One Bank, One Team, One UniCredit.

Capital and balance sheet management

Transform

Enhanced service model

Ethics and Respect

Team 23

Compliance

Grow and strengthen client franchise

Process optimisation

Sustainable results

Sustainability

Paperless bank

Growth engines

Customer experience

Disciplined risk management

"Go-to" bank for SMEs

"Do the right thing!"

2019

UniCredit Bank AG Annual Report

Banking that matters.

HypoVereinsbank

Member of UniCredit

Disclaimer
This edition of our annual report is prepared for the convenience of our English-speaking readers. It is based on the German original, which takes precedence in all legal respects.

Published by:
UniCredit Bank AG
Head Office
D-81925 Munich
www.hvb.de
Registrar of companies: Munich HRB 421 48
Cover and creative definition: UniCredit S.p.A.
Creative definition: UniCredit S.p.A.
Design, graphic development and production: UniCredit S.p.A.
Typesetting: Serviceplan Solutions 1 GmbH & Co. KG, Munich

Contents

Business Situation and Trends

Corporate structure of UniCredit Bank AG

Legal structure

UniCredit Bank AG (HVB), formerly Bayerische Hypo- und Vereinsbank Aktiengesellschaft headquartered in Munich, was formed in 1998 through the merger of Bayerische Vereinsbank Aktiengesellschaft and Bayerische Hypotheken- und Wechsel-Bank Aktiengesellschaft. It is the parent company of HVB Group. HVB has been an affiliated company of UniCredit S.p.A., Milan, Italy (UniCredit), since November 2005 and hence a major part of the UniCredit corporate group as a subgroup.

Since the shares held by minority shareholders of HVB were transferred to UniCredit compliant with Section 327a of the German Stock Corporation Act (Aktiengesetz – AktG), as resolved at the Annual General Meeting of Shareholders in June 2007 and entered in the Commercial Register on 15 September 2008, UniCredit has held 100% of the share capital of HVB. Thus, trading in HVB shares officially ceased. As a capital-market-oriented company, HVB remains listed on securities exchanges as an issuer of Pfandbriefe, bonds and certificates, among other things.

Organisation of management and control

Leadership function and Supervisory Board

The Management Board is the management body of HVB and consists of seven members as a basic rule. The Management Board is directly responsible for managing the Bank. It is obliged to act in the interests of the company and to sustainably increase its corporate value. Within the framework of its leadership function, it is responsible above all for corporate planning and strategic orientation, and for ensuring adequate risk management and risk control. The Management Board provides the Supervisory Board with reports at regular intervals, particularly on all issues relevant to corporate planning and strategic development, the course of business, the state of the Bank and its subsidiaries, including the risk situation, and significant compliance issues. The members of the Management Board are jointly responsible for managing the Bank and for the proper business organisation of HVB. The responsibilities of the Management Board of HVB are specified in a schedule of responsibility, which forms part of the Management Board's internal regulations. The Management Board's internal regulations also specify particularly the matters reserved for the Management Board and the requirements for adopting resolutions and the required majorities.

There were no changes to the Management Board in 2019.

The Supervisory Board of the Bank has twelve members and has an equal number of employee and shareholder representatives. The task of the Supervisory Board is to monitor and regularly advise the Management Board as it conducts its business. The Supervisory Board has adopted by-laws specifically defining the details of the work within the Supervisory Board, the creation of committees and their tasks and the tasks of the Chairman of the Supervisory Board. In addition, the by-laws state that certain types of transactions require the approval of the Supervisory Board.

Ms Beate Dura-Kempf resigned as employee representative on the Supervisory Board with effect from the end of 31 January 2019. She was succeeded by Ms Claudia Richter with effect from 8 February 2019 by court appointment. Furthermore, Mr Gianni Franco Papa resigned from the Supervisory Board with effect from the end of 2 June 2019. Mr Gianpaolo Alessandro was elected to the Supervisory Board at the Annual General Meeting held on 3 June 2019. Mr Gianpaolo Alessandro was elected the new Chairman of the Supervisory Board with effect from 3 June 2019. With effect from the end of 27 November 2019, Mr Francesco Giordano resigned from the Supervisory Board. He was succeeded by Mr Olivier Khayat, who was elected to the Supervisory Board at the Extraordinary Shareholders' Meeting held on 28 November 2019.

