,765	1,781
Deposits from customers	-	-	59,454	60,883	56,868	53,956
Debt certificates issued including bonds	4,709	617	48,880	64,168	-	-
Provisions	-	-	5	5	123	132
Other liabilities	-	-	227	231	1,288	1,162
Subordinated capital	-	-	152	583	3,323	4,245

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	3,625	DCF method	Credit spread, recovery rate
Loans and advances to customers	Loans	91,152	DCF method	Credit spread, recovery rate, internal spread
	Building loans	40,838	Amortized cost	-
	Shareholders' loans, profit-sharing rights, silent partnerships	191	DCF method	Internal credit ratings
Investments	Mortgage-backed securities	610	DCF method	Duration
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	234	Cost	-
	ABSs	186	DCF method	Credit spread
	Bearer securities	95	DCF method	Credit spread
	RMBSs/CMBSs	27	DCF method	Liquidity spread
	Profit-participation certificates	5	DCF method	Estimated cash flows
Investments held by insurance companies	Investment property	3,257	DCF method	Future rent, reference prices in the market
		33	Cost	-
	Loans and bank accounts	10,769	DCF method	Yield curves, credit spread
	Loans	69	Cost	-
	Shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates	64	Cost	-
Property, plant and equipment	Investment property	173	Valuation reports	-
Other assets	Credit balances with banks	50	Cost	-

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Deposits from banks	Home savings deposits	1,633	Amortized cost	-
	Loans	132	DCF method	Credit spread
Deposits from customers	Home savings deposits	56,642	Amortized cost	-
	Loans	219	DCF method	Credit spread
	Overpayments on consumer finance loans	7	Cost	-
Provisions	Provisions for loan commitments	123	Settlement amount	-
Other liabilities	Loans	510	Cost	-
	Liabilities from capitalization transactions	321	Cost	-
	Other payables	248	Cost	-
	Non-controlling interests in special funds	92	Cost	-
	Registered securities	30	Cost	-
	Liabilities from financial guarantee contracts	87	Settlement amount	-
Subordinated capital	Share capital repayable on demand	13	Amount repayable	-
	Bearer securities	3,310	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, 2016.

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	-
	Loans and bank accounts	10,937	DCF method	Yield curves, credit spread
	Loans	78	Cost	-
	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	-
	Other loans and advances	68	Cost	-

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	-
	Liabilities from capitalization transactions	221	Cost	-
	Other payables	274	Cost	-
	Non-controlling interests in special funds	89	Cost	-
	Registered securities	29	Cost	-
	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

>> 75 Financial instruments designated as at fair value through profit or loss

Loans and receivables 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, 2017	Dec. 31, 2016
Loans and advances to banks	2,199	2,053
Loans and advances to customers	4,148	7,577
Investments	634	940
Investments held by insurance companies	227	325
Total	**7,208**	**10,895**

Financial guarantee contracts with a value of €583 million (December 31, 2016: €3,252 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 €16 million during the financial year (2016: increase of €23 million). As at the balance sheet date, the cumulative amount by which the fair value had increased owing to changes in the credit risk was €6 million (December 31, 2016: decrease of €3 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:

€ million	Fair value Dec. 31, 2017	Fair value Dec. 31, 2016	Amount repayable Dec. 31, 2017	Amount repayable Dec. 31, 2016
Deposits from banks	5,176	5,178	5,113	5,068
Deposits from customers	11,224	11,544	9,601	9,520
Debt certificates issued including bonds	13,780	12,957	13,767	13,574
Subordinated capital	603	632	573	583
Total	**30,783**	**30,311**	**29,054**	**28,745**

As in 2016, 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 2017.

>> 76 Reclassifications

In 2017, 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 2016 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, 2017	Dec. 31, 2016
Carrying amounts	269	572
Fair values	266	561

If all the reclassifications carried out in the past had not taken place, an additional loss of €9 million before taxes would have been recognized in the income statement in 2017 as a result of the fair value measurement (2016: loss of €17 million). In addition, losses before taxes of €9 million in respect of the fair value measurement would have been recognized in other comprehensive income in the financial year (2016: gains of €2 million).

In 2017, profit before taxes included a profit of €8 million from gains, losses, income, and expenses in connection with all the reclassified financial assets held (2016: profit of €8 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. However, these standard master agreements do not generally satisfy the offsetting criteria in IAS 32.42 because the legal right to set off the amounts under these agreements is contingent on the occurrence of a future event.

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, 2017

€ 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 instruments	Cash collateral received	
Derivatives	26,570	7,910	18,660	13,142	2,497	3,021
Reverse repos/securities borrowing	10,243	-	10,243	10,138	-	105
Total	**36,813**	**7,910**	**28,903**	**23,280**	**2,497**	**3,126**

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 instruments	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**

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, 2017

€ 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: Financial instruments	Associated amounts not offset on the balance sheet: Cash collateral furnished	Net amount
Derivatives	29,008	9,342	19,666	12,367	6,037	1,262
Repos/securities lending	8,277	-	8,277	8,238	-	39
Total	**37,285**	**9,342**	**27,943**	**20,605**	**6,037**	**1,301**

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: Financial instruments	Associated amounts not offset on the balance sheet: Cash collateral furnished	Net amount
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**

>> 78 Sale and repurchase agreements, securities lending

Transfers of financial assets

In 2017, 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, 2017	Dec. 31, 2016
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**3,838**	**3,890**
Financial instruments held for trading	**900**	**77**
Financial assets held for trading	900	77
Fair value option	**236**	**331**
Investments	236	331
Available-for-sale financial assets	**2,702**	**3,482**
Investments	2,702	3,482
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**481**	**241**
Loans and receivables	**224**	-
Investments	224	-
Held-to-maturity investments	**257**	**241**
Investments	257	241
Total	**4,319**	**4,131**

As at the balance sheet date, additional collateral with a carrying amount of €49 million had been furnished in connection with sale and repurchase agreements (December 31, 2016: €115 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, 2017	Dec. 31, 2016
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT FAIR VALUE	**3,802**	**3,691**
Liabilities associated with financial assets held for trading	**900**	**76**
Liabilities associated with financial assets held for trading	900	76
Liabilities associated with financial assets classified as fair value option	**242**	**304**
Liabilities associated with investments	242	304
Liabilities associated with available-for-sale financial assets	**2,660**	**3,311**
Liabilities associated with investments	2,660	3,311
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**323**	**223**
Liabilities associated with loans and receivables	**117**	-
Liabilities associated with investments	117	-
Liabilities associated with held-to-maturity investments	**206**	**223**
Liabilities associated with investments	206	223
Total	**4,125**	**3,914**

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, 2017, the fair value of securities involved in such transactions was €10,138 million (December 31, 2016: €13,378 million). No securities were repledged as collateral in 2017. In 2016, bonds and other fixed-income securities with a fair value of €46 million had been repledged as collateral.

The receivables arising from these reverse repo transactions and reported under financial assets held for trading amounted to €10,138 million as at the balance sheet date. As at December 31, 2016, the receivables arising from these reverse repo transactions and reported under financial assets held for trading and under loans and advances to banks had amounted to €13,358 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, 2017	Dec. 31, 2016
Financial instruments held for trading	**245**	**92**
Financial assets held for trading	245	92
Available-for-sale financial assets	**2,589**	**1,615**
Investments held by insurance companies	2,589	1,615
Total	**2,834**	**1,707**

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 €9 million had been furnished in connection with securities lending (December 31, 2016: €389 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, 2017	Dec. 31, 2016
Bonds and other fixed-income securities	1,699	418
Shares and other variable-yield securities	18	11
Total	**1,717**	**429**

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, 2017, the fair value of the additional collateral received was €146 million (December 31, 2016: €74 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, 2017	Dec. 31, 2016
Financial assets held for trading	1,145	169
Investments	3,419	4,054
Investments held by insurance companies	2,589	1,615
Total	**7,153**	**5,838**

>> 79 Collateral

Collateral pledged

The breakdown of the carrying amount of financial assets pledged as collateral for liabilities is as follows:

€ million	Dec. 31, 2017	Dec. 31, 2016
Loans and advances to banks	53,907	49,192
Loans and advances to customers	409	1,724
Financial assets held for trading	9,814	11,364
Investments	1,002	1,447
Investments held by insurance companies	713	607
Total	**65,845**	**64,334**

Of the total financial assets pledged as collateral for liabilities, financial assets held for trading and investments with a carrying amount of €3,147 million (2016: €3,753 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. The corresponding loans and advances to affiliated banks serve as collateral with the German federal and state development banks.

The loans and advances to customers pledged as collateral are building loans issued as part of KfW development program loans. The amounts due to Germany's KfW development bank are secured by assigning to KfW the receivables arising from the forwarding of the development loans together with the collateral furnished by the borrowers.

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 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

No collateral was held in the year under review, and only a very small amount had been held in the previous year.

>>80 Items of income, expense, gains, and losses

Net 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	2017	2016
Financial instruments at fair value through profit or loss	**1,310**	989
Financial instruments held for trading	1,143	801
Financial instruments designated as at fair value through profit or loss	167	188
Available-for-sale financial assets	**2,399**	2,414
Held-to-maturity investments	**24**	10
Loans and receivables	**5,662**	5,771
Financial liabilities measured at amortized cost	**-3,009**	-3,313

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	2017	2016
Interest income	7,933	7,744
Interest expense	-3,009	-3,315

Fee and commission income and expenses

€ million	2017	2016
Fee and commission income		
from financial instruments not at fair value through profit or loss	172	237
from trust and other fiduciary activities	2,906	2,509
Fee and commission expenses		
for financial instruments not at fair value through profit or loss	-210	-211
for trust and other fiduciary activities	-1,176	-999

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 €40 million (2016: €31 million).

Impairment losses on financial assets

The table below shows impairment losses on financial assets broken down by class of financial instrument.

€ million	2017	2016
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**-84**	**-241**
Available-for-sale financial assets	**-84**	**-241**
Investments	-3	-4
Investments held by insurance companies	-81	-237
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**-1,623**	**-1,178**
Loans and receivables	**-1,612**	**-1,169**
Loans and advances to banks	-6	-33
Loans and advances to customers	-1,594	-1,122
Investments	-11	-13
Investments held by insurance companies	-1	-1
Held-to-maturity investments	**-1**	**-1**
Investments	-1	-1
Available-for-sale financial assets	**-10**	**-8**
Investments	-10	-8
FINANCE LEASES	**-16**	**-17**
Loans and advances to customers	-16	-17

The changes in impairment losses included in the allowances for losses on loans and advances recognized under assets, shown by class of financial instrument pursuant to IFRS 7, were as follows:

€ million	Financial assets measured at amortized cost	Finance leases
Balance as at Jan. 1, 2016	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
Additions	1,553	16
Utilizations	-352	-1
Reversals	-663	-20
Interest income	-39	-1
Other changes	-90	-
Balance as at Dec. 31, 2017	**2,758**	**26**

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:

	Notional amount					Fair value			
	Time to maturity			Total amount		Positive		Negative	
€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
INTEREST-LINKED CONTRACTS	111,618	355,343	416,114	883,075	818,213	16,014	22,255	16,820	23,429
OTC products									
Forward rate agreements	4,687	-	-	4,687	8,501	-	-	-	-
Interest-rate swaps	90,651	304,596	390,832	786,079	716,885	14,130	19,802	13,850	19,489
Interest-rate options – call	4,361	22,769	8,894	36,024	34,867	1,405	2,089	112	48
Interest-rate options – put	6,349	26,445	16,388	49,182	50,810	332	136	2,857	3,892
Other interest-rate contracts	993	693	-	1,686	1,017	147	228	-	-
Exchange-traded products									
Interest-rate futures	4,577	840	-	5,417	6,133	-	-	1	-
CURRENCY-LINKED CONTRACTS	88,448	4,437	242	93,127	99,623	873	1,818	878	1,264
OTC products									
Forward forex transactions	81,550	3,446	220	85,216	89,223	775	1,753	822	1,182
Forex options – call	3,044	255	-	3,299	4,485	28	35	16	25
Forex options – put	3,702	729	7	4,438	5,468	70	30	37	52
Exchange-traded products									
Forex futures	80	-	-	80	181	-	-	-	-
Forex options	72	7	15	94	266	-	-	3	5
SHARE/INDEX-LINKED CONTRACTS	18,581	7,532	2,397	28,510	20,900	321	365	753	797
OTC products									
Share/index options – call	3,723	62	3	3,788	834	61	120	-	-
Share/index options – put	269	146	1	416	354	-	-	13	21
Other share/index contracts	541	2,756	1,403	4,700	4,335	54	56	98	111
Exchange-traded products									
Share/index futures	842	31	3	876	571	-	-	-	-
Share/index options	13,206	4,537	987	18,730	14,806	206	189	642	665
OTHER CONTRACTS	9,192	27,732	23,049	59,973	65,265	920	811	1,286	3,511
OTC products									
Cross-currency swaps	7,316	24,030	11,422	42,768	47,095	879	810	1,241	3,466
Precious metal contracts	29	-	-	29	25	1	-	-	-
Commodities contracts	54	36	-	90	373	-	-	1	1
Other contracts	1,352	3,632	11,577	16,561	17,111	37	-	32	32
Exchange-traded products									
Futures	180	4	-	184	235	2	-	-	1
Options	261	30	50	341	426	1	1	12	11
CREDIT DERIVATIVES	7,351	9,179	4,874	21,404	26,849	367	245	77	101
Protection buyer									
Credit default swaps	3,019	2,058	324	5,401	9,459	1	20	76	74
Protection seller									
Credit default swaps	4,332	7,105	4,490	15,927	17,304	358	217	1	27
Total return swaps	-	16	60	76	86	8	8	-	-
Total	235,190	404,223	446,676	1,086,089	1,030,850	18,495	25,494	19,814	29,102

The derivatives held at the balance sheet date involved the following counterparties:

€ million	Fair value			
	Positive		Negative	
	Dec. 31, 2017	Dec. 31, 2016	**Dec. 31, 2017**	Dec. 31, 2016
OECD central governments	85	436	46	450
OECD banks	15,902	21,571	17,929	26,071
OECD financial services institutions	193	269	246	650
Other companies, private individuals	2,305	3,164	1,475	1,744
Non-OECD banks	10	54	118	187
Total	**18,495**	**25,494**	**19,814**	**29,102**

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 €12,708 million (December 31, 2016: €11,616 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 €3,814 million (December 31, 2016: €5,495 million) in connection with genuine guarantee funds launched by fund management companies in the group.

>> 82 Hedge accounting

Types of hedges

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’. 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, debt certificates issued including 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 2018 financial year and that will be recognized in profit or loss in this period.

In 2017, gains of €20 million in connection with cash flow hedges were recognized in other comprehensive income (2016: losses of €5 million).

Expenses totaling €2 million recognized under administrative expenses represented the bulk of the gains and losses reclassified to the income statement. The gains and losses reclassified in 2016 had comprised the recognition of expenses of €5 million under net interest income, expenses of €3 million under administrative expenses, and expenses of €2 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	2017	2016
Gains and losses on fair value hedges	**-9**	**2**
Gains and losses on hedging instruments	-85	108
Gains and losses on hedged items	76	-106
Gains and losses on portfolio fair value hedges	**-18**	**-17**
Gains and losses on hedging instruments	435	-75
Gains and losses on hedged items	-453	58
Total	**-27**	**-15**

>> 83 Nature and extent of risks arising from financial instruments and insurance contracts

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, 59, and 42.

>> 84 Maturity analysis

AS AT DECEMBER 31, 2017

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Financial assets	**76,887**	**16,493**	**36,446**	**150,490**	**228,237**	**18,247**
Cash and cash equivalents	12,562	-	-	-	-	-
Loans and advances to banks	42,031	3,272	9,627	35,424	34,524	2
Loans and advances to customers	13,723	6,046	15,716	64,917	91,512	15
Derivatives used for hedging (positive fair values)	5	4	71	271	742	-
Financial assets held for trading	5,813	4,947	3,103	6,501	16,138	1,563
of which: non-derivative financial assets held for trading	5,284	4,456	1,998	2,411	6,388	1,563
derivatives (positive fair values)	529	491	1,105	4,090	9,750	-
Investments	1,243	1,247	4,409	23,543	27,431	1,637
Investments held by insurance companies	766	898	3,431	19,507	57,857	15,000
of which: non-derivative investments held by insurance companies	675	875	3,418	19,480	57,813	14,989
derivatives (positive fair values)	91	23	13	27	44	11
Other assets	744	79	89	327	33	30
Financial liabilities	**-90,240**	**-21,621**	**-25,016**	**-92,818**	**-109,530**	**-60,962**
Deposits from banks	-52,068	-4,413	-8,867	-39,730	-38,217	-1,421
Deposits from customers	-28,664	-3,189	-3,031	-9,831	-30,678	-57,146
Debt certificates issued including bonds	-4,492	-10,797	-8,401	-23,954	-19,757	-336
Derivatives used for hedging (negative fair values)	-2	-15	-42	-908	-1,995	-
Financial liabilities held for trading	-4,322	-2,819	-3,756	-14,551	-16,595	-515
of which: non-derivative financial liabilities held for trading	-4,193	-2,603	-2,240	-9,778	-8,138	-515
derivatives (negative fair values)	-129	-216	-1,516	-4,773	-8,457	-
Other liabilities	-610	-369	-294	-1,113	-1,254	-1,539
of which: non-derivative other liabilities	-605	-342	-281	-1,009	-1,038	-1,539
derivatives (negative fair values)	-5	-27	-13	-104	-216	-
Subordinated capital	-82	-19	-625	-2,731	-1,034	-5
Financial guarantee contracts and loan commitments	**-37,071**	**-113**	**-398**	**-439**	**-321**	**-2,163**
Financial guarantee contracts	-6,621	-51	-54	-149	-66	-55
Loan commitments	-30,450	-62	-344	-290	-255	-2,108

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	-

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.

>> 85 Exposures to countries particularly affected by the sovereign debt crisis

The table below shows the carrying amounts and fair values 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.