A list showing the names of all of the members of the Management Board and the Supervisory Board of HVB is given in the Note "Supervisory Board", and the Note "Management Board", in the present Annual Report.

Statement pursuant to Section 289f (4) of the German Commercial Code

The Supervisory Board of UniCredit Bank AG set a target that one third of the members of the Supervisory Board should be women, which is to be achieved by 31 December 2021. Both the shareholder and the employee representatives on the Supervisory Board are to contribute to achieving this target. Three members of the Supervisory Board are women: Dr Marita Kraemer and Prof Dr Annette G. Köhler as shareholder representatives and Ms Claudia Richter as an employee representative. Achieving this target will be given priority particularly during the scheduled elections to the Supervisory Board in the 2020 financial year.

For the proportion of women on the Management Board, the Supervisory Board adopted a target that one seventh of the members should be women, which was to be achieved by the end of the first statutory compliance period (30 June 2017). In the 2017 financial year, the Supervisory Board once again set a target that one seventh of the members of the Management Board should be women, which is to be achieved by 31 December 2021. By appointing Ms Sandra Betocchi Drwenski as a Management Board member (Chief Operating Officer – COO) from 1 November 2017, this target was achieved in 2017. By appointing Ms Ljiljana Čortan as a Management Board member (Chief Risk Officer – CRO) from 1 January 2018, two sevenths of the members of the Management Board are currently women.

For the proportion of women in the first and second management levels below the Management Board respectively, the Management Board set the following targets, which were to be achieved by the end of the first statutory compliance period (30 June 2017): 22 percent of women in the first and 24 percent in the second management level below the Management Board. Measures to promote women and more mixed management teams have been a focus at HVB for a long time: concepts for work-life balance were developed and career development instruments were put in place to specifically support female talents and top performers in their careers. Talented women are made visible in discussion and management forums. The Bank already defined internal targets coupled with specific initiatives for the individual business segments in 2012. These are evaluated and followed up each quarter.

Based on this approach the proportion of women close to Management Board level has continually increased since 2012, even though the ambitious targets for the two management levels below the Management Board have not yet been reached. At 31 December 2019, the proportion of women at the first level below the Management Board was 18 percent (target: 22 percent) and at the second level below the Management Board 20 percent (target: 24 percent). The reasons for this can be found in the structural conditions of the individual business segments. In areas with a traditionally rather low representation of women, the proportion of women in management positions increased only at a slow but steady rate, while in areas with an equal distribution of men and women, the targets had already been met. At the same time, to date the Bank has deliberately applied sustainable measures effective in the medium term to prepare high potential female employees for their career. This ensured that there was a steady improvement in the equal representation of men and women in the candidate pools for higher-level management positions.

In the 2019 financial year, the Management Board confirmed the targets of 22 percent of women in the first and 24 percent in the second management level below the Management Board, which are to be achieved by 31 December 2021. As in the past, the Bank is placing a strong focus on binding measures and percentages in the talent and successor pools as well as on promotion and appointment processes. Particularly in the rapidly changing environment of the banking business and in connection with our transformation strategy, it should be possible to easily achieve our gender goals.

Business Situation and Trends (Continued)

Non-financial reporting
In the context of transposing the Corporate Social Responsibility Directive into German law, certain large companies have been obliged to add a non-financial statement to their management reports since the 2017 financial year. This non-financial reporting covers labour, social and environmental issues (sustainability), respect for human rights and anti-corruption. As a fully consolidated subsidiary of the UniCredit corporate group, HVB abstains from publishing its own non-financial statement in accordance with Section 289b (2) of the German Commercial Code (Handelsgesetzbuch – HGB). The non-financial statement is issued, with a discharging effect for HVB, by our parent company, UniCredit S.p.A., Milan, and can be found on UniCredit's website "A Sustainable Bank" (www.unicreditgroup.eu/en/a-sustainable-bank.html).