	Dec. 31, 2017		Dec. 31, 2016	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
Portugal	**671**	**719**	**679**	**659**
Fair value option	378	378	317	317
Available-for-sale financial assets	-	-	69	69
Held-to-maturity investments	244	280	244	221
Loans and receivables	49	61	49	52
Italy	**6,054**	**6,025**	**6,228**	**6,202**
Financial instruments held for trading	20	20	20	20
Fair value option	1,348	1,348	1,413	1,413
Available-for-sale financial assets	4,216	4,216	4,317	4,317
Held-to-maturity investments	470	441	478	452
Spain	**2,211**	**2,211**	**2,161**	**2,157**
Financial instruments held for trading	211	211	218	218
Fair value option	1,110	1,110	1,119	1,119
Available-for-sale financial assets	700	700	631	631
Held-to-maturity investments	190	190	193	189
Total	**8,936**	**8,955**	**9,068**	**9,018**

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.

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, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016	Dec. 31, 2017	Dec. 31, 2016
Portugal	**378**	317	-	69	-	-
Fair value option	378	317	-	-	-	-
Available-for-sale financial assets	-	-	-	69	-	-
Italy	**4,419**	4,609	**1,065**	1,141	**100**	-
Financial instruments held for trading	-	-	20	20	-	-
Fair value option	1,208	1,331	79	82	61	-
Available-for-sale financial assets	3,211	3,278	966	1,039	39	-
Spain	**1,322**	1,304	**628**	664	**71**	-
Financial instruments held for trading	-	-	211	218	-	-
Fair value option	1,016	1,069	50	50	44	-
Available-for-sale financial assets	306	235	367	396	27	-
Total	**6,119**	6,230	**1,693**	1,874	**171**	-

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, 2017

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years
Portugal	-	-	25	102	834
Italy	63	69	301	1,755	5,238
Spain	7	1	248	588	1,969
Total	**70**	**70**	**574**	**2,445**	**8,041**

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**

The maturity analysis shows the contractually agreed cash inflows.

F Other disclosures

>> 86 Contingent liabilities

€ million	Dec. 31, 2017	Dec. 31, 2016
Contingent liabilities arising from contributions to the resolution fund for CRR credit institutions	11	-
Contingent liabilities in respect of litigation risk	4	2
Total	**15**	**2**

The contingent liabilities arising from contributions to the resolution fund for CRR credit institutions consist of irrevocable payment commitments that were made after the applications to furnish collateral in partial settlement of the annual contribution to the European bank levy for 2017 were accepted by the Single Resolution Board (SRB).

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, 2017	Dec. 31, 2016
Financial guarantee contracts	**6,996**	**7,157**
Loan guarantees	3,765	3,817
Letters of credit	553	512
Other guarantees and warranties	2,678	2,828
Loan commitments	**33,509**	**33,130**
Credit facilities to banks	5,017	4,596
Credit facilities to customers	14,974	14,936
Guarantee credits	363	150
Letters of credit	27	5
Global limits	13,128	13,443
Total	**40,505**	**40,287**

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, 2017	Dec. 31, 2016
Trust assets	**1,096**	**1,124**
Loans and advances to banks	139	130
Loans and advances to customers	44	51
Investments	913	943
Trust liabilities	**1,096**	**1,124**
Deposits from banks	83	106
Deposits from customers	1,013	1,018

Trust assets and trust liabilities each include trust loans amounting to €110 million (December 31, 2016: €133 million).

>> 89 Business combinations

DZ BANK AG acquired control (as defined by IFRS 10) over WGZ BANK AG with effect from June 28, 2016. 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 as at June 30, 2016 on the basis of a preliminary purchase price allocation. The purchase price allocation pursuant to IFRS 3 and the related determination of the fair values of the assets acquired and liabilities assumed were completed on June 30, 2017. There were no adjustments resulting from completion of the purchase price allocation.

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.

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 continuing in a phase of moderate 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 2016, 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 2017: 12.64 percent for the DZ PRIVATBANK subgroup operating segment (2016: 13.66 percent), 13.58 percent for the UMH subgroup operating segment (2016: 13.66 percent), and 13.58 percent for the TeamBank operating segment (2016: 13.66 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.

>> 90 Leases

Finance leases

DZ BANK GROUP AS LESSOR

€ million	Dec. 31, 2017	Dec. 31, 2016
Gross investment	**3,203**	**3,498**
Up to 1 year	1,007	1,111
More than 1 year and up to 5 years	1,929	2,072
More than 5 years	267	315
less unearned finance income	**-263**	**-328**
Net investment	2,940	3,170
less present value of unguaranteed residual values	**-57**	**-70**
Present value of minimum lease payment receivables	**2,883**	**3,100**
Up to 1 year	882	971
More than 1 year and up to 5 years	1,763	1,853
More than 5 years	238	276

As at the balance sheet date, the accumulated allowance for uncollectible minimum lease payments at lessor companies amounted to €26 million (December 31, 2016: €32 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 and ship containers; in 2016, there had also been finance leases for aircraft. The total term of these leases runs for up to 7 years (December 31, 2016: up to 10 years). The companies in the VR LEASING subgroup predominantly enter into leases with customers for equipment.

Operating leases

DZ BANK GROUP AS LESSOR

€ million	Dec. 31, 2017	Dec. 31, 2016
Total future minimum lease payments under non-cancelable leases	**769**	**810**
Up to 1 year	142	134
More than 1 year and up to 5 years	374	415
More than 5 years	253	261

In 2017, contingent minimum lease payments of €1 million (2016: €1 million) were recognized as income.

Entities in the DVB subgroup enter into operating leases for ships as the lessor. As at the balance sheet date, the lease terms were unchanged on the previous year at up to 9 years. In 2016, there had also been aircraft leases with terms of up to 5 years. The companies in the VR LEASING subgroup 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, 2017	Dec. 31, 2016
Total future minimum lease payments under non-cancelable leases	**839**	**713**
Up to 1 year	153	114
More than 1 year and up to 5 years	452	347
More than 5 years	234	252

As at the balance sheet date, the total future minimum lease payments expected to be received under non-cancelable subleases amounted to €10 million (December 31, 2016: €14 million).

In 2017, minimum lease payments of €123 million (2016: €114 million) and contingent rents of €22 million (2016: €22 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 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, USA. 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.

The letters of comfort in respect of WGZ FINANCE (until July 3, 2017: DZ BANK Ireland plc) and VR Equitypartner were ended in 2017.

>> 92 Employees

Average number of employees by employee group:

	Dec. 31, 2017	Dec. 31, 2016
Female employees	**13,698**	**13,305**
Full-time employees	8,512	8,408
Part-time employees	5,186	4,897
Male employees	**16,581**	**16,036**
Full-time employees	15,644	15,196
Part-time employees	937	840
Total	**30,279**	**29,341**

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 for 2016 pro rata temporis.

>> 93 Auditor fees

The total fees charged for 2017 by the independent auditors of the consolidated financial statements, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, broken down by type of service are as follows:

€ million	2017	2016
Auditing services	18.5	14.8[1]
Other attestation services	1.0	0.9[1]
Tax consultancy services	0.2	0.2
Other services	3.2	7.9[1]
Total	**22.9**	**23.8**

1 Amount restated (see note 2).

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 auditing services also comprise expenses relating to the review by the auditor of the condensed interim consolidated financial statements and interim group management report. 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) 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 2017, overall remuneration for DZ BANK's Board of Managing Directors from the group in accordance with IAS 24.17 amounted to €16.7 million (2016: €15.5 million). This total is broken down into short-term employee benefits of €11.2 million (2016: €9.8 million), post-employment benefits of €3.6 million (2016: €3.5 million), and share-based payments of €1.9 million (2016: €2.2 million). The remuneration for the Board of Managing Directors in 2017 and 2016 included the total bonus awarded to the Board of Managing Directors for the year in question. Supervisory Board remuneration amounted to €0.9 million (2016: €0.9 million) and consisted of payments due in the short term.

The remuneration for the Board of Managing Directors included contributions of €0.3 million (2016: €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 €32.0 million (December 31, 2016: €53.6 million).

In 2017, 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 €13.3 million (2016: €12.2 million), while the total remuneration for the Supervisory Board for the performance of these duties amounted to €0.9 million (2016: €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 €11.1 million in 2017 (2016: €9.9 million). DZ BANK has defined benefit obligations for former members of the Board of Managing Directors or their surviving dependants amounting to €180.1 million (2016: €164.8 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 €9.10 as at December 31, 2015, a value per share of €9.15 as at December 31, 2016, and a value per share of €8.65 as at December 31, 2017, 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, 2016	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
Remuneration granted	2.6	11.6
Payment of remuneration granted in 2016	-0.8	-3.3
Payment of remuneration granted in previous years	-1.3	-1.5
Unpaid share-based payments as at Dec. 31, 2017	**3.5**	**20.3**

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, 2016	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
Remuneration granted	0.4
Payment of remuneration granted in 2016	-0.1
Payment of remuneration granted in previous years	-0.4
Unpaid share-based payments as at Dec. 31, 2017	**2.8**

The variable components of the remuneration paid to the Board of Managing Directors and, since 2016, a group of selected salaried employees (risk takers) at 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	Risk takers
Unpaid share-based payments as at Jan. 1, 2016	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	-
Remuneration granted	0.6	0.1
Payment of remuneration granted in 2016	-1.2	-
Unpaid share-based payments as at Dec. 31, 2017	**0.6**	**0.1**

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. From 2017, the calculation is based on a compensation price of €22.60 per share instead of the Frankfurt Stock Exchange share price because DVB's shares were delisted on August 17, 2017.

In 2017, 64,026 phantom shares (2016: 67,179 phantom shares) were granted as a bonus for previous financial years. The fair value of the phantom shares granted was €1.5 million at the balance sheet date (December 31, 2016: €1.7 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, 2016	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	-
Unpaid share-based payments as at Dec. 31, 2016	0.2	1.4
Remuneration granted	-	1.5
Payment of remuneration granted in 2016	-0.1	-0.9
Payment of remuneration granted in previous years	-0.1	-0.5
Unpaid share-based payments as at Dec. 31, 2017	**-**	**1.5**

In 2017, the agreements described above gave rise to expenses for share-based payment transactions in the DZ BANK Group of €11.8 million (2016: €14.7 million). As at December 31, 2017, the provisions recognized for share-based payment transactions in the DZ BANK Group amounted to €45.6 million (December 31, 2016: €39.7 million).

>> 96 Related party disclosures

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.

Transactions with related parties (entities)

€ million	Dec. 31, 2017	Dec. 31, 2016
Loans and advances to banks	**13**	**86**
to joint ventures	13	86
Loans and advances to customers	**206**	**111**
to subsidiaries	120	40
joint ventures	29	23
associates	57	46
other related parties (entities)	-	2
Financial assets held for trading	**5**	**2**
of subsidiaries	5	-
other related parties (entities)	-	2
Investments	**-**	**2**
of subsidiaries	-	2
Investments held by insurance companies	**96**	**92**
of subsidiaries	96	92
Other assets	**23**	**17**
of subsidiaries	22	16
associates	-	1
pension plans for the benefit of employees	1	-
Deposits from banks	**606**	**94**
owed to joint ventures	606	94
Deposits from customers	**231**	**213**
owed to subsidiaries	223	202
associates	8	11
Other liabilities	**22**	**24**
of subsidiaries	14	13
joint ventures	3	8
pension plans for the benefit of employees	5	3
Subordinated capital	**21**	**13**
of pension plans for the benefit of employees	21	13

€ million	Dec. 31, 2017	Dec. 31, 2016
Financial guarantee contracts	**10**	**9**
for subsidiaries	10	9
Loan commitments	**14**	**47**
to subsidiaries	10	40
associates	4	7

Income of €23 million (2016: €6 million) in the total reported net interest income, expenses of €3 million (2016: €2 million) in the total reported net fee and commission income, and expenses of €6 million (2016: €10 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, 2017, the DZ BANK Group's loans and loan commitments to related parties (persons) amounted to €1.2 million (December 31, 2016: €0.8 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.

>> 97 Board of Managing Directors

Wolfgang Kirsch
(Chief Executive Officer)
Responsibilities: Cooperative Banks/Verbund (since January 1, 2018); Communication, Marketing, CR; Group Audit; Legal; Research and Economics

Hans-Bernd Wolberg
(Deputy Chief Executive Officer until December 31, 2017)
Responsibilities: Cooperative Banks/Verbund

Uwe Berghaus
Responsibilities: Corporate Banking Northern and Eastern Germany; Corporate Banking Western Germany; Investment Promotion

Dr. Christian Brauckmann
Responsibilities: IT; Organization

Lars Hille
(Member of the Board of Managing Directors until June 9, 2017)

Wolfgang Köhler
Responsibilities: Capital Markets Trading; Capital Markets Institutional Clients; Capital Markets Retail Clients; Group Treasury

Karl-Heinz Moll
(Member of the Board of Managing Directors until June 30, 2017)

Dr. Cornelius Riese
Responsibilities: Group Finance; Group Strategy and Controlling

Michael Speth
Responsibilities: Compliance; Group Risk Controlling; Credit; Credit Special

Thomas Ullrich
Responsibilities: Group Human Resources; Operations; Payments & Accounts; Transaction Management

Frank Westhoff
(Member of the Board of Managing Directors until April 30, 2017)

Stefan Zeidler
Responsibilities: Corporate Banking Baden-Württemberg; Corporate Banking Bavaria; Corporate Banking Central Germany; Structured Finance

>> 98 General Executive Manager

Uwe Fröhlich
(since November 1, 2017)

>> 99 Supervisory Board

Helmut Gottschalk
(Chairman of the Supervisory Board)
Spokesman of the Board of Managing Directors
Volksbank Herrenberg-Nagold-Rottenburg eG
(until June 30, 2017)

Ulrich Birkenstock
(Deputy Chairman of the Supervisory Board)
Employee
R+V Allgemeine Versicherung AG

Werner Böhnke
(Deputy Chairman of the Supervisory Board)
Bank director (ret.)

Heiner Beckmann
Senior manager
R+V Allgemeine Versicherung AG

Hermann Buerstedde
Employee
Union Asset Management Holding AG

Henning Deneke-Jöhrens
Chief Executive Officer
Volksbank eG Hildesheim-Lehrte-Pattensen

Martin Eul
Chief Executive Officer
Dortmunder Volksbank eG

Uwe Fröhlich
(Member of the Supervisory Board until October 31, 2017)
President
Bundesverband der Deutschen Volksbanken
und Raiffeisenbanken e.V. (BVR)
(until October 31, 2017)

Uwe Goldstein
Spokesman of the Board of Managing Directors
Raiffeisenbank Frechen-Hürth eG

Dr. Peter Hanker
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

Gerhard Hofmann
(Member of the Supervisory Board from November 1, 2017 to December 31, 2017)
Member of the Board of Managing Directors
Bundesverband der Deutschen Volksbanken
und Raiffeisenbanken e.V. (BVR)

Marija Kolak
(Member of the Supervisory Board since January 1, 2018)
President
Bundesverband der Deutschen Volksbanken
und Raiffeisenbanken e.V. (BVR)
(since January 1, 2018)

Renate Mack
Employee
DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

Rainer Mangels
Employee
R+V Rechtsschutz-
Schadenregulierungs-GmbH

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

>> 100 Supervisory mandates held by members of the Board of Managing Directors and employees

Within DZ BANK

As at December 31, 2017, 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 (*) Union Asset Management Holding AG, Frankfurt am Main, Chairman of the Supervisory Board (*)
Hans-Bernd Wolberg (Deputy Chief Executive Officer until December 31, 2017)	WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, Chairman of the Supervisory Board (*)
Uwe Berghaus	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Chairman of the Supervisory Board (*)
Dr. Christian Brauckmann	DZ PRIVATBANK S.A., Strassen, Chairman of the Supervisory Board (*) Fiducia & GAD IT AG, Frankfurt am Main, Member of the Supervisory Board
Wolfgang Köhler	DVB Bank SE, Frankfurt am Main, Chairman of the Supervisory Board (*) DZ PRIVATBANK S.A., Strassen, Deputy Chairman of the Supervisory Board (*) R+V Lebensversicherung AG, Wiesbaden, Member of the Supervisory Board (*)

Dr. Cornelius Riese	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, Member of the Supervisory Board (*)
	R+V Versicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	Union Asset Management Holding AG, Frankfurt am Main, Member of the Supervisory Board (*)
	VR-LEASING AG, Eschborn, Member of the Supervisory Board (*)
Michael Speth	BAG Bankaktiengesellschaft, Hamm, Member of the Supervisory Board
	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, Member of the Supervisory Board (*)
	DVB Bank SE, Frankfurt am Main, Member of the Supervisory Board (*) (since January 1, 2018)
	R+V Allgemeine Versicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	R+V Lebensversicherung AG, Wiesbaden, Member of the Supervisory Board (*)
	TeamBank AG Nürnberg, Nuremberg, Deputy Chairman 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
	TeamBank AG Nürnberg, Nuremberg, Chairman of the Supervisory Board (*)
Stefan Zeidler	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. Thomas Kettern	Raiffeisen Waren GmbH, Kassel, Member of the Supervisory Board
Winfried Münch	AKA Ausfuhrkredit-Gesellschaft mbH, Frankfurt am Main, Member of the Supervisory Board
Dr. Peter Neu	Deutsche WertpapierService Bank AG, 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	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 (*) (until December 31, 2017)
Peter Tenbohlen	Deutsche WertpapierService Bank AG, Frankfurt am Main, Member of the Supervisory Board
Dr. Ulrich Walter	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, 2017, 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 (*) (until December 31, 2017)
Peter Magel Member of the Board of Managing Directors Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Kreditservice GmbH, Schwäbisch Hall, Member of the Supervisory Board (*) (since January 1, 2018)
Claudia Klug Employee Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Facility Management GmbH, Schwäbisch Hall, Chairwoman of the Supervisory Board