Overall bank management
HVB's objective is to generate a sustainable increase in corporate value. To take account of the need for value-based management, we have implemented the principle of overall bank management based on earnings, risk, liquidity and capital aspects. This is explained in more detail in the Risk Report (please refer in particular to "Overall bank management" within the section entitled "Implementation of overall bank management"). The key performance indicators (KPIs) applied within the framework of the overall bank management at HVB are stated at the relevant places in the Management Report.

Business model, main products, sales markets, competitive position and locations in the 2019 financial year
HVB is part of UniCredit, a pan-European commercial bank with integrated corporate & investment banking. It offers its broad customer base a banking network across Western, Central and Eastern Europe that is both regional and international in focus. Our integration into UniCredit enables its international network and economies of scale to be exploited. UniCredit has a divisionally and regionally diversified business model. It provides its customers access to banks in 13 core markets and 18 other countries worldwide.

As a universal bank, HVB with its subsidiaries is a provider of banking and financial services in Germany. It offers a comprehensive range of banking and financial products and services to retail, corporate and public-sector customers, international companies and institutional customers. HVB has 363 offices around the world – 348 of which in Germany. In addition to its branch network, customers are served irrespective of their location in HVB's online branch in the retail banking business and through Business Easy in the corporate banking business. A breakdown of HVB Group's offices by region is shown in the Note "Offices" in this Management Report.

Business segments

HVB is divided into the following business segments:
– Commercial Banking
– Corporate & Investment Banking (CIB)
– Group Corporate Centre
– Other

Commercial Banking business segment

The Commercial Banking business segment serves all the customers in Germany with a need for standardised or personalised service and advice in diverse banking services in its Private Clients Bank and Unternehmer Bank business units. Depending on the advisory approach, a distinction is made as appropriate within Commercial Banking between retail customers, private banking customers, high net worth individuals/ultra high net worth individuals and family offices in wealth management, business and corporate customers as well as commercial real estate customers. In doing so, the Commercial Banking business segment builds on the common "HypoVereinsbank" brand and a largely identical sales network.

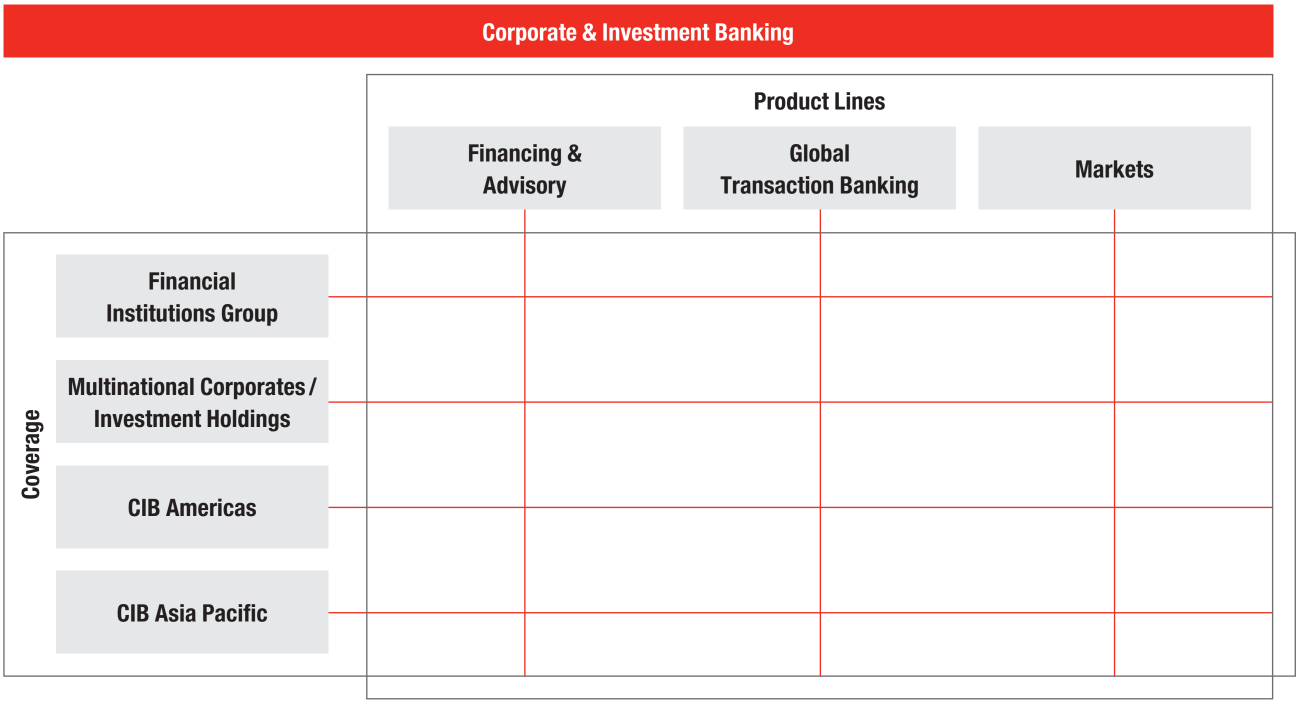
Commercial Banking offers a range of products and services enabling comprehensive customer support in line with the universal bank model. These services range from payment products, mortgage loans, consumer loans, savings-and-loan and insurance products as well as retail banking services through to business loans and foreign trade financing for corporate customers, fund products for all asset classes, advisory and brokerage services in the securities business, liquidity and financial risk management, advisory services for high net worth individuals and investment banking products for companies with access to the capital market. In addition to tailored portfolio concepts and financing solutions for high net worth private customers with an entrepreneurial background, the wealth management approach includes the brokerage of shareholdings.