Dr. Norbert Rollinger Chief Executive Officer R+V Versicherung AG	Condor Allgemeine Versicherungs-AG, Hamburg, Chairman of the Supervisory Board (*)
	Condor Lebensversicherungs-AG, Hamburg, Chairman of the Supervisory Board (*)
	KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg, Chairman of the Supervisory Board (*)
	KRAVAG-LOGISTIC Versicherungs-AG, Hamburg, Chairman of the Supervisory Board (*)
	Raiffeisendruckerei GmbH, Neuwied, Member of the Supervisory Board
	R+V Allgemeine Versicherung AG, Wiesbaden, Chairman of the Supervisory Board (*)
	R+V Krankenversicherung AG, Wiesbaden, Chairman of the Supervisory Board (*)
	R+V Lebensversicherung AG, Wiesbaden, Chairman of the Supervisory Board (*)
	R+V Pensionsfonds AG, Wiesbaden, Chairman of the Supervisory Board (*)
	SECURITAS HOLDING GmbH, Berlin, Member of the Supervisory Board
	Union Asset Management Holding AG, Frankfurt am Main, Member of the Supervisory Board (*)
Frank-Henning Florian Member of the Board of Managing Directors R+V Versicherung AG	CHEMIE Pensionsfonds AG, Munich, Member of the Supervisory Board (*) (until December 31, 2017)
	Protektor Lebensversicherungs-AG, Berlin, Member of the Supervisory Board (until December 31, 2017)
	TeamBank AG Nürnberg, Nuremberg, Member of the Supervisory Board (*) (until December 31, 2017)

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 (*)
Dr. Edgar Martin Member of the Board of Managing Directors R+V Versicherung AG	R+V Direktversicherung AG, Wiesbaden, Chairman of the Supervisory Board (*) R+V Service Center GmbH, Wiesbaden, Chairman of the Supervisory Board (*) Sprint Sanierung GmbH, Cologne, Chairman 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 (*) Südzucker AG, Mannheim, 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 (*) GWG Gesellschaft für Wohnungs- und Gewerbebau Baden-Württemberg AG, Stuttgart, 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
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	Union Investment Privatfonds GmbH, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*) Union Investment Real Estate GmbH, Hamburg, Chairman of the Supervisory Board (*) Union Investment Service Bank AG, Hamburg, Deputy Chairman of the Supervisory Board (*)

Nikolaus Sillem Member of the Board of Managing Directors Union Investment Institutional GmbH	Quoniam Asset Management GmbH, Frankfurt am Main, Deputy Chairman of the Supervisory Board (*)
Jörn Stobbe Member of the Board of Managing Directors Union Investment Institutional Property GmbH	1. FC Köln GmbH & Co. KGaA, Cologne, Member 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 (*)

>> 101 List of shareholdings

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
AER Holding N.V. 1)	Willemstad, Curaçao	100.00		19	0
Agder Ocean Reefer II DIS 1)	Oslo, Norway	0.00		0	0
Agder Ocean Reefer III DIS 1)	Oslo, Norway	0.00		0	0
Agder Ocean Shipping KS 1)	Oslo, Norway	0.00		0	0
AGIMA Aktiengesellschaft für Immobilien-Anlage 5)	Frankfurt am Main	100.00		84,025	0
Aquila Aircraft Leasing Ltd. 1)	Dublin, Ireland	0.00		30,902	-10,129
ARATOS GmbH 1)	Eschborn	100.00		86	61
ARATOS GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	129	53
ARMIDA GmbH 1)	Eschborn	100.00		46	21
ARMIDA GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	26	25
ASPASIA GmbH 1)	Eschborn	100.00		55	30
ASPASIA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	740	35
Assimoco S.p.A. 1)	Segrate (Mi), Italy	89.39		135,072	27,917
Assimoco Vita S.p.A. 1)	Segrate (Mi), Italy	82.14		128,230	13,306
attrax S.A. 1)	Luxembourg, Luxembourg	100.00		48,717	21,900
Aufbau und Handelsgesellschaft mbH 1)	Stuttgart	94.90		525	0
AURIGA GmbH 1)	Eschborn	100.00		-947	-16
AXICA Kongress- und Tagungszentrum Pariser Platz 3 GmbH 5)	Berlin	100.00		26	0
Bathgate Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		1,528	293
Bausparkasse Schwäbisch Hall Aktiengesellschaft - Bausparkasse der Volksbanken und Raiffeisenbanken - 5)	Schwäbisch Hall	96.93		1,812,302	0
Berwick Shipping LLC 1)	Majuro, Marshall Islands	0.00		3,890	-3,890
Beteiligungsgesellschaft Westend 1 mbH & Co. KG 1)	Frankfurt am Main	94.90		18,484	999
BFL Gesellschaft des Bürofachhandels mbH & Co. KG 1)	Eschborn	71.79	72.03	13,047	0
BFL Leasing GmbH 1)	Eschborn	100.00		19,823	8,245
Bischoff GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	21	19
Bluebell Aircraft Leasing Ltd. i.L. 1)	Floriana, Malta	100.00		868	-16
Bonham Aircraft Leasing Ltd. 1)	George Town, Cayman Islands	0.00		140	-1,728
Braveheart Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		0	0
Braveheart Shipping Opco LLC 1)	Majuro, Marshall Islands	0.00		3,825	-2,263
Bulls Aircraft Leasing (Malta) Ltd. 1)	Floriana, Malta	0.00		-1	0
Buzzard Aircraft Leasing Limited i.L. 1)	Dublin, Ireland	100.00		394	0
BWG Baugesellschaft Württembergischer Genossenschaften mbH 1)	Stuttgart	94.78		9,965	0
CALYPSO GmbH 1)	Eschborn	100.00		-651	-91
Canadian Iron Ore Railcar Leasing LP 1)	Hamilton, Canada	100.00		n/a	n/a
CANOPOS GmbH 1)	Eschborn	100.00		29	2
CANOPOS GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		3	27
Capital Lease Limited 1)	Hong Kong, Hong Kong	100.00		65	-386
carexpert Kfz-Sachverständigen GmbH 1)	Walluf	60.00		4,605	273
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		24,318	2,000
Chiefs Aircraft Holding (Malta) Limited 1)	Floriana, Malta	100.00		-1,960	239
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		4,039	534
Condor Allgemeine Versicherungs-Aktiengesellschaft 1) 5)	Hamburg	100.00		41,762	0
Condor Dienstleistungs GmbH 1)	Hamburg	100.00		238	29
Condor Lebensversicherungs-Aktiengesellschaft 1) 5)	Hamburg	94.99		48,589	0
Container Investment Fund I LLC 1)	Majuro, Marshall Islands	0.00		64,886	1,357
Cruise Ship InvestCo LLC 1)	Majuro, Marshall Islands	0.00		0	0
DAC Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	-1
DCAL Aircraft Malta Ltd. 1)	Floriana, Malta	0.00		364	532
DEGEAKZENT Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		42	16
DEGEAKZENT Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	0.00	51.00	19	19
DEGEALPHA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		28	1

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DEGEALPHA Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Hamm-Heessen KG 1)	Eschborn	90.00	66.67	3	0
DEGEARKADE Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		29	2
DEGEARKADE Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		3	62
DEGEASPEKT Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		27	2
DEGEASPEKT Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		3	35
DEGEASTURA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		62	36
DEGEASTURA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		-913	74
DEGEAVUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGEAVUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		-386	-127
DEGEBALTA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		81	55
DEGEBALTA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	94.90	75.00	71	65
DEGECAMPUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		23	3
DEGECASTELL GmbH 1)	Eschborn	100.00		37	-1
DEGECEBER Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		30	2
DEGECEBER Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1) 6)	Eschborn	100.00		3	21
DEGECEDO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		850	214
DEGECENSUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	0
DEGECENUM Grundstücksverwaltungsgesellschaft mbH 1) 5)	Eschborn	100.00		26	0
DEGECIVO Grundstücksverwaltungsgesellschaft mbH Berlin 1)	Berlin	100.00		31	2
DEGECOMO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		24	0
DEGECULA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		87	61
DEGECULA Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Sindelfingen KG 1)	Eschborn	6.00	75.50	96	75
DEGEDELTA Vermietungsgesellschaft für Betriebsvorrichtungen mbH 1)	Eschborn	100.00		26	0
DEGEDOMUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		43	17
DEGEDOMUS Grundstücksverwaltungsgesellschaft mbH & Co. Gewerbeobjekte Süd KG 1) 6)	Eschborn	100.00		22	393
DEGEFULVA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		36	11
DEGEIMPULS Grundstücksverwaltungsgesellschaft Objekt Hattingen mbH 1)	Eschborn	100.00		833	-125
DEGEKONZEPT Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		48	14
DEGEMALVA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGEMALVA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1) 6)	Eschborn	100.00		3	41
DEGEMEDIUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		27	0
DEGEMENAR Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGEMENAR Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Lauingen KG 1)	Eschborn	2.00	66.67	-370	79
DEGEMINAX Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		48	22
DEGEMOBIL Vermietungsgesellschaft für Betriebsvorrichtungen mbH 1)	Eschborn	100.00		68	45
DEGEMOLTO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		168	143
DEGEMOLTO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	0.00	51.00	40	267
DEGEMONTES Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		221	195
DEGEMONTES Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	95.00	75.00	227	452
DEGEMOX Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		29	1
DEGEMOX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		3	34
DEGENITOR Grundstücksverwaltungsgesellschaft mbH 1) 5)	Eschborn	100.00		26	0
DEGEPALMA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	0
DEGEPEXUM Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	-2
DEGEPRIMUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		56	31
DEGEPRIMUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	5.00	75.50	37	35
DEGEPROJEKT Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		459	100
DEGEPROLOG Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	0
DEGEPROMO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		33	1
DEGEPROMO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-	Eschborn	100.00		-29	-1

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Vermietungs KG 1) 6)					
DEGEREMEX Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	-1
DEGERIA Beteiligungsgesellschaft mbH 1)	Eschborn	100.00		26	0
DEGERIPA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		41	15
DEGERIPA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	6.00	76.00	-602	7
DEGEROTA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	-1
DEGERUMEX Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	0
DEGESAMOS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGESAMOS Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Neuss KG 1)	Eschborn	90.00	66.67	3	0
DEGESAPOR Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		28	1
DEGESAPOR Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		3	39
DEGESERA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGESERA Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	0.00	51.00	925	78
DEGESERVO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGESERVO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	100.00		-333	151
DEGESIDUX Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		67	41
DEGESIDUX Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1) 6)	Eschborn	94.91	75.00	1,359	294
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		76	50
DEGESILEX Grundstücksverwaltungsgesellschaft mbH & Co. Objekt Karlsfeld KG 1)	Eschborn	5.00	75.50	-1,202	374
DEGESILVA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		29	2
DEGESISTO Grundstücksverwaltungsgesellschaft mbH 1) 5)	Eschborn	100.00		114	0
DEGESOLVO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	1
DEGESOLVO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	0.00	5.56	-596	687
DEGESTRENA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	-6
DEGESUR Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		1,122	0
DEGETAMESIS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		52	27
DEGETAMESIS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	10.00	75.50	2,170	93
DEGETANTUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		43	18
DEGETANTUS Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 2) 6)	Eschborn	100.00		84	358
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		52	26
DEGETIBUR Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	6.00	67.34	33	31
DEGETRACTUS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		25	0
DEGETRINUM Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		50	24
DEGETRINUM Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Eschborn	6.00	75.50	24	29
DEGEVIA Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		26	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		25	0
DESPINA GmbH 1)	Eschborn	100.00		75	20
Deucalion Capital I (UK) Ltd. 1)	London, UK	50.00		5,367	-10,927
Deucalion Capital II (MALTA) Limited 1)	Valletta, Malta	0.00		-794	214
Deucalion Capital II (UK) Ltd. 1)	London, UK	0.00		0	-104
Deucalion Capital II Limited 1)	George Town, Cayman Islands	0.00		4,649	-11,299
Deucalion Capital VI Limited 1)	George Town, Cayman Islands	0.00		263	2,063
Deucalion Capital VII Limited 1)	George Town, Cayman Islands	0.00		997	30
Deucalion Capital VIII Limited 1)	George Town, Cayman Islands	0.00		-11,015	-425
Deucalion Capital XI Limited 1)	George Town, Cayman Islands	0.00		0	0
Deucalion Engine Leasing (Ireland) Ltd. 1)	Dublin, Ireland	0.00		-1,172	-1,170

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Deucalion Ltd. 1)	George Town, Cayman Islands	0.00		-1,726	-2,684
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		79,254	530
DG Holding Trust	New York, USA	100.00		37,970	190
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		25	0
Dilax Beteiligungsgesellschaft mbH & Co. KG 1)	Berlin	92.39		3,017	-158
Dilax France SAS 1)	Valence, France	100.00		253	71
Dilax Intelcom AG 1)	Ermatingen, Switzerland	100.00		1,593	788
Dilax Intelcom GmbH 1)	Berlin	72.01		3,096	-648
Dilax Intelcom Iberica S.L.U. 1)	Madrid, Spain	100.00		61	-7
Dilax Management Investment Reserve GmbH 1)	Berlin	100.00		235	-3
Dilax Management Investment Verwaltungsgesellschaft mbH 1)	Berlin	100.00		23	-1
Dilax Management Investmentgesellschaft mbH & Co. KG 1)	Berlin	99.50		204	-5
Dilax Systems Inc. 1)	Saint Lambert, Canada	100.00		405	137
Dilax Systems UK Ltd. 1)	London, UK	100.00		-342	-122
DOBAS Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		29	4
Drem Shipping LLC 1)	Majuro, Marshall Islands	0.00		1,186	1,186
DRITTE DG Vermietungsgesellschaft für Immobilien mbH 1) 5)	Eschborn	100.00		26	0
DUNAVAGON s.r.o. 1)	Dunajská Streda, Slovakia	100.00		1,884	287
DURO Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		29	2
DV01 Szarazfoldi Jarmukolcsonzo rt 1)	Áporka, Hungary	100.00		1,823	-410
DVB Aviation Finance Asia Pte Ltd. i.L. 1)	Singapore, Singapore	100.00		2,507	1,422
DVB Bank America N.V. 1)	Willemstad, Curaçao	100.00		127,374	267,676
DVB Bank SE 5)	Frankfurt am Main	100.00		516,146	0
DVB Capital Markets LLC 1)	New York, USA	100.00		2,795	-294
DVB Container Finance America LLC 1)	Majuro, Marshall Islands	100.00		-1,087	22
DVB Group Merchant Bank (Asia) Ltd. 1)	Singapore, Singapore	100.00		362,577	83,331
DVB Holding (US) Inc. 1)	Greenwich, USA	100.00		2,417	-522
DVB Holding GmbH 1) 5)	Frankfurt am Main	100.00		13,000	0
DVB Investment Management N.V. 1)	Willemstad, Curaçao	100.00		209	0
DVB Transport Finance Limited 1)	London, UK	100.00		34,836	1,341
DVG Deutsche Vermögensverwaltungs-Gesellschaft mit beschränkter Haftung 5)	Frankfurt am Main	100.00		82	0
DVL Deutsche Verkehrs-Leasing GmbH i.L. 1)	Eschborn	74.90		2,520	1
DZ BANK Capital Funding LLC I 2) 4)	Wilmington, USA	100.00		300,890	6,611
DZ BANK Capital Funding LLC II 2) 4)	Wilmington, USA	100.00		500,709	6,451
DZ BANK Capital Funding LLC III 2) 4)	Wilmington, USA	100.00		350,300	4,165
DZ BANK Capital Funding Trust I	Wilmington, USA	0.00	100.00	300,001	6,654
DZ BANK Capital Funding Trust II	Wilmington, USA	0.00	100.00	500,001	6,460
DZ BANK Capital Funding Trust III	Wilmington, USA	0.00	100.00	350,001	4,169
DZ BANK Perpetual Funding (Jersey) Limited 4)	St. Helier, Jersey	0.00	100.00	260,486	1,515
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		283	5
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		22	-1
DZ Beteiligungsgesellschaft mbH Nr. 23 5)	Frankfurt am Main	100.00		25	0
DZ Beteiligungsgesellschaft mbH Nr. 24	Frankfurt am Main	100.00		21	-1
DZ FINANCE Ireland Limited	Dublin, Ireland	100.00		9,238	7,381
DZ FINANCIAL MARKETS LLC	New York, USA	100.00		3,685	439
DZ Gesellschaft für Grundstücke und Beteiligungen mbH 5)	Frankfurt am Main	100.00		1,461	0
DZ Immobilien + Treuhand GmbH 5)	Münster	94.50		4,055	0

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DZ Polska Spólka Akcyjna w likwidacji	Warsaw, Poland	100.00		70,771	82
DZ PRIVATBANK (Schweiz) AG 1)	Zurich, Switzerland	100.00		180,127	593
DZ PRIVATBANK S.A. 3)	Strassen, Luxembourg	90.74		116,555	11,382
DZ PRIVATBANK Singapore Ltd. in liquidation 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		265,487	0
e@syCredit Marketing und Vertriebs GmbH 1)	Nuremberg	100.00		26	0
Eagle Aircraft Leasing Limited 1)	George Town, Cayman Islands	0.00		0	0
ENDES Grundstücksverwaltungsgesellschaft mbH 1) 5)	Eschborn	100.00		26	0
Englische Strasse 5 GmbH 1)	Wiesbaden	90.00		19,588	473
EPI Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		389	13
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		12	-18
FKS-NAVIGIUM GmbH 1)	Eschborn	100.00		-516	-134
FLORIN GmbH 1)	Eschborn	100.00		54	29
FLORIN GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	-29	35
Fundamenta-Lakáskassza Lakás-takarékpénztár Zrt. 1)	Budapest, Hungary	51.25		193,864	22,885
Fundamenta-Lakáskassza Pénzügyi Közvetitö Kft. 1)	Budapest, Hungary	100.00		6,394	1,418
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		54	-6
GbR Dortmund Westenhellweg 39 - 41 1)	Wiesbaden	94.00	100.00	40,116	2,831
GENO Broker GmbH 5)	Frankfurt am Main	100.00		10,000	0
GENO-Beteiligungsgesellschaft mbH	Düsseldorf	100.00		1,151	1
Genossenschaftlicher Informations Service GIS GmbH	Frankfurt am Main	100.00		4,200	75
Gesellschaft für ernährungswirtschaftliche Beteiligungen mbH 1)	Ochsenfurt	100.00		5,628	199
Glen Campbell Opco LLC 1)	Majuro, Marshall Islands	0.00		0	0
Glencoe Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		16	1
Global Credit Cash Duration EUR hedged I dis 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
GMS Management und Service GmbH 1)	Nidderau	100.00		94	44
Goldberg Zweite Grundstücksverwaltungsgesellschaft Sütex mbH & Co. KG 1) 6)	Eschborn	94.50	88.00	132	350
Green Eagle Investments N.V. 1)	Willemstad, Curaçao	100.00		2,060	-1,846
Grundstücksverwaltungsgesellschaft Sütex mbH 1)	Eschborn	100.00		24	0
GWG 1. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		2,000	1,022
GWG 2. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		3,000	987
GWG 3. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		7,000	1,281
GWG 4. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		9,000	818
GWG Beteiligungsgesellschaft mbH 1)	Stuttgart	100.00		26	1
GWG Gesellschaft für Wohnungs- und Gewerbebau Baden-Württemberg AG 1)	Stuttgart	91.41		291,021	20,589
GWG ImmoInvest GmbH 1)	Stuttgart	94.90		6,443	533
GWG Wohnpark Sendling GmbH 1)	Stuttgart	94.00		3,306	523
GZ-Immobilien-Management GmbH & Co. Objekt KG	Frankfurt am Main	100.00		-715	-2
GZ-Trust Consult GmbH i.L.	Stuttgart	100.00		486	-5
Havel Nordost Zweite Grossmobilien GmbH 1)	Eschborn	100.00		42	17
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		-8	0
Hibiscus Aircraft Leasing Limited 1)	Floriana, Malta	0.00		20	-22
Highlanders Aircraft Leasing (IRL) Ltd. 1)	Dublin, Ireland	0.00		-242	-8
Hollandse Scheepshypotheekbank N.V. 1)	Rotterdam, Netherlands	100.00		707	0
Hudson Services LLC 1)	Majuro, Marshall Islands	0.00		265	-1,743
HumanProtect Consulting GmbH 1)	Cologne	100.00		243	100
Immobilien-Gesellschaft 'DG Bank-Turm, Frankfurt am Main, Westend' mbH & Co. KG des genossenschaftlichen Verbundes 1)	Frankfurt am Main	95.97		192,976	42,621
Immobilien-Verwaltungsgesellschaft 'DG BANK-Turm, Frankfurt am Main, Westend' mbH	Frankfurt am Main	100.00		72	37
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		4,580	7,502
IPConcept (Schweiz) AG 1)	Zurich, Switzerland	100.00		5,861	733

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Iron Maple Rail Ltd. 1)	Vancouver, Canada	100.00		n/a	n/a
ITF International Transport Finance Suisse AG 1)	Zurich, Switzerland	100.00		-49,072	5,441
Ivanhoe Shipping Opco LLC 1)	Majuro, Marshall Islands	0.00		-3,110	-1,416
IZD-Beteiligung S.à.r.l. 1)	Luxembourg, Luxembourg	99.50		131	20,867
JASPIS GmbH 1)	Eschborn	100.00		40	15
JASPIS GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		8	19
K2 Aircraft Malta Ltd 1)	Floriana, Malta	100.00		n/a	n/a
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
Kälte Eckert GmbH 1)	Markgröningen	70.00		n/a	n/a
KBIH Beteiligungsgesellschaft für Industrie und Handel mbH	Frankfurt am Main	100.00		27,103	6,639
KISSELBERG Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		9	-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		239	16
KRAVAG-ALLGEMEINE Versicherungs-Aktiengesellschaft 1)	Hamburg	100.00		107,258	11,224
KRAVAG-LOGISTIC Versicherungs-Aktiengesellschaft 1)	Hamburg	51.00		205,389	19,468
KTP Beteiligungs GmbH & Co. KG 1)	Frankfurt am Main	100.00		25,765	-4
KTP Verwaltungs GmbH 1)	Frankfurt am Main	100.00		25	-1
KV MSN 27602 Aircraft Ltd. 1)	Dublin, Ireland	0.00		-3,175	-3,604
Landes Bangladesh Ltd. 1)	Dhaka, Bangladesh	100.00		n/a	n/a
Landes Canada Inc. 1)	Granby, Quebec, Canada	100.00		3,133	568
Landes de Mexico, S. de R. L. de C.V. 1)	Aguascalientes, AGS., Mexico	100.00		58	0
Landes Holding GmbH 1)	Isny im Allgäu	96.59		3,167	-5,350
Landes Hong Kong Limited 1)	Kwun Tong, Kowloon, Hong Kong	100.00		472	-307
Landes Lederwarenfabrik GmbH 1)	Isny im Allgäu	100.00		6,691	0
Lantana Aircraft Leasing Limited 1)	Floriana, Malta	0.00		25,805	-6,461
Leith Shipping LLC 1)	Majuro, Marshall Islands	0.00		-1,012	-1,012
LEKANIS GmbH 1)	Eschborn	100.00		41	16
LEKANIS GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		20	69
Linton Shipping LLC 1)	Majuro, Marshall Islands	0.00		4	4
LISENE GmbH 1)	Eschborn	100.00		44	19
LISENE GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	20	19
LITOS GmbH 1)	Eschborn	100.00		41	16
LITOS GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	-26	25
LogPay Financial Services GmbH 1) 5) 6)	Eschborn	100.00		2,000	0
LogPay Mobility Services GmbH 1)	Eschborn	100.00		0	0
Maple Leaf Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		55	-25
MD Aviation Capital Pte. Ltd. 1)	Singapore, Singapore	100.00		194,877	7,586
MDAC 1 Pte Ltd. 1)	Singapore, Singapore	100.00		17,532	59
MDAC 11 Pte Ltd. 1)	Singapore, Singapore	100.00		18,524	588
MDAC 2 Pte Ltd. 1)	Singapore, Singapore	100.00		17,280	70
MDAC 3 Pte Ltd. 1)	Singapore, Singapore	100.00		22,082	5,437
MDAC 4 Pte Ltd. 1)	Singapore, Singapore	100.00		10,209	-713
MDAC 5 Pte. Ltd. 1)	Singapore, Singapore	100.00		13,221	676
MDAC 6 Pte Ltd. 1)	Singapore, Singapore	100.00		53,097	1,865
MDAC 7 (Ireland) Ltd. 1)	Dublin, Ireland	100.00		151	38
MDAC 8 Pte Ltd. 1)	Singapore, Singapore	100.00		5,046	-659
MDAC 9 Pte Ltd. 1)	Singapore, Singapore	100.00		4,017	213
MDAC Malta Ltd. 1)	Floriana, Malta	0.00		0	0
MH 1702 Vermögensverwaltungs GmbH 1) (VREP Holding 1 GmbH from Jan. 24, 2018)	Mainz	75.20		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 F46 Metzler Investmtent GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F47 Metzler Investmtent 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

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
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		-122	-2
MODULUS GmbH 1)	Eschborn	100.00		51	26
MODULUS GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	30	28
Morgenstern Miet + Leasing GmbH 1)	Eschborn	95.00		26	0
Mount Diamir LLC 1)	Majuro, Marshall Islands	0.00		n/a	n/a
Mount Pleasant Shipping Pte. Ltd. 1)	Singapore, Singapore	100.00		9,521	573
Mount Rinjani Shipping Pte. Ltd. 1)	Singapore, Singapore	100.00		7,587	990
Mount Santubong Ltd. 1)	Labuan, Malaysia	100.00		1,378	1,522
Mount Ulriken LLC 1)	Majuro, Marshall Islands	100.00		n/a	n/a
MS 'Mumbai Trader' GmbH & Co. KG 1)	Bremen	0.00		0	0
MSN1164 Freighter Ltd. 1)	Dublin, Ireland	0.00		9,671	2,328
MSU Management-, Service- und Unternehmensberatung GmbH 1)	Landau in der Pfalz	74.00		781	200
NALINUS GmbH i. L. 1)	Frankfurt am Main	100.00		128	1
NELO Dritte GmbH 1)	Eschborn	100.00		47	22
NELO Dritte GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	27	96
NELO Fünfte GmbH 1)	Eschborn	100.00		44	19
NELO Fünfte GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	24	22
NELO Zweite GmbH 1)	Eschborn	100.00		24	-1
NFC Labuan Shipleasing I Ltd. 1)	Labuan, Malaysia	100.00		3,935	1,264
NFC Shipping Fund C LLC 1)	Majuro, Marshall Islands	0.00		24,664	18,803
NFC Shipping Fund II LLC 1)	Majuro, Marshall Islands	0.00		0	0
NOMAC AIRCRAFT LEASING (IRL) Ltd. i. L. 1)	Dublin, Ireland	0.00		n/a	n/a
NOVA Achte GmbH 1)	Eschborn	100.00		47	22
NOVA Neunte GmbH 1)	Eschborn	100.00		41	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		42	0
NTK Immobilien GmbH & Co. Management KG 2)	Hamburg	100.00		812	-421
Ocean Containerships II DIS 1)	Oslo, Norway	0.00		0	0
Ocean Giant LLC 1)	Majuro, Marshall Islands	0.00		419	419
Pascon GmbH 1)	Wiesbaden	100.00		25	0
PAVONIS GmbH 1)	Eschborn	100.00		63	38
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		1,403	120
Philip Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		289	9,225
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		-116	-4
Q, Inc. 1)	San Francisco, USA	63.17		n/a	n/a
Quoniam Asset Management GmbH 1)	Frankfurt am Main	88.00	100.00	29,427	19,586
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		628	-1
R+V Direktversicherung AG 1) 5)	Wiesbaden	100.00		13,320	0
R+V Erste Anlage GmbH 1)	Wiesbaden	100.00		1,064	-10
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		1,848,052	0
R+V Krankenversicherung AG 1)	Wiesbaden	100.00		77,985	10,000
R+V Kureck Immobilien GmbH 1)	Wiesbaden	100.00		37	1
R+V Leben Wohn GmbH & Co. KG 1)	Wiesbaden	100.00		70,710	2,930
R+V Lebensversicherung Aktiengesellschaft 1) 5)	Wiesbaden	100.00		434,981	0
R+V Luxembourg Lebensversicherung S.A. 1)	Strassen, Luxembourg	100.00		361,453	50,004
R+V Mannheim P2 GmbH 1)	Wiesbaden	94.00		58,995	1,608
R+V Pensionsfonds AG 1)	Wiesbaden	100.00		27,453	1,450
R+V Pensionskasse AG 1)	Wiesbaden	100.00		106,172	400
R+V Personen Holding GmbH 1) 5)	Wiesbaden	100.00		977,490	0
R+V Rechtsschutz-Schadenregulierungs-GmbH 1)	Wiesbaden	100.00		148	32
R+V Service Center GmbH 1) 5)	Wiesbaden	100.00		2,869	0

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
R+V Service Holding GmbH 1) 5)	Wiesbaden	100.00		174,845	0
R+V Treuhand GmbH 1)	Wiesbaden	100.00		40	4
R+V Versicherung AG 5)	Wiesbaden	92.12		2,149,774	0
RC II S.a.r.l. 1)	Luxembourg, Luxembourg	90.00		9,477	-20
ReiseBank Aktiengesellschaft 1) 5)	Frankfurt am Main	100.00		19,267	0
RISALIS GmbH 1)	Eschborn	100.00		35	10
RISALIS GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	19	17
RUBINOS GmbH 1)	Eschborn	100.00		135	110
RUV Agenturberatungs GmbH 1)	Wiesbaden	100.00		406	138
RV AIP S.a.r.l 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
RV AIP S.C.S. SICAV-SIF 1)	Luxembourg, Luxembourg	99.00		n/a	n/a
RV AIP S.C.S SICAV-SIF - RV TF 2 Infra Debt 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
S2 Shipping and Offshore Ptd Ltd. 1)	Singapore, Singapore	100.00		45,628	-4,439
SAREMA GmbH 1)	Eschborn	100.00		52	27
SAREMA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	52.00	32	367
Scheepvaartschappij Ewout B.V. 1)	Rotterdam, Netherlands	100.00		14	0
Schuster Versicherungsmakler GmbH 1)	Bielefeld	51.00		516	190
Schuster Versicherungsservice GmbH 1)	Bielefeld	100.00		28	0
Schwäbisch Hall Facility Management GmbH 1)	Schwäbisch Hall	51.00		8,390	4,483
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		628	1
SECURON Versicherungsmakler GmbH 1)	Hannover	51.00		647	267
Shamrock Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		-3,573	-862
Shark Aircraft Leasing (Ireland) Limited i.L. 1)	Dublin, Ireland	0.00		n/a	n/a
Shipping and Intermodal Investment Management Fund I LLC 1)	Majuro, Marshall Islands	0.00		-28,623	-6,259
Shipping and Intermodal Investment Management Fund II LLC 1)	Majuro, Marshall Islands	0.00		-5,247	-3,486
SHT Schwäbisch Hall Training GmbH 1)	Schwäbisch Hall	100.00		5,971	893
SIIM Marlin Holdings LLC 1)	Majuro, Marshall Islands	100.00		n/a	n/a
SINALOA Aircraft Leasing Limited 1)	Floriana, Malta	0.00		-20	-28
SmartBuchhalter GmbH 1)	Eschborn	100.00		2,021	0
Sprint Sanierung GmbH 1)	Cologne	100.00		31,611	608
SRF I Ltd. 1)	Floriana, Malta	0.00		-857	-24
SRF II Ltd. 1)	Floriana, Malta	0.00		-5	0
SRF III Ltd. 1)	Floriana, Malta	0.00		772	742
Stani Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		428	8,282
Stephenson Capital Limited 1)	George Town, Cayman Islands	0.00		-755	190
Stormers Aircraft Leasing (Malta) Ltd. 1)	Floriana, Malta	0.00		-2	0
Taigetos II LLC 1)	Majuro, Marshall Islands	100.00		0	0
Taigetos III LLC 1)	Majuro, Marshall Islands	100.00		1	-1
TeamBank AG Nürnberg 2) 5)	Nuremberg	92.43		539,699	0
Technology DZ Venture Capital Fund I GmbH & Co. KG i.L. 1)	Munich	68.29		8,275	2,437
TEGANON GmbH 1)	Eschborn	100.00		29	2
TEGANON GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		3	20
Terra Maris I LLC 1)	Majuro, Marshall Islands	100.00		13,788	-4,518
Tiger Aircraft Leasing (UK) Limited 1)	London, UK	0.00		0	0
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 Management S.a.r.l. 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
UI Vario: 2 issued by Union Investment Luxembourg S.A. 1)	Luxembourg, Luxembourg	0.00		461,143	-554
UII Issy 3 Moulins SARL 1)	Paris, France	100.00		8	-2
UII PSD KN ImmoInvest GP GmbH 1)	Hamburg	100.00		n/a	n/a
UII Verwaltungsgesellschaft mbH 1)	Hamburg	100.00		24	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

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
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		1,596,287	-3,405
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
UIN Union Investment Institutional Fonds Nr. 913 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	0
UMB Unternehmens-Managementberatungs GmbH 1)	Wiesbaden	100.00		2,058	606
UMBI GmbH 1)	Wiesbaden	100.00		74	-3
UniAbsolute Return Globalny FIZ 1)	Warsaw, Poland	0.00		n/a	n/a
UniAbsolute Smart Beta FIZ 1)	Warsaw, Poland	0.00		n/a	n/a
UniGotówkowy Aktywa Polskie 1)	Warsaw, Poland	0.00		n/a	n/a
UniInstitutional Global Credit 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
UniInstitutional SDG Equities 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
Union Asset Management Holding AG 2)	Frankfurt am Main	96.57		919,247	413,925
Union Investment Austria GmbH 1)	Vienna, Austria	100.00		15,030	1,702
Union Investment Financial Services S.A. 1)	Luxembourg, Luxembourg	100.00		18,271	1,587
Union Investment Institutional GmbH 1) 5) 6)	Frankfurt am Main	100.00		78,970	0
Union Investment Institutional Property GmbH 1) 6)	Hamburg	90.00		17,391	1,723
Union Investment Luxembourg S.A. 1)	Luxembourg, Luxembourg	100.00		220,837	58,100
Union Investment Privatfonds GmbH 1) 5) 6)	Frankfurt am Main	100.00		335,942	0
Union Investment Real Estate Asia Pacific Pte. Ltd. 1)	Singapore, Singapore	100.00		1,837	701
Union Investment Real Estate Austria AG 1)	Vienna, Austria	94.50		6,492	65
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		150,886	47,169
Union Investment Service Bank AG 1) 5) 6)	Frankfurt am Main	100.00		48,115	0
Union Investment Towarzystwo Funduszy Inwestycyjnych S. A. 1)	Warsaw, Poland	100.00		33,153	6,006
Union IT-Services GmbH 1) 5) 6)	Frankfurt am Main	100.00		3,823	0
Union Service-Gesellschaft mbH 1) 5) 6)	Frankfurt am Main	100.00		7,330	0
UniRak Nordamerika 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
UniRegularna Wyplata FIZ 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		32	-3
VAUTID (SHANGHAI) Wear Resistant Material Trading Co. Ltd. 1)	Shanghai, China	100.00		1,023	298
VAUTID Austria GmbH 1)	Marchtrenk, Austria	100.00		792	110
VAUTID GmbH 1)	Ostfildern	82.51		5,491	-76
VAUTID INDIA PRIVATE LIMITED 1)	Mumbai, India	100.00		n/a	n/a
VAUTID LATAM S.A. 1)	Quito, Ecuador	74.00		n/a	n/a
VAUTID MIDDLE EAST F.Z.E 1)	Ajman Free Zone, United Arab Emirates	100.00		n/a	n/a
Vautid North America, Inc. 1)	Carnegie, USA	0.00	100.00	-294	4
VisualVest GmbH 1) 6)	Frankfurt am Main	100.00		12,525	-3,664
VMB Vorsorgemanagement für Banken GmbH 1)	Overath	100.00		47	-11
vohtec Qualitätssicherung GmbH 1)	Aalen	74.57	74.58	10,324	1,138
VR Consultingpartner GmbH 2)	Frankfurt am Main	100.00		1,971	-497
VR DISKONTBANK GmbH 1) 5)	Eschborn	100.00		136,147	0
VR Equity Gesellschaft für regionale Entwicklung in Bayern mbH 1)	Frankfurt am Main	100.00		2,243	-150
VR Equitypartner Beteiligungskapital GmbH & Co. KG UBG 2)	Frankfurt am Main	100.00		36,021	4,625
VR Equitypartner GmbH 5)	Frankfurt am Main	100.00		69,070	0
VR Equitypartner Management GmbH 1)	Frankfurt am Main	100.00		345	-32
VR FACTOREM GmbH 1) 5)	Eschborn	100.00		39,385	0
VR GbR 2)	Frankfurt am Main	100.00		221,963	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