Corporate & Investment Banking business segment

CIB is a global business segment of UniCredit organised around a matrix structure. CIB's business success is based on the close cooperation and interaction between customer care and product units as well as on cooperation with other countries and business segments of UniCredit and the credit risk management units responsible. As CIB operates as a global business segment, all the statements and definitions apply both to CIB within HVB and to CIB worldwide. HVB helps to shape the global CIB strategy through its global CIB Division, which is a centre of competence for international markets and investment banking. The member of HVB's Management Board responsible for CIB has decided to apply the global CIB strategy to HVB's CIB business so as to ensure a standardised approach for our customers worldwide.

CIB offers its customers:
– corporate banking and transaction services
– structured finance, capital markets and investment products as well as
– access to Western, Central and Eastern Europe.

Business Situation and Trends (Continued)



Customer support is organised horizontally:
Financial Institutions Group (FIG), Multinational Corporates (MNC) and Investment Holdings (GFO), CIB Americas and CIB Asia Pacific.

Three product factories are organised vertically:
Financing & Advisory (F&A) supports customers worldwide through the following departments: Financial Sponsors Solutions (FSS), Infrastructure & Power Project Finance (IPPF), Natural Resources (NR), Commodity Trade Finance (CTF) and Structured Trade and Export Finance (STEF).

Global Transaction Banking (GTB) offers a diverse range of products in the Cash Management and Trade Finance departments and thus meets the transaction-oriented needs of our customers in the fields of payments, account information, cash flow optimisation, liquidity management and mainly short-term import and export finance.

Markets is a customer-related business that supports the corporate and institutional operations of HVB as an integral part of the CIB value chain. The product area spans all asset classes: interest rates, currencies, commodities and equity derivatives. It offers our institutional customers, corporate customers and private investors risk management solutions and investment products through our own or external networks.

The aim of CIB's growth strategy concept is to provide our Mittelstand customers with greater access to HVB's investment banking platform. To enable more intensive care and support in Germany, a joint venture (JV) has been set up between CIB and UBK and embedded in the organisation of the CIB business segment. The organisational set-up focuses on selective product ranges from the Corporate Treasury Sales (CTS), Debt Capital Management (DCM), Equity Capital Management (ECM) and Corporate Finance Advisory (M&A) departments. The respective product specialists of the joint venture focus on the needs of UBK customers. This focused sales approach is expected to give a significant boost to cross-selling.

Group Corporate Centre business segment
The Group Corporate