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR Kreditservice GmbH 1) 5)	Hamburg	100.00		25	0
VR Mittelstandskapital Unternehmensbeteiligungs GmbH 2)	Düsseldorf	100.00		9,395	-1,898
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		57	32
VR-LEASING ABYDOS GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	-66	57
VR-LEASING AKANTHUS GmbH 1)	Eschborn	100.00		28	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		43	18
VR-LEASING ALDEBARA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	-434	-17
VR-LEASING AMETRIN GmbH 1)	Eschborn	100.00		28	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		46	21
VR-LEASING ASINE GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	-250	17
VR-LEASING ASOPOS GmbH 1)	Eschborn	100.00		29	2
VR-LEASING ASOPOS GmbH & Co. Immobilien KG 1)	Eschborn	100.00		3	16
VR-LEASING ATRIA GmbH 1)	Eschborn	100.00		41	16
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		28	2
VR-LEASING BETA GmbH & Co. Immobilien KG 1)	Eschborn	100.00		3	23
VR-Leasing Beteiligungs GmbH 1)	Eschborn	100.00		83,466	9,953
VR-LEASING DELOS GmbH 1)	Eschborn	100.00		29	2
VR-LEASING DELOS GmbH & Co. Immobilien KG 1)	Eschborn	100.00		3	25
VR-LEASING DIVO GmbH 1)	Eschborn	100.00		56	31
VR-LEASING DIVO GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	41	37
VR-LEASING DOBAS GmbH & Co. Immobilien KG 1)	Eschborn	100.00		5	47
VR-LEASING ERIDA GmbH 1)	Eschborn	100.00		40	1
VR-LEASING ERIDA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	-231	-163
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		24	0
VR-LEASING FAGURA GmbH & Co. Erste Immobilien KG 1) 6)	Eschborn	100.00		3	15
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		24	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		52	27
VR-LEASING Hauptverwaltung GmbH & Co. KG 1)	Eschborn	94.80	76.00	5,000	3,339
VR-LEASING IKANA GmbH 1)	Eschborn	100.00		54	29
VR-LEASING IKANA GmbH & Co. Immobilien KG 1) 6)	Eschborn	6.00	76.00	8	38
VR-LEASING Immobilien-Holding GmbH & Co. KG 1) 6)	Eschborn	0.00	51.00	220	121
VR-LEASING IRIS GmbH 1)	Eschborn	100.00		167	142
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

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR-LEASING LEROS GmbH 1)	Eschborn	100.00		40	15
VR-LEASING LEROS GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	20	18
VR-LEASING LIMNOS GmbH 1)	Eschborn	100.00		43	18
VR-LEASING LIMNOS GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	22	21
VR-LEASING LOTIS GmbH 1)	Eschborn	100.00		59	34
VR-LEASING LOTIS GmbH & Co. Immobilien KG 1)	Eschborn	0.00	52.00	41	39
VR-LEASING LYRA GmbH 1)	Eschborn	100.00		55	30
VR-LEASING LYRA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	40	36
VR-LEASING MADIUM GmbH 1)	Eschborn	100.00		25	0
VR-LEASING MAGADIS GmbH 1)	Eschborn	100.00		73	48
VR-LEASING MAGADIS GmbH & Co. Immobilien KG 1)	Eschborn	0.00	51.00	42	58
VR-LEASING MALAKON GmbH 1)	Eschborn	100.00		36	11
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		63	37
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	0
VR-LEASING MENTHA GmbH 1)	Eschborn	100.00		43	18
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		138	113
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
VR-LEASING MILIUM GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	19	18
VR-LEASING MILVUS GmbH 1)	Eschborn	100.00		110	85
VR-LEASING MUNDA GmbH 1)	Eschborn	100.00		29	2
VR-LEASING MUNDA GmbH & Co. Immobilien KG 1)	Eschborn	100.00		3	55
VR-LEASING MUSCAN GmbH 1)	Eschborn	100.00		38	13
VR-LEASING MUSTELA GmbH 1)	Eschborn	100.00		51	26
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		44	17
VR-LEASING NAVARINO GmbH 1)	Eschborn	100.00		95	69
VR-LEASING NAVARINO GmbH & Co. Immobilien KG 1)	Eschborn	100.00		-472	153
VR-LEASING NESTOR GmbH 1)	Eschborn	100.00		50	24
VR-LEASING NESTOR GmbH & Co. Immobilien KG 1)	Eschborn	6.00	75.50	22	29
VR-LEASING NETTA GmbH 1)	Eschborn	100.00		56	26
VR-LEASING NETTA GmbH & Co. Immobilien KG 1) 6)	Eschborn	94.00	51.00	17	33
VR-LEASING NOVA Fünfte GmbH 1)	Eschborn	100.00		56	31
VR-LEASING ONDATRA GmbH 1)	Eschborn	100.00		59	33
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		27	1
VR-LEASING OPAVA GmbH & Co. Immobilien KG 1)	Eschborn	100.00		-2,382	591
VR-LEASING OPHIR GmbH 1)	Eschborn	100.00		30	4
VR-LEASING OPHIR GmbH & Co. Immobilien KG 1)	Eschborn	100.00	83.66	-7,433	638
VR-LEASING OPTIMA GmbH 1)	Eschborn	100.00		72	47
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

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
VR-LEASING OSMERUS GmbH 1)	Eschborn	100.00		24	-1
VR-LEASING PAROS GmbH 1)	Eschborn	100.00		31	6
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 SALIX GmbH 1)	Eschborn	100.00		77	51
VR-LEASING SALIX GmbH & Co. Immobilien KG 1)	Eschborn	0.00	51.00	61	60
VR-LEASING SALONA GmbH 1)	Eschborn	100.00		33	7
VR-LEASING SALONA GmbH & Co. Immobilien KG 1)	Eschborn	6.00	75.50	9	37
VR-LEASING SAMARA GmbH 1)	Eschborn	100.00		91	66
VR-LEASING SAMARA GmbH & Co. Immobilien KG 1)	Eschborn	100.00		73	81
VR-LEASING SANAGA GmbH 1)	Eschborn	100.00		26	1
VR-LEASING SANAGA GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		3	77
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		31	6
VR-LEASING SEPIA GmbH & Co. Immobilien KG 1)	Eschborn	4.00	52.00	815	14
VR-LEASING SIGUNE GmbH 1)	Eschborn	100.00		43	17
VR-LEASING SIGUNE GmbH & Co. Immobilien KG 1)	Eschborn	6.00	68.00	22	21
VR-LEASING SIMA GmbH 1)	Eschborn	100.00		138	112
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		28	2
VR-LEASING SIRIUS GmbH & Co. Immobilien KG 1) 6)	Eschborn	100.00		3	31
VR-LEASING SOLIDUS Dreizehnte GmbH 1)	Eschborn	100.00		126	101
VR-LEASING SOLIDUS Elfte GmbH 1)	Eschborn	100.00		46	21
VR-LEASING SOLIDUS Elfte GmbH & Co. Immobilien KG 1)	Eschborn	94.00	76.00	26	25
VR-LEASING SOLIDUS Fünfte GmbH 1)	Eschborn	100.00		29	4
VR-LEASING SOLIDUS Neunte GmbH 1)	Eschborn	100.00		47	22
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 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		42	17
VR-LEASING TELLUR GmbH 1)	Eschborn	100.00		44	19
VR-LEASING TELLUR GmbH & Co. Immobilien KG 1)	Eschborn	6.00	76.00	26	25
Wadi Funding LLC 1)	Majuro, Marshall Islands	100.00		15,859	490
Wadi Woraya I LLC 1)	Majuro, Marshall Islands	100.00		-13,666	-573
Wadi Woraya III LLC 1)	Majuro, Marshall Islands	100.00		-7,805	-516
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		-4,418	-2,675
WBS Wohnwirtschaftliche Baubetreuungs- und Servicegesellschaft mbH 1)	Stuttgart	94.90		19,699	4,131
Weinmann GmbH & Co. Objekt Eichwald KG 1) 6)	Eschborn	100.00		3	52
WGZ FINANCE PUBLIC LIMITED COMPANY	Dublin, Ireland	100.00		414,079	23,981
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		n/a	n/a
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		9,671	2,328
AerCap Partners I Ltd. 1)	Shannon, Ireland	50.00		0	0
AerCap Partners II Ltd. 1)	Shannon, Ireland	50.00		0	0
BAU + HAUS Management GmbH 1)	Wiesbaden	50.00		10,723	844
BEA Union Investment Management Limited 1)	Hong Kong, Hong Kong	49.00		51,774	6,744
Ceskomoravska stavebni sporitelna a.s. 1)	Prague, Czech Republic	45.00		380,784	45,989
D8 Product Tankers I LLC 1)	Majuro, Marshall Islands	50.00		0	0
D8 Product Tankers Investments LLC 1)	Majuro, Marshall Islands	50.00		0	0
Deucalion MC Engine Leasing Ltd. 1)	Dublin, Ireland	50.00		7,742	633
Deutsche WertpapierService Bank AG	Frankfurt am Main	50.00		180,188	8,725
DUO PLAST Holding GmbH 1)	Lauterbach	47.43		12,401	2,349
DZ BANK Galerie im Städel Kunstverwaltungsgesellschaft mbH	Frankfurt am Main	50.00		17	-2
GMS Holding GmbH 1)	Paderborn	58.89	45.00	12,256	2,545
Herakleitos 3050 LLC 1)	Majuro, Marshall Islands	50.00		0	0
Intermodal Investment Fund IV LLC 1)	Majuro, Marshall Islands	50.00		21,264	2,984
Intermodal Investment Fund VIII LLC 1)	Majuro, Marshall Islands	50.00		6,154	835
IZD-Holding S.à.r.l. 1)	Luxembourg, Luxembourg	50.30	50.00	1,280	43,275
Leuna Tenside Holding GmbH 1)	Leuna	50.00		12,646	3,216
MS Oceana Schifffahrtsgesellschaft mbH & Co. KG 1)	Hamburg	50.00		7,041	-595
MS Octavia Schifffahrtsgesellschaft mbH & Co. KG 1)	Hamburg	50.00		5,695	-1,063
Norafin Verwaltungs GmbH 1)	Mildenau	44.72		25	0
Prvá stavebná sporitel'na, a.s. 1)	Bratislava, Slovakia	32.50		239,843	20,420
R+V Kureck Immobilien GmbH Grundstücksverwaltung Braunschweig 1)	Wiesbaden	50.00		8,043	287
Raiffeisen Banca Pentru Locuinte S.A. 1)	Bucharest, Romania	33.32		15,582	459
TrustBills GmbH	Hamburg	25.00		1,446	-1,120
VB-Leasing International Holding GmbH 1)	Vienna, Austria	50.00		79,469	1,298
Versicherungs-Vermittlungsgesellschaft des Sächsischen Landesbauernverbandes mbH 1)	Dresden	50.00		181	13
Versicherungs-Vermittlungsgesellschaft mbH des Bauernverbandes Mecklenburg-Vorpommern e.V. (VVB) 1)	Neubrandenburg	50.00		164	10
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Brandenburg (VVB) 1)	Teltow	50.00		32	3
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Sachsen-Anhalt e.V. (VVB) 1)	Magdeburg	50.00		57	9
Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse) Ltd. 1)	Tianjin, China	24.90		366,373	25,255

ASSOCIATES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
8F Leasing S.A. 1)	Contern, Luxembourg	22.00		0	0
A330 Parts Ltd. 1)	Newark, USA	20.00		9,671	2,328
adorsys GmbH & Co. KG 1)	Nuremberg	25.89		1,340	2,218
adorsys Verwaltungs GmbH 1)	Nuremberg	25.90		29	1
Aer Lucht Limited 1)	Dublin, Ireland	47.80		0	0
Artemis Gas 1 Shipping Inc. 1)	Piraeus, Greece	20.00		0	0
Aviateur Capital Limited 1)	Dublin, Ireland	20.00		1,808	189
Bankenkonsortium der Zenit GmbH, GbR	Düsseldorf	33.30		0	0
bbv-service Versicherungsmakler GmbH 1)	Munich	25.20		1,908	436
Bergina AS 1)	Grimstad, Norway	40.00		n/a	n/a
Celestyal Cruises Ltd. 1)	Strovolos, Cyprus	49.00	33.33	n/a	n/a
Danae Gas Shipping Inc 1)	Majuro, Marshall Islands	5.00		n/a	n/a
Dr. Förster Holding GmbH 1)	Neu-Isenburg	20.06		25	0
Epic Gas Ltd. 1)	Tortola, Virgin Islands	15.40		0	0
European Convenience Food GmbH 1)	Borken	44.73		8,523	-398
European Property Beteiligungs-GmbH 1)	Frankfurt am Main	38.90	33.20	990	-38
GBS Beteiligungsgesellschaft mbH 1)	Bayreuth	42.33		0	-48
GGB-Beratungsgruppe GmbH	Stuttgart	23.13		-1,123	-1,858
GHM Holding GmbH 1)	Erolzheim	40.00		17,219	-17
GHM MPP Reserve GmbH 1)	Regenstauf	50.00		357	-4
GHM MPP Verwaltungs GmbH 1)	Regenstauf	50.00		21	-1
Global Asic GmbH 1)	Dresden	30.80		12,219	233
Global Offshore Services B.V. 1)	Amsterdam, Netherlands	32.13		0	0
Goldeck Zetti Beteiligungsgesellschaft mbH 1)	Leipzig	39.23		33,850	886
Gram Car Carriers Holdings Pte. Ltd. 1)	Singapore, Singapore	5.88		0	0
Groneweg Verwaltungsgesellschaft mbH 1)	Greven	48.00		n/a	n/a
Hör Technologie GmbH 1)	Weiden i.d.OPf.	61.54	49.99	7,907	1,109
Hudson Chemical Tankers Ltd 1)	Middlesex, UK	25.00		n/a	n/a
Kapitalbeteiligungsgesellschaft für die mittelständische Wirtschaft in Nordrhein-Westfalen mbH - KBG -	Neuss	23.60		2,768	484
KCM Bulkers International Limited 1)	Tortola, Virgin Islands	49.00		n/a	n/a
KCM Bulkers Ltd. 1)	Tortola, Virgin Islands	49.00		0	0
KOTANI JV CO. BV 1)	Amsterdam, Netherlands	48.35		71,729	10,244
KTP Holding GmbH 1)	Bous	37.36		17,166	3,067
LogPay Transport Services GmbH 1) 5) 6)	Eschborn	49.02		2,046	0
Mandarin Containers Limited 1)	Tortola, Virgin Islands	17.01		0	0
Modex Holding Limited (BVI) 1)	Tortola, Virgin Islands	26.18		0	0
MON A300 Leasing Ltd. 1)	George Town, Cayman Islands	20.00		70	1,491
MON Engine Parts Inc. 1)	Wilmington, USA	20.00		3,223	284
Mount Faber KS i.L. 1)	Oslo, Norway	49.00		0	0
MSEA Aframax Holdings LLC 1)	Majuro, Marshall Islands	48.00		0	0
MSEA Marlin Holdings LLC 1)	Majuro, Marshall Islands	32.19		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	30	0
Ostertag Holding GmbH 1)	Walddorfhäslach	54.68	49.90	25	0
Piller Entgrattechnik GmbH 1)	Ditzingen	40.00		10,745	1,994
PI-SM GmbH 1)	Ehringshausen	32.30		25	0
SCL GmbH 1)	Butzbach	49.00		7,799	1,256
Service-Direkt Telemarketing Verwaltungsgesellschaft mbH	Weinheim	32.83		4,168	-1,299
SRF Railcar Leasing Limited 1)	Cashel, Ireland	49.00		0	0
TAP Ltd. 1)	Hamilton, Bermuda	38.05		n/a	n/a
TES Holding Ltd. 1)	Bridgend, UK	40.00		27,052	-4,638
Touax Rail Finance 3 Ltd. 1)	Bracetown, Ireland	28.92		0	0
Treuhand- und Finanzierungsgesellschaft für Wohnungs- und Bauwirtschaft mit beschränkter Haftung. Treufinanz	Düsseldorf	33.14		1,891	-194
TREVA Entertainment GmbH i. L. 1)	Hamburg	32.70		1,269	-529
United MedTec Holding GmbH 1)	Bückeburg	41.01		9,750	230
Weisshaar Holding GmbH 1)	Deisslingen	84.94	49.92	3,668	-582
Wessel-Werk Beteiligungsverwaltung GmbH i.L. 1)	Karlsruhe	45.00		-2,088	-1,527
WÜRTT. GENO-HAUS GmbH & Co. KG	Stuttgart	29.70		36,852	1,511
Zarges Tubesca Finance GmbH 1)	Weilheim	26.67		0	-19

ASSOCIATES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
ZBI Partnerschafts-Holding GmbH 1)	Erlangen	49.90		n/a	n/a

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	27	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
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	-68
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		27,601	1,273
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	30.38		16,350	201
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	29.73		15,158	209
Bürgschaftsbank Thüringen GmbH	Erfurt	22.13		25,304	700
CardProcess GmbH	Karlsruhe	39.80		31,261	567
Cheyne Real Estate Credit (CRECH) Fund IV Loans SCS SICAV-SIF 1)	Luxembourg, Luxembourg	20.83		n/a	n/a
CMMT Partners L.P. 1)	Camden, USA	26.64		n/a	n/a
Corpus Sireo Health Care III SICAV-FIS 1)	Luxembourg, Luxembourg	33.33		32,187	1,043
Corpus Sireo Health Care IV SICAV-FIS 1)	Luxembourg, Luxembourg	66.67		215	0
Credit Suisse Global Infrastructure SCA SICAR 1)	Luxembourg, Luxembourg	30.09		306,710	103,198
Dacos Software GmbH 1)	Saarbrücken	29.96		n/a	n/a
DZ BANK Mikrofinanzfonds eG 2)	Frankfurt am Main	30.82	0.45	250	0
Finatem II GmbH & Co. KG 1)	Frankfurt am Main	20.20		21,833	-229
FREUNDE DER EINTRACHT FRANKFURT Aktiengesellschaft 1)	Frankfurt am Main	32.05		2,893	-1
GbR Ottmann GmbH & Co. Südhausbau KG, München VR Hausbau AG, Stuttgart (GbR 'Ackermannbogen.de-Wohnen am Olympiapark') 1)	Munich	50.00		2	-86
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) 6)	Berlin	22.49		0	0
German Equity Partners III GmbH & Co. KG 1)	Frankfurt am Main	24.19		13,431	11,106
Global Infrastructure Partners III-C2, L.P. 1)	New York, USA	27.97		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		19,298	-8,984
Hermann-Löns-Grundstücks- und Entwicklungs GbR 1)	Bergisch-Gladbach	50.00		176	176
HGI Immobilien GmbH 1)	Frankfurt am Main	50.00		122	10
HGI Immobilien GmbH & Co. GB I KG 1)	Frankfurt am Main	73.91	73.21	18,129	3,049
Hines European Value Fund SCSp 1)	Luxembourg, Luxembourg	26.79		n/a	n/a
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
Locanis AG 1)	Unterföhring	41.28		0	-2,966
Macquarie Asia Infrastructure Fund EU Feeder L.P 1)	London, UK	100.00		n/a	n/a
MB Asia Real Estate Feeder (Scot.) L.P. 1)	Edinburgh, UK	34.80		6,869	-1,561
Medico 12 GmbH & Co. KG 1)	Frankfurt am Main	99.98		1,948	405
Mercateo Beteiligungsholding AG 1)	Taufkirchen	32.83		3,986	-262
paydirekt GmbH	Frankfurt am Main	33.33		20,699	-2,491
PT. VAUTID WEAR TECHNOLOGY INDONESIA 1)	15139 Tangerang (Banten), Indonesia	50.00		n/a	n/a
RV-CVIII Holdings, LLC 1)	Camden, USA	100.00		37,789	1,024
Schroder Italien Fonds GmbH & Co. KG 1)	Frankfurt am Main	23.08	19.74	728	0
Schroder Property Services B.V. S.à.r.l. 1)	Amsterdam, Netherlands	30.00		168	27
Seguros Generales Rural S.A. de Seguros y Reaseguros 1)	Madrid, Spain	30.00		250,393	18,313
TF H III Technologiefonds Hessen Gesellschaft mit beschränkter Haftung	Wiesbaden	25.00		1,733	-72
TF H Technologie-Finanzierungsfonds Hessen Gesellschaft mit beschränkter Haftung (TF H GmbH) i.L.	Wiesbaden	33.33		572	-2

SHAREHOLDINGS OF 20% OR MORE

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Tishman Speyer Brazil Feeder (Scots/D), L.P. 1)	Edinburgh, UK	100.00		24,517	2,843
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	664
VAUTID & HUIFENG (WUHU) Wear Resistant Material Co. Ltd. 1)	Wuhu, China	50.00		978	337
VAUTID Arabia Coating & Treatment of Metals LLC 1)	Ras Al Khaimah, United Arab Emirates	24.50		188	-36
VAUTID-SHAH HARDFACE Pvt. Ltd. 1)	Navi Mumbai, India	37.49		1,683	2,022
VBI Beteiligungs GmbH 1)	Vienna, Austria	24.50		3,715	3,243
VR-NetWorld GmbH 2)	Bonn	43.48		5,309	390
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		435,135	40,322
DEPFA BeteiligungsHolding II Gesellschaft mit beschränkter Haftung 1)	Düsseldorf	10.00		255	-11
EDEKABANK Aktiengesellschaft	Hamburg	8.35		91,434	3,650
equensWorldline SE	Utrecht, Netherlands	11.89		881,140	35,988
EURO Kartensysteme GmbH	Frankfurt am Main	19.60		11,635	173
PANELLINIA BANK SOCIETE ANONYME (under special liquidation)	Athens, Greece	8.42	5.28	50,143	-12,637
Protektor Lebensversicherungs-AG 1)	Berlin	5.27		105,412	12,512
Raiffeisendruckerei GmbH 1)	Neuwied	7.88		35,273	1,540
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
Hotel Wagramerstrasse 8 Errichtungs- und BetriebsgmbH & Co KG 1)	Vienna, Austria	0.00		n/a	n/a
ABE Clearing S.A.S a Capital Variable	Paris, France	1.92		15,604	4,791
AERS Consortio AG 1)	Stuttgart	16.50		125	-19
Airport Garden Services and Business Center S.A. 1)	Brussels-Zaventem, Belgium	0.33		n/a	n/a
AKA Ausfuhrkredit-Gesellschaft mit beschränkter Haftung	Frankfurt am Main	0.31		231,752	22,885
Akademie Badischer Volksbanken und Raiffeisenbanken GmbH 1)	Karlsruhe	0.03		n/a	0
Almack Mezzanine I LP 1)	London, UK	9.82		6	64,126
Architrave GmbH 1)	Berlin	13.00		n/a	n/a
Assicoop-Assicurazioni Cooperative S.r.l. 1)	Catania, Italy	0.41		n/a	n/a
assistance partner GmbH & Co. KG 1)	Munich	5.01		1,208	203
Bank Polskiej Spoldzielczosci Spolka Akcyjna	Warsaw, Poland	1.00		162,534	5,290
BayBG Bayerische Beteiligungsgesellschaft mbH	Munich	9.38		226,714	12,688
Bayerische Raiffeisen- Beteiligungs-Aktiengesellschaft 2)	Beilngries	1.85		840,719	37,457
Berliner Volksbank eG 1)	Berlin	0.00	0.10	965,039	17,068
Beteiligungs-Aktiengesellschaft der bayrischen Volksbanken 1)	Pöcking	1.49		231,873	7,202
BGG Bayerische Garantiegesellschaft mit beschränkter Haftung für mittelständische Beteiligungen	Munich	13.15		48,737	2,360
Blackrock Renewable Income Europe Fund 1)	London, UK	7.69		n/a	n/a
Blackstone Real Estate Partners Europe III L.P. 1)	New York, USA	1.62		70	644,548
Blackstone Real Estate Partners International I.E. L.P. 1)	New York, USA	9.77		17	3,051
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	10.00		4,158	584
Bürgschaftsbank Bremen GmbH	Bremen	4.86		6,839	548
Bürgschaftsbank Hessen GmbH	Wiesbaden	15.87		19,162	970
Bürgschaftsbank Nordrhein-Westfalen GmbH Kreditgarantiegemeinschaft	Neuss	15.75		34,158	1,114
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	14.31		16,525	145
Bürgschaftsbank Sachsen GmbH	Dresden	14.66	16.59	40,370	2,220

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	11.79		39,211	564
BürgschaftsGemeinschaft Hamburg GmbH	Hamburg	6.36		24,499	535
Caprese S.A. 1)	Brussels-Zaventem, Belgium	0.00		n/a	n/a
Cash Logistik Security AG 1)	Düsseldorf	4.10		4,840	912
Cassa Centrale Banca - Credito Cooperativo del Nord Est Società per Azioni	Trento, Italy	3.69		240,975	18,437
Celt S. A. 1)	Kraków, Poland	4.44		n/a	n/a
Centrast S. A. 1)	Warsaw, Poland	0.64		n/a	n/a
CLS Group Holdings AG	Lucerne, Switzerland	0.69		416,681	36,462
Coop System S.p.A. 1)	Rome, Italy	1.97		n/a	n/a
Cruz Martins & Wahl Lda. 1)	Lousado, Portugal	10.00		10,061	1,735
Cube Optics AG 1)	Mainz	14.16		n/a	n/a
Curzon Capital Partners III LP 1)	London, UK	11.99		n/a	n/a
Curzon Capital Partners IV LP 1)	London, UK	10.73		0	0
DePfa Beteiligungsholding III Gesellschaft mit beschränkter Haftung 1)	Düsseldorf	0.40		333	-9
Deutsche Bauernsiedlung - Deutsche Gesellschaft für Landentwicklung (DGL) mbH 1)	Frankfurt am Main	16.26		7,464	-178
Deutsche Börse Commodities GmbH	Frankfurt am Main	16.20	14.48	4,752	2,126
Deutscher Genossenschafts-Verlag eG 2)	Wiesbaden	1.48	1.28	66,631	1,080
DG ANLAGE Holland-Fonds 'Nieuwegein, 's-Hertogenbosch' GmbH & Co. KG (DGI 48)	Frankfurt am Main	0.57		0	-1,755
DG IMMOBILIEN MANAGEMENT Gesellschaft mbH	Frankfurt am Main	5.01		3,945	241
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		1,690	-26
DG Immobilien-Anlagegesellschaft Nr. 32 'Chemnitz, Essen' Schütze & Dr. Neumann KG i.L.	Frankfurt am Main	0.18		0	-143
DG Immobilien-Anlagegesellschaft Nr. 34 'Berlin, Darmstadt, Frankfurt' Schütze & Dr. Neumann KG i.L.	Frankfurt am Main	0.06		3,536	15,210
DG Immobilien-Anlagegesellschaft Nr. 35 'Berlin, Frankfurt' Prüske & Dr. Neumann KG i.L.	Frankfurt am Main	0.07		8,590	5,864
DG Immobilien-Anlagegesellschaft Nr. 36 'Seniorenresidenz Oberursel' Kreft & Dr. Neumann KG i.L.	Frankfurt am Main	0.26		0	-3,259
DG Immobilien-Anlagegesellschaft Nr. 37 'Berlin-Wegedornstrasse' GbR mit quotaler Haftung i.L.	Frankfurt am Main	0.66		11,162	24,488
DG IMMOBILIEN-Objektgesellschaft 'Stuttgart, Industriestrasse' Kreft & Dr. Neumann KG (DGI 49) i.L.	Frankfurt am Main	0.98		0	-2,903
DI Rathaus-Center Pankow Nr.35 KG 1)	Düren	3.86		n/a	n/a
Domus Beteiligungsgesellschaft der Privaten Bausparkassen mbH Berlin 1)	Berlin	14.13		14	-3
EDD AG 2)	Düsseldorf	9.99		37,054	-542
EIG Energy Fund XVI (Scotland) L.P. 1)	Edinburgh, UK	14.02		172,315	-2,423
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		23,003	0
European Property Investors, L. P. 1)	London, UK	6.50		0	0
Evonik Projekt-Beteiligungs-GmbH & Co. KG 1)	Essen	1.00		343,692	-11
EXTREMUS Versicherungs-Aktiengesellschaft 1)	Cologne	5.00		64,740	300
FBEM Gesellschaft mit beschränkter Haftung i. L.	Berlin	2.97		271	2,740
Fiducia & GAD IT AG 2)	Frankfurt am Main	0.35		435,130	33,849
FIDUCIA Mailing Services eG 2)	Karlsruhe	0.12		83	0
Flugplatz Schwäbisch Hall GmbH 1)	Schwäbisch Hall	2.00		49	0
GAD Beteiligungs GmbH & Co. KG 2)	Münster	2.28		117,992	3,010
GBK Holding Gmbh & Co. KG 1)	Kassel	0.02		470,693	11,454
GDV Dienstleistungs-GmbH 1)	Hamburg	2.82		21,773	1,215
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		39,278	2,748
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		n/a	n/a
HANDWERKSBAU NIEDERRHEIN AKTIENGESELLSCHAFT	Düsseldorf	10.15		23,120	1,620
immigon portfolioabbau ag	Vienna, Austria	3.79		425,170	90,051
Interessengemeinschaft Frankfurter Kreditinstitute GmbH	Frankfurt am Main	7.01		25,373	9,691
IT Förder- und Beteiligungs eG	Münster	2.90		12,354	6,717
IVS Immobilien GmbH 1)	Schiffweiler	6.00		26	0

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
K in Kortrijk S.A. 1)	Brussels, Belgium	0.00		n/a	n/a
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		n/a	n/a
KLAAS MESSTECHNIK GmbH 1)	Seelze-Harenberg	15.00		28	0
KLV BAKO Vermittlungs-GmbH	Karlsruhe	10.00		215	9
Konsortium der Absatzfinanzierungsinstitute plettac-assco GbR	Wuppertal	0.00	7.08	n/a	n/a
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		649	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		2,899	-17
Les Grands Pres S.A. 1)	Brussels-Zaventem, Belgium	0.00		n/a	n/a
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		1,392,438	7,874
Maritim Hotel Königswinter Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1)	Bad Salzuflen	6.00	24.50	n/a	n/a
MBG H Mittelständische Beteiligungsgesellschaft Hessen GmbH	Wiesbaden	16.26		10,447	402
MBG Mittelständische Beteiligungsgesellschaft Baden-Württemberg Gesellschaft mit beschränkter Haftung	Stuttgart	9.94		66,948	6,067
MBG Mittelständische Beteiligungsgesellschaft Rheinland-Pfalz mbH	Mainz	9.80	11.11	13,548	1,172
MBG Mittelständische Beteiligungsgesellschaft Schleswig-Holstein mbH	Kiel	14.59	15.22	36,042	2,604
MergeOptics GmbH i.L. 1)	Berlin	19.72		n/a	n/a
Mittelständische Beteiligungsgesellschaft Berlin-Brandenburg mbH	Potsdam	8.89		18,278	1,956
Mittelständische Beteiligungsgesellschaft Mecklenburg-Vorpommern mbH	Schwerin	16.00		14,141	655
Mittelständische Beteiligungsgesellschaft Niedersachsen (MBG) mbH	Hannover	19.92		13,131	895
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	9.38		44,729	2,464
Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt (MBG) mbH	Magdeburg	19.84		22,870	153
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	10.28		23,730	1,214
MORIO GmbH & Co. Immobilien KG 1)	Wegberg	6.00	24.00	n/a	n/a
Münchener Hypothekenbank eG 2)	Munich	1.32		1,302,656	31,936
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		24,464	1,273
Norddeutsche Genossenschaftliche Beteiligungs-Aktiengesellschaft 1)	Hannover	0.71		1,322,633	41,374
Oberbergische Aufbau-Gesellschaft mit beschränkter Haftung	Gummersbach	7.32		1,922	334
Opción Jamantab S. A. DE C. V. 1)	Mexico City, Mexico	0.00		n/a	n/a
Partners Group Global Mezzanine 2007 S.C.A., SICAR 1)	Luxembourg, Luxembourg	2.24		152,442	17,522
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		n/a	n/a
Raiffeisen Waren-Zentrale Rhein-Main eG	Cologne	2.50		119,454	-6,030
Raiffeisen-Kassel A-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	294
Raiffeisen-Kassel B-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	294
Royale 120 New Building S.A. 1)	Brussels-Zaventem, Belgium	0.00		n/a	n/a
Royale 120 S.A. 1)	Brussels-Zaventem, Belgium	0.01		n/a	n/a
RREEF Pan-European Infrastructure Feeder GmbH & Co. KG 1)	Eschborn	17.70		404,036	0
Rund Vier GmbH & Co. KG 1)	Vienna, Austria	0.00		n/a	n/a
RW Holding AG 1)	Düsseldorf	2.46		425,974	0
S.W.I.F.T. Society for Worldwide International Financial Telecommunication 2)	La Hulpe, Belgium	0.31		69,854	219,049
Saarländische Wagnisfinanzierungsgesellschaft mbH	Saarbrücken	2.59		6,335	-68
SALEG Sachsen-Anhaltinische Landesentwicklungs GmbH 1)	Magdeburg	1.15		14,555	594
Sana Kliniken AG 1)	Munich	0.69		413,693	38,288
Schulze-Delitzsch-Haus, eingetragene Genossenschaft 1)	Bonn	0.95		1,174	144
Sechzehnte Gamma Trans Leasing Verwaltungs-GmbH & Co. Finanzierungs-Management KG i.L. 1)	Nidderau	16.51		n/a	n/a

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
SGB-Bank Spólka Akcyjna	Poznań, Poland	0.38		181,783	6,904
Sireo Immobilienfonds No. 1 GmbH & Co. KG 1)	Bonn	0.05		127,177	48,936
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	151,111	7,474
Target Partners Capital GmbH & Co. KG 1)	Munich	10.00	10.01	535	0
Technologiezentrum Schwäbisch Hall GmbH 1)	Schwäbisch Hall	4.17	5.56	569	62
Teko - Technisches Kontor für Versicherungen Gesellschaft mit beschränkter Haftung 1)	Düsseldorf	10.00		51	25
The Co-operators Group Ltd. 1)	Guelph, Canada	3.60		n/a	n/a
True Sale International GmbH	Frankfurt am Main	7.69		4,809	46
U.S. Central Federal Credit Union i.L.	Austin, USA	0.00		0	0
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
UIR Belgique 1 S.A. 1)	Brussels, Belgium	0.18		n/a	n/a
UIR Belgique 2 S.A. 1)	Brussels, Belgium	1.00		n/a	n/a
UIR Le Président 1 1)	Brussels-Zaventem, Belgium	0.00		n/a	n/a
UIR Le Président 2 1)	Brussels-Zaventem, Belgium	0.00		n/a	n/a
UIR MU III S.A. de C.V. 1)	Mexico City, Mexico	0.00		n/a	n/a
Vereinigte Volksbank eG 1)	Sindelfingen	0.01		n/a	n/a
Visa Inc.	San Francisco, USA	0.00		23,239,343	4,997,914
Volksbank Einlagensicherung eG 1)	Vienna, Austria	0.69		n/a	n/a
Vorgebirgs-Residenz Bonn-Endenich GmbH & Co. Kommanditgesellschaft	Unterschleissheim	5.00		102	0
VR-Bank Schwäbisch Hall eG 1)	Schwäbisch Hall	0.01		113,884	5,048
WESTFLEISCH Finanz AG 1)	Münster	0.36		74,512	11,622
WN Real Estate GmbH & Co. KG 1)	Weilheim	6.00		28	454
WRW Wohnungswirtschaftliche Treuhand Rheinland-Westfalen Gesellschaft mit beschränkter Haftung i.L.	Düsseldorf	2.73		n/a	n/a
ZAWISLA Immobilien GmbH + Co. KG 1)	Jockgrim	6.00	24.00	25	15
ZG Raiffeisen eG	Karlsruhe	1.05	0.02	79,033	-8,577
ZT Management Holding GmbH 1)	Weilheim	19.52		0	-27,414
Zweite EMH Grundstücksverwaltung GmbH & Co. KG 1)	Minden	5.20	24.50	n/a	n/a

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 6, 2018

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

The Board of Managing Directors

Kirsch   Berghaus   Dr. Brauckmann   Köhler

Dr. Riese   Speth   Ullrich   Zeidler

Independent auditor's report

To DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main

Report on the audit of the consolidated financial statements and of the group management report

Opinions

We have audited the consolidated financial statements of DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, and its subsidiaries (the Group), which comprise the consolidated income statement and the consolidated statement of comprehensive income for the fiscal year from 1 January 2017 to 31 December 2017, and the consolidated balance sheet as at 31 December 2017, consolidated statement of changes in equity and consolidated statement of cash flows for the fiscal year from 1 January 2017 to 31 December 2017, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, for the fiscal year from 1 January 2017 to 31 December 2017.

In our opinion, on the basis of the knowledge obtained in the audit,

– the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB ["Handelsgesetzbuch": German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2017, and of its financial performance for the fiscal year from 1 January 2017 to 31 December 2017, and
– the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and the EU Audit Regulation (No 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the fiscal year from 1 January 2017 to 31 December 2017. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

Below, we describe what we consider to be the key audit matters:

1. Valuation of the Shipping and Offshore credit portfolios

Reasons why the matter was determined to be a key audit matter

The valuation of credit portfolios and the estimate of any impairments of the loans required on this basis is a significant area involving judgement by management. The identification of impaired loans and determination of an appropriate impairment loss entail uncertainties and involve various assumptions and factors, in particular the financial situation of the counterparty, expectations of future cash flows, observable market prices and expectations of net sales prices. Minimal changes in the assumptions can lead to significantly differing valuations that can result, in particular for credit portfolios that are exposed to persistently negative market conditions, in an increase in the loan loss provisions required.

During our audit, the valuation of the Shipping and Offshore credit portfolios within the customer lending volume was a key audit matter because together the two portfolios make up a significant share of DZ BANK Group's total customer lending volume and the market conditions in these areas are persistently negative. In light of these uncertainties, judgements involved in determining assumptions for valuing the portfolios can have a significant effect.

Auditor's response

We assessed the design and operating effectiveness of the internal control system with regard to the key accounting-related lending processes. In doing so, we focussed on the processes for calculating impairments, including the inputs used.

We also performed substantive procedures on a sample basis, assessing specific valuation allowances in terms of necessity and adequacy in a test of details. We selected the sample with a view to risk, applying in particular criteria such as listing loans on watchlists for potential and acute risks of default, the loan-to-value ratio, the rating class of the Internal Rating Model (IRM) or existing specific valuation allowances.

We obtained an understanding of the method used to determine the significant assumptions in the impairment process. This included reviewing the estimates of the expected future cash flows of customers, including the cash flows from the realisation of collateral, and estimates of the recoverability of defaults on payments. The effects of deferral agreements were taken into account in this respect. For our review, we relied in particular on external appraisals and based our assessment on our knowledge of the industry development. Since the loans relate almost exclusively to asset finance, we paid particular attention to the impairment of collateral. This also included assessing the independence and the methodology of the external experts used by the Group to value the collateral or estimate the future cash flows.

We also consulted our own industry experts to validate the Group's valuation methods and estimates.

Our audit procedures did not lead to any reservations relating to the valuation of the Shipping and Offshore credit portfolios.

Reference to related disclosures

Information on the valuation of the credit portfolios (including Shipping and Offshore) is provided in sections 2, 5, 16, 35, 51 and 52 of the notes to the consolidated financial statements and in section 8.7.2. of the risk report in the group management report.

2. Measurement of home savings provisions

Reasons why the matter was determined to be a key audit matter

Home savings provisions primarily comprise provisions for loyalty bonuses and interest bonuses granted under certain scales by the group company Bausparkasse Schwäbisch Hall AG. The amount of the provisions to be recognised is determined on the basis of the results of the collective simulation (building society forecast). The determination of the underlying probabilities of customer behaviour (e.g., claiming of a loyalty bonus) is based on assumptions relating to the savers' future behaviour on the basis of historical data and the forecast capital market rate; these assumptions have a significant effect on the measurement of the provisions. The amount of the provisions thus determined is tested for plausibility by reference to a supplementary expiry simulation using expert estimates of the effect of measures to reduce claims of loyalty and interest bonuses. The forecast quality of the collective simulation model is tested annually during the validation process, by, among other things, backtesting.

In light of the complexity of the simulation models and the use of assumptions and estimates subject to uncertainty with a significant effect on the amount of the provisions, the measurement of home savings provisions was a key audit matter.

Auditor's response

We assessed the design and operating effectiveness of the internal control system with regard to the process for determining the amount of the provisions for loyalty bonuses and interest bonuses granted under certain scales.

For these reviews of the building society simulation model, we used specialists in the audit team who have particular expertise in the area of building society mathematics.

We checked the methodology and the clerical accuracy of the calculations of the amount of the provisions on the basis of the results of the collective simulation. In so doing, we examined the model used to determine whether the significant estimation inputs are included in the model and whether the model chosen with the related model assumptions appropriately determines the provision amounts within the scope of estimation accuracies customary in the industry for mathematically similar models.

We also checked the expert estimates about the effectiveness of the measures to reduce claims of loyalty and interest bonuses and their consideration in the building society simulation model.

In order to validate the estimation inputs, we analysed the Group's current calculations by reference to historical data and the periods used and their weighting in the model by comparing the results of the current validation report with the inputs estimated in previous years, allowing for the historical forecast accuracy.

Our audit procedures did not lead to any reservations relating to the measurement of the home savings provisions.

Reference to related disclosures

Information on the measurement of home savings provisions is provided in sections 2, 26 and 67 of the notes to the consolidated financial statements.

3. Measurement of technical reserves

a) Measurement of the gross benefit reserve allowing for the interest rate obligations entered into in respect of insured persons

Reasons why the matter was determined to be a key audit matter

The measurement of the gross benefit reserve for life insurance policies takes into account the Group's long-term obligations to policyholders. The benefit reserve is determined in accordance with IFRS 4.13 in conjunction with Sec. 341f HGB and Sec. 25 RechVersV ["Verordnung über die Rechnungslegung von Versicherungsunternehmen": German Insurance Accounting Directive] primarily using the prospective method in accordance with regulatory requirements and contains a range of assumptions about biometrics (including mortality or longevity and occupational incapacity), contract settlement (cancellation and lump-sum payment rates), and on costs and interest rates for actuarial obligations. These calculation assumptions are derived from the premium calculation assumptions for the various scales on the one hand, and on current calculation assumptions on the other. The latter may originate from statutory provisions (e.g., the reference interest rate in accordance with the DeckRV ["Verordnung über Rechnungsgrundlagen für die Deckungsrückstellung": German Ordinance on Calculation Assumptions for Benefit Reserves] or from publications by the German Association of Actuaries (DAV e.V.) (e.g., a more recent mortality table for longevity risk). In addition, entity-specific assumptions made on the basis of past experience and allowing for current legal and economic developments, e.g., cancellation and lump-sum payment probabilities or biometric assumptions, are used in the analysis. The Board of Managing Directors derives these assumptions from historical data using mathematical methods and from the reconciliation of long-term assumptions as recommended by DAV e.V.

In accordance with Sec. 341e (1) HGB, insurance companies are required to recognise technical reserves also to the extent deemed necessary according to prudent business judgment to ensure that obligations under insurance policies may be fulfilled at all times. The regulatory requirements adopted in the interests of the insured persons governing the calculation assumptions used to calculate the reserves, including the discount rate, and the allocation of certain investment income to the reserves must be observed.

In particular, the interest rate obligations entered into in respect of insured persons must be considered in accordance with Sec. 341f (2) HGB in conjunction with Sec. 5 (3) and (4) DeckRV in recognising the gross benefit reserve if the current or expected income from the Group's assets is not sufficient to meet these obligations. This leads to recognition of a supplementary change-in-discount-rate provision, as part of the gross benefit reserve, which comprises the supplementary change-in-discount-rate reserve (new policies) and an addition to the discount rate reserves (existing policies).

Some of the options allowed under regulatory law were exercised in determining the supplementary change-in-discount-rate reserve. In this connection, the Board of Managing Directors uses cancellation and lump-sum payment probabilities which are determined using judgement. These are affected in particular by assumptions about the behaviour of policyholders. In addition, biometric assumptions are used which have adjusted positive and negative safety margins based on observable developments and which are also subject to judgement.

The addition to the discount rate reserves is measured in accordance with the approved business plans and the notifications pursuant to Sec. 143 VAG ["Versicherungsaufsichts-gesetz": German Insurance Supervision Act] and in compliance with other regulatory requirements; they are derived subject to the use of judgement.

In light of the estimation processes and the related use of judgement and given the amount of the gross benefit reserve, this was a key audit matter.

Auditor's response

During our audit we walked through the processes for determining the gross benefit reserve (including the supplementary change-in-discount-rate provision) and assessed and tested the design and operating effectiveness of the controls implemented in these processes. The tested controls cover, among other things, the completeness and correctness of the portfolio.

In addition, we performed analytical and substantive procedures. For example, we developed our own expectation by extrapolating the gross benefit reserve on the basis of the profit allocations of recent years and the current development of the portfolio and compared this expectation with the reported values. In addition, we recalculated the gross benefit reserve and the supplementary change-in-discount-rate provision for selected subportfolios or policies. In addition, we performed ratio and time series analyses in order to test the plausibility of the development of the gross benefit reserve overall and for subportfolios or components thereof over time.

Our audit focused on the derivation and adequacy of the underlying calculation assumptions.

In order to review the adequacy of the calculation assumptions used to calculate the gross benefit reserve, especially in respect of the options allowed under regulatory law for the calculation of the supplementary change-in-discount-rate reserve, we critically appraised the derivation of the calculation assumptions on the basis of the historical and current portfolio development, profit allocation and the Board of Managing Directors' future expectation of policyholder behaviour. When assessing the adequacy of the calculation assumptions used, we referred in particular to the recommendations and publications of DAV e.V. and BaFin ["Bundesanstalt für Finanzdienstleistungsaufsicht: German Federal Financial Supervisory Authority].

In addition, we examined whether an addition to the discount rate reserve in the relevant portfolio was in accordance with the approved business plans and notifications pursuant to Sec. 143 VAG and in compliance with the other regulatory requirements. We assessed changes in the valuation inputs by referring to the historical actuarial data of recent years. Furthermore, we analysed and tested the plausibility of the addition to the discount rate reserve – also on the level of subportfolios – by comparing data from multiple years.

In addition, we critically reviewed the explanatory report and the adequacy report of the Group's responsible actuary and the results of the annual forecasts in accordance with the requirements of BaFin to determine whether all risks with regard to the adequacy of the calculation assumptions and the ability to fulfil insurance policies at all time were considered in measuring the benefit reserve.

We used our own actuaries in the course of our audit.

Our audit procedures did not lead to any reservations relating to the measurement of the gross benefit reserve including the interest rate obligations.

Reference to related disclosures
Information on the measurement of the gross benefit reserve is provided in sections 2, 11 and 68 of the notes to the consolidated financial statements.

b) Measurement of the gross provision for claims outstanding

Reasons why the matter was determined to be a key audit matter
The gross provisions for claims outstanding includes the provision for known claims from direct non-life business and in reinsurance business and the provision for unknown direct non-life claims; they are measured in accordance with IFRS 4.13 and Sec. 341g HGB.

The gross provision for known direct non-life claims is measured on a case-by-case base and is based on a claims rate trend assumed by the Board of Managing Directors on the basis of current information about the claims rate trend and knowledge of the settlement of similar claims.

The gross provision for known claims from reinsurance business is generally measured in accordance with the requirements specified by the ceding insurers. If such requirements are not available or are not considered sufficient by the Board of Managing Directors for recognition of a provision, the gross provision is determined using actuarial methods. The Board of Managing Directors has established estimation procedures for this purpose. The estimates are primarily based on the instructions of the competent functional department on policy level, the related segment settlement patterns from the actuarial claims forecast and the respective terms of the insurance policy and on the previous year's estimates and the actual settlement (mis-estimation).

The gross provision for unknown claims from the Group's direct non-life business is measured on the basis of an actuarial method which uses assumptions made by the Board of Managing Directors about the expected number of future claims and the expected indemnification amount. The calculation method is based on a historical observation period of 5 years or, in some cases, 15 years. Depending on the class and type of insurance, the provision for unknown claims is recalculated every year as the product of the expected number of claims and the expected average cost per claim for each year in which claims occur.

The gross provision for claims outstanding is a major liability item in the Group's balance sheet. In light of the large number of claims measured on a case-by-case basis and the use of judgement in measuring the provision for known direct non-life claims and in determining settlement patterns in the reinsurance business and the assumptions for calculating the provision for unknown direct non-life claims, the measurement of the gross provision for claims outstanding was a key audit matter. There is a risk that the gross provisions for known and unknown claims in the aggregate and in the individual classes of insurance are not sufficient.

Auditor's response
During our audit we obtained an understanding of the process for processing claims and determining the gross provisions for known and unknown claims and the procedures, methods and controls used therein.

In so doing, we examined the gross provision for known claims from direct non-life business and from reinsurance business by reference to the processing of individual claims to determine whether the process for processing and provisioning claims – from the notice of claims to the accounting for claims – is appropriately designed. We tested the design and operating effectiveness of the controls implemented in this process.

In addition, for a risk-based sample of direct non-life claims, we examined whether the provisions recognised for known claims are sufficient on the basis of the information and insights available as at the reporting date. Furthermore, with the aid of data analytics, we analysed the quality of data underlying this claims reserve by examining the sum and age structure of the individual claims.

To assess the adequacy of the measurement of the gross provision for known claims from reinsurance business, we tested the plausibility of the actuarial estimation approaches used and examined a risk-based sample of individual claims reserves. In addition, we analysed the mis-estimation (difference between the original invoices actually received in the following year and the estimated values recognised in the previous year).

Furthermore, to assess the adequacy of the measurement of the gross provision for known claims from the direct non-life business and from reinsurance business, we performed our own claims forecasts on the basis of statistical methods and used the best estimate for each type of claim as a benchmark for assessing the measurement of the aggregated individual reserves.

We also analysed the claims ratios and claims averages by referring to multiple-year comparisons in order to identify any anomalies in the measurement.

For our review of the measurement of the provision for unknown direct non-life claims we examined the data used in the calculation in the form of the claims register for completeness and analysed and examined the adequacy of the calculations for the underlying expected extrapolated future claims figures. In addition, we examined the procedure for determining estimates of expected indemnification amounts to identify whether judgement was used within a plausible range to determine indemnification amounts.

We used our own actuaries in the course of our audit.

Our audit procedures did not lead to any reservations relating to the measurement of the gross reserve for outstanding claims.

Reference to related disclosures
Information on the measurement of the gross reserve for outstanding claims is provided in sections 2, 11 and 68 of the notes to the consolidated financial statements.

Other information

The supervisory board is responsible for the report of the supervisory board. In all other respects, the executive directors are responsible for the other information. The other information comprises the responsibility statement pursuant to Sec. 289 (1) Sentence 5 HGB. Additionally, other parts of the annual report of which we received a version before issuing this auditor's report, including the letter to the shareholders and the report of the Supervisory Board.

Our opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the executive directors and the supervisory board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as group auditor by the Annual General Meeting on 24 May 2017. We were engaged by the supervisory board on 24 May 2017. We have been the group auditor of DZ BANK AG Deutsche Zentral-Genossenschaftsbank without interruption since fiscal year 2002.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Art. 11 of the EU Audit Regulation (long-form audit report).

In addition to the financial statement audit, we have provided to the Institution or entities controlled by it the following services that are not disclosed in the consolidated financial statements or in the group management report: performance of reviews of interim financial statements, performance of voluntary audits of separate and consolidated financial statements of controlled entities, performance of project-based reviews, performance of the audit of reporting requirements and rules of conduct pursuant to Sec. 36 (1) WpHG ["Wertpapierhandelsgesetz": German Securities Trading Act], including the audit of custody operations, issuance of comfort letters, certificates pursuant to Sec. 5 InvStG ["Investmentsteuergesetz": German Investment Tax Act], performance of agreed-upon procedures pursuant to ISRS 4400, performance of reviews pursuant to ISRE 2410 and IDW AuS 900, audits of the service-related internal control system pursuant to IDW AsS 951 and ISAE 3402, audits of financial statements or elements thereof in accordance with IDW AuS 490, other assurance engagements pursuant to ISAE 3000, performance of reviews of financial investment brokers pursuant to IDW AsS 840, assurance engagements relating to compliance management systems pursuant to IDW AsS 980. In addition, permitted non-audit services in the form of tax and other advisory services for data requests from supervisory authorities and in connection with regulatory reports, provision of information in connection with current and planned legislative amendments and events for employees of DZ BANK Group, review of specialist designs for new accounting topics and in connection with the development of a planning tool, support services in connection with the digitalisation of product processes, preparation of certificates for foreign tax purposes, support with regard to new or amendment tax reporting or documentation requirements, review of tax returns and tax brochures).

German Public Auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Christian Mai.

Eschborn/Frankfurt am Main, 9. März 2018

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Dr. Freiling	Mai
Wirtschaftsprüfer	Wirtschaftsprüfer

Report of the Supervisory Board

Helmut Gottschalk, Chairman of the Supervisory Board of DZ BANK AG

In 2017, trends in financial markets reflected the improving economic conditions and the absence, to a large extent, of negative external factors. In equities markets, this positive environment led to both unusually low volatility and an uptrend in prices. This applied particularly to US stock indices, which hit new record highs almost continuously over the course of the year. By contrast, the upward movement of prices in Europe was temporarily held back by two factors: In the first half of the year, the potential success of populist parties in elections made the markets nervous. Although these worries dissipated, especially after the election of Emmanuel Macron in the French presidential elections, an unexpected rally in the value of the euro at the beginning of the second half of the year then resulted in new concerns. The stronger euro was partly attributable to certain statements made by the ECB, interpreted as an indication that there would soon be a shift in the direction of monetary policy. These market expectations turned out to be premature. This was confirmed in October when the ECB announced that it was extending its bond-buying program, putting the brakes on the upward march of the euro and causing the DAX to soar to a record high of more than 13,500 points. Long-term interest rates on both sides of the Atlantic persisted at low – albeit different – levels despite monetary policy starting to move in the opposite direction. One of the reasons for this was that the rate of inflation remained muted in 2017, regardless of the economic rebound.

Integration and migration following the merger with WGZ BANK

In 2017, a key focus for the bank, and thus for the activities of the Supervisory Board, was the functional integration of the former WGZ BANK into DZ BANK and the migration of IT systems following the merger completed in 2016. The functional integration consisted of the gradual transfer of business components to a uniform organizational structure and broadly standardized processes, and was completed by the end of 2017. Data from the systems used by the former WGZ BANK was migrated to the merged institution's target IT environment in several stages without any detrimental impact on day-to-day operations, and was also implemented in full in 2017. The Supervisory Board and its committees discussed the progress of the integration and migration and closely monitored the overall process. Any residual work, mainly comprising the archiving and decommissioning of legacy systems and the adaptation of remaining processes, will be carried out in 2018/2019.

Long-term strategic direction

One of the main matters addressed by the Supervisory Board was the refinement of the personnel and organizational structures of DZ BANK that is to be carried out by the end of the decade. At an extra meeting in July 2017, the Supervisory Board focused intensively on the main foundations that need to be put in place to prepare for these changes. This included the establishment of a new Central Advisory Council to ensure that the cooperative banks are adequately involved in the DZ BANK Group's important strategic decisions (to the extent permitted by the German Stock Corporation Act); the Central Advisory Council held its constituent meeting on March 20 and 21, 2018. Another key aspect of the structural changes examined by the Supervisory Board was the design of a holding company model that will provide the basis for managing the DZ BANK Group going forward. As a first step, the Board of Managing Directors and Supervisory Board reached agreement on a virtual separation of the holding company and the corporate bank. The separation of these two functions is reflected in the related personnel changes: With regard to a successor for Wolfgang Kirsch, the Supervisory Board has decided to appoint Uwe Fröhlich to the Board of Managing Directors with effect from January 1, 2019 and to make him Co-Chief Executive Officer with responsibility for activities relating to the cooperative financial network and corporate bank and also to appoint Dr. Cornelius Riese as Co-Chief Executive Officer with responsibility for activities relating to the holding company with effect from January 1, 2019; the necessary resolutions were adopted by the Supervisory Board at its meeting on February 21, 2018.

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 key aspect of the work of the Supervisory Board was the strategic focus of DZ BANK. In 2017, the Supervisory Board examined this both in terms of the integration of DZ BANK and the former WGZ BANK 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 in 2017. These 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 gave its support.

The DZ BANK Group's success in pursuing its strategy was again reflected in its strong business performance in 2017, as had been the case in previous years. It was able to use the encouraging net profit generated in 2017 to further strengthen its capital base. Overall, the retention of profit laid the foundations for ongoing compliance with the increased regulatory capital requirements.

Supervisory Board and committees

In 2017, 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 continued to be 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, the Supervisory Board conducted a self-evaluation on February 22, 2017. 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.

In a resolution passed on February 22, 2017, the Supervisory Board once again set the target for the proportion of women on the Supervisory Board and modified its strategy aimed at promoting the nomination of women, who are currently under-represented. The objective of this strategy is, by 2021, to stabilize the number of female members of the Supervisory Board at the current level as a minimum (on the date of the adopted resolution and as at December 31, 2017: four members or 20 percent). This ratio was maintained in 2017. The BVR's appointment of Ms. Marija Kolak to the Supervisory Board increased the number of female members of the Supervisory Board to five (which equates to 25 percent) from January 1, 2018.

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 2016, internal training was again provided for the members of the Supervisory Board in 2017 on subjects relating to regulation and commercial law as well as on various special topics related to the responsibilities of the Supervisory Board.

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.

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

Frank Westhoff left DZ BANK on May 1, 2017 at the end of his term of appointment to the Board of Managing Directors after around fifteen years of service at the bank. In his role as a member of the Board of Managing Directors of DZ BANK over a period of approximately eleven years, Mr. Westhoff assiduously developed and refined DZ BANK's risk management system as well as consolidating the bank's lending culture. Lars Hille also left DZ BANK on June 10, 2017 at the end of his term of appointment to the Board of Managing Directors after giving some nineteen years of service to the bank. In his role as a member of the

Board of Managing Directors of DZ BANK over a period of approximately ten years, Mr. Hille continued to develop the capital markets, investment certificates, and private banking activities of the DZ BANK Group in the interests of the cooperative financial network and actively promoted Frankfurt as a financial center on behalf of the bank. Karl-Heinz Moll retired on July 1, 2017 after working for WGZ BANK and its legal successor DZ BANK for some forty years. A member of the Board of Managing Directors for around eighteen years, Mr. Moll was a proven financial markets expert. His remit covered two areas that he was responsible for overseeing and developing: capital market partners & trading plus treasury. Effective January 1, 2018, Hans-Bernd Wolberg retired after almost forty years of service in the cooperative financial network, of which around thirty were spent at WGZ BANK and its legal successor DZ BANK. A member of the Board of Managing Directors for around fifteen years, of which approximately five as Chief Executive Officer and, after the merger, Deputy Chief Executive Officer, Mr. Wolberg established a much closer long-term relationship between the central institution and the local cooperative banks in the regions. He also played a key role in the successful merger of WGZ BANK and DZ BANK and used his energies to help initiate the holding company strategy and the idea of a Central Advisory Council. The Supervisory Board would like to thank Messrs. Wolberg, Hille, Moll, and Westhoff for their many years of outstanding service on the Board of Managing Directors of DZ BANK. As a result of these changes, the Board of Managing Directors decreased in size from twelve to eight members. Effective November 1, 2017, Mr. Fröhlich joined DZ BANK, initially as General Executive Manager. Back in July 2017, the Supervisory Board made a fundamental decision regarding the direction it wished to take in relation to the long-term planning for a successor to Mr. Kirsch. As a result of this decision, Mr. Fröhlich and Dr. Riese are to be appointed as Co-Chief Executive Officers of DZ BANK from January 1, 2019 and on this date will jointly take over the leadership of the Board of Managing Directors from Mr. Kirsch.

Meetings of the Supervisory Board and its committees

The Supervisory Board held six meetings in 2017. Members of the Supervisory Board and its committees regularly attended meetings and participated in the written resolutions adopted by the Supervisory Board and committees in 2017. Average attendance at meetings was around 97 percent. No member of the Supervisory Board had an attendance record of less than 83 percent.

At its meetings in 2017, 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 as well as on current issues relating to long-term equity investments. The full Supervisory Board also examined the single-entity financial statements, management report, and proposal for the appropriation of profit of DZ BANK as well as the consolidated financial statements and group management report for the year ended December 31, 2016 and approved them in line with the Audit Committee’s resolution recommendation. The Supervisory Board discussed the report on profitability in 2016 and, in accordance with the Audit Committee’s recommendations, approved the report of the Supervisory Board to the Annual General Meeting as well as the agendas for the Annual General Meeting on May 24, 2017 and the Extraordinary General Meeting on November 2, 2017, including the resolutions to be put to these meetings. 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 2017, the auditor for the group’s half-year financial report and other interim financial statements, and 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. Other deliberations of the Supervisory Board focused on the requirement for the DZ BANK Group to report on non-financial issues (corporate social responsibility (CSR) reporting requirement), following which it agreed on subsequent procedure in accordance with the Audit Committee’s implementation recommendations. In addition, the Supervisory Board discussed the main points and findings of the 2017 review under the Supervisory Review and Evaluation Process (SREP) with representatives from the ECB.

The Supervisory Board also discussed DVB Bank (DVB) in detail at several meetings. It deliberated particularly intensively on the results of a special audit by the ECB of the shipping and offshore portfolio, the risk and capital situation, and the company's future strategic direction. In addition, the Supervisory Board signed off an income subsidy for the company and, at an extraordinary general meeting, recommended to the shareholders of DZ BANK that they approve the conclusion of a control and profit transfer agreement between DZ BANK and DVB.

Under items scheduled for regular discussion, the strategic and operational planning at DZ BANK AG and in the DZ BANK Group was covered at meetings of the full Supervisory Board in the third and fourth quarters of 2017. This included acknowledging and discussing the recovery plan, which is a legal requirement for banks identified as posing a potential systemic risk. The Supervisory Board also deliberated on and approved various requests in connection with transactions requiring its consent, such as long-term equity investments, loans, and the transfer of DZ BANK shares. This included approval for DZ BANK Ireland to discontinue operations. Another matter addressed by the Supervisory Board was the status of the international business.

The Supervisory Board reviewed HR matters arising in 2017. The full Supervisory Board also discussed the terms of appointment and contractual matters in connection with individual members of the Board of Managing Directors, addressed the appraisal of both the Board of Managing Directors and the Supervisory Board itself, and made associated decisions based on recommendations from the Nominations Committee. The Supervisory Board discussed and adopted resolutions concerning the attainment of targets in 2016 and the planning of targets for 2017 in respect of the Board of Managing Directors, approved an updated strategy for increasing the proportion of women on the Board of Managing Directors and on the Supervisory Board, and updated the current job description and existing applicant requirements profile for members of the Supervisory Board in preparation for any submission of proposed names in elections for new members. In addition, the full Supervisory Board considered the amendments to the German Regulation Governing Remuneration at Institutions (InstitutsVergV) that came into force on August 4, 2017, together with the necessary associated adjustments to the Board of Managing Directors' remuneration system effective January 1, 2018, and approved appropriate guidelines. It also deliberated the further development of the structure of the Board of Managing Directors and a change to the service contracts for members of the Board of Managing Directors, and adopted the necessary resolutions in this regard in accordance with the recommendations submitted by the Remuneration Control Committee. Additionally, the Supervisory Board discussed the appropriateness of Board of Managing Directors' remuneration and the progress made in redesigning the Board of Managing Directors' remuneration system, as well as carrying out the regular review of such remuneration. In other matters, the Supervisory Board noted and reviewed the structure of employee remuneration systems, the remuneration control report, the total amount to be allocated for variable remuneration, the appointment of a new remuneration officer on January 1, 2018, and the latest regulatory developments, especially in connection with the new version of the InstitutsVergV. It fixed the total amount of variable remuneration at DZ BANK for special payments as part of the migration project. The full Supervisory Board also approved a medium-term HR strategy and a new remuneration strategy for the Supervisory Board itself. 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 2017. During this period, the Nominations Committee held four meetings, the Remuneration Control Committee five meetings, the Audit Committee four meetings, and the Risk Committee five meetings. The Mediation Committee did not need to meet in 2017.

The Nominations Committee reappointed its Chairman and its Deputy Chairman in line with the Supervisory Board's recommendation in 2017. In its principal activities, the Nominations Committee discussed the appraisal of the Board of Managing Directors and the Supervisory Board, approved an updated strategy for increasing the proportion of women on the Board of Managing Directors and on the Supervisory Board, and updated the current job description and existing applicant requirements profile for members of the Supervisory Board in preparation for any submission of proposed names in elections for new members. It also addressed the further development of the structure of the Board of Managing Directors and extensions to the periods for which individual members of the Board of Managing Directors were appointed.

At its meetings in 2017, the Remuneration Control Committee focused on remuneration issues and contractual matters relating to individual members of the Board of Managing Directors, and made recommendations to the Supervisory Board for approval, where necessary. The issues included the variable remuneration of the Board of Managing Directors – primarily setting the amounts for 2016 and defining the company and individual targets for 2017 – and the setting of the overall amount of variable remuneration at DZ BANK (section 15 in conjunction with section 7 InstitutsVergV). In addition, the Remuneration Control Committee considered the amendments to the InstitutsVergV that came into force on August 4, 2017, together with the necessary associated adjustments to the Board of Managing Directors' remuneration system effective January 1, 2018, and approved appropriate guidelines. The committee also discussed an amendment to the service contracts of the members of the Board of Managing Directors, the appropriateness of the Board of Managing Directors' remuneration, the progress made in redesigning the Board of Managing Directors' remuneration system, and the regular review of such remuneration, and submitted related recommendations to the Supervisory Board. The Remuneration Control Committee reviewed and confirmed 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 note the findings of the review with approval. The committee also examined the structure of the employee remuneration systems (section 3 (1) sentence 2 InstitutsVergV), the remuneration control report that had been presented by the remuneration officer (section 24 (3) InstitutsVergV), and the appointment of a new remuneration officer effective January 1, 2018, and noted these items with approval. In addition, the committee recommended to the Supervisory Board the total amount to be set in respect of variable remuneration at DZ BANK for special payments as part of the migration project. Finally, the Remuneration Control Committee received information from the remuneration officer about, and discussed, new regulatory requirements, their impact on DZ BANK, and progress with their implementation at DZ BANK.

The topics covered in the Audit Committee meetings in 2017 were as follows: the findings of 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, 2016 by EY; the half-year financial report of the DZ BANK Group for the six months ended June 30, 2017 and the review of this report by the auditor EY; the audit report on the securities and investment services business in 2016/2017; the auditor's areas of focus for 2017; 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 2017, the auditor for the review of 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. In addition, the Audit Committee addressed the requirement for the DZ BANK Group to prepare a CSR report and submitted a recommendation for implementation to the Supervisory Board. Where necessary, the committee proposed resolutions to the Supervisory Board in regard to the aforementioned points. Furthermore, it examined and discussed the business performance, capital/profitability situation, and current tax changes in the DZ BANK Group. In connection with an income subsidy provided for DVB by DZ BANK, the committee also held detailed discussions about the risk and capital situation at this subsidiary. The Audit Committee looked at supervisory audits in the DZ BANK Group, in particular those in relation to BCBS 239, IFRS 9, and IT risk, the progress in the implementation of the associated projects, and the latest regulatory developments. It also devoted time to the project portfolio, especially the IT project portfolio, migration, and the planned organizational changes to the finance function. Other matters addressed by the committee included internal audit reports for the periods ended December 31, 2016 and June 30, 2017, the annual compliance report for 2016, 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 considered the requirements arising from the German Auditing Reform Act (AReG), especially the new audit opinion, the update to the Audit Committee's guidelines on approving non-audit services provided by auditors and approving such services on an ad hoc basis, and the preparation of the selection procedure for a change of (group) auditor.

At its meetings in 2017, 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, 2016, and the change in specific loan loss allowances. The committee also examined the current risk situation in the DZ BANK Group, especially the recovery indicators, the aggregate risk and credit risk report, the risk strategies, and the results of the economic and reverse stress tests, and in doing so monitored the effectiveness of the risk management system. The Risk Committee reviewed validation reports on algorithmic trading. It also discussed the SREP decision by the ECB, the ECB's follow-up letter on liquidity management, and the ECB's 2017 stress test, and noted the progress made on implementing the EBA guidelines covering exposures to shadow banking. The Risk Committee reviewed the remuneration systems and recommended to the Supervisory Board that the requirements of section 7 InstitutsVergV be recognized as satisfied in terms of the current overall amount of variable remuneration. The committee also discussed the increase in flexibility for high-quality liquid asset (HQLA) investments in relation to new ABS business and the adjustments to the credit risk strategy carried out in this regard. In addition, it discussed terms and conditions in the customer business, the methods for determining credit risk, the structural limits, country limits, limit lists for banks and insurers, and the CORAL asset-backed commercial paper (ABCP) program. Other matters discussed and dealt with by the Risk Committee included current issues or transactions during the course of the reporting year concerning long-term equity investments. The committee adopted resolutions in this regard, where necessary. It carefully studied the results of the special audit by the ECB of the shipping and offshore portfolio as well as the risk and capital situation at DVB. The Risk Committee appointed its Chairman in line with the Supervisory Board's recommendation.

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 year ended December 31, 2017 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 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 dialog also covered the new audit opinion pursuant to section 322 HGB (including the key audit matters). The Supervisory Board agrees with the findings of the audit.

In connection with monitoring the independence and quality of the auditor within the meaning of article 39 (6) (e) of Directive 2014/56/EU, the Audit Committee of the Supervisory Board has (in addition to confirming the independence of the auditor) also satisfied itself that the prohibition on engaging EY to provide certain non-audit services has been complied with, and that EY has implemented appropriate processes and measures relating to quality assurance (including in connection with the acceptance and continuation of engagements, and in connection with independent quality assurance related to engagements) and is also regularly subject to external quality control in the form of a peer review. The Audit Committee has monitored the non-audit services performed by EY using a detailed list of permissible services approved in advance by the decision-making bodies of all public-interest entities (PIEs) in the group.

The Board of Managing Directors of DZ BANK has issued a non-financial statement pursuant to sections 289b and 315b HGB for the first time. The statement is in the form of a separate report. In accordance with section 111 (2) sentence 4 AktG, the Supervisory Board decided to submit the 2017 non-financial statement of DZ BANK to a voluntary audit. For reasons of efficiency, it seemed reasonable to engage DZ BANK's independent auditor to carry out the review of the non-financial statement. EY found that the non-financial statement prepared by DZ BANK for the period January 1, 2017 to December 31, 2017 satisfied the statutory requirements in all material respects. In accordance with a recommendation by the Audit Committee, the Supervisory Board agrees with this audit opinion following its own review of the non-financial statement. At its meeting on April 11, 2018, the Supervisory Board therefore approved the 2017 non-financial statement prepared by DZ BANK.

Adoption of the financial statements

At their meetings, 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 for the year ended December 31, 2017. 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 express any reservations following the concluding findings of its review. 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, 2017 at its meeting on April 11, 2018 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

Mr. Fröhlich stepped down from the Supervisory Board of DZ BANK, effective November 1, 2017. The Supervisory Board would like to thank Mr. Fröhlich for his many years of service on the Supervisory Board, during which time he spent more than six years as Chairman of the Risk Committee. The BVR appointed Mr. Gerhard Hofmann as a new member of the Supervisory Board for the period November 1 to December 31, 2017. The Supervisory Board would like to thank Mr. Hofmann for his work on the Supervisory Board. The BVR has appointed Ms. Marija Kolak as a member of the Supervisory Board from January 1, 2018.

The Supervisory Board wishes to thank the Board of Managing Directors and all employees of the DZ BANK Group for their valuable contribution in 2017.

Frankfurt am Main, April 11, 2018

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank,
Frankfurt am Main

Helmut Gottschalk
Chairman of the Supervisory Board

Editorial information

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank,
Frankfurt am Main
Platz der Republik
60325 Frankfurt am Main
Germany

Postal address:
60265 Frankfurt am Main
Germany

Telephone +49 (0)69 7447 01
Fax +49 (0)69 7447 1685
mail@dzbank.de
www.dzbank.com

This annual report is available in
electronic form on our website at
www.annualreport.dzbank.com.

DZ BANK AG
Deutsche Zentral-Genossenschaftsbank,
Frankfurt am Main
Platz der Republik
60325 Frankfurt am Main
Germany

www.dzbank.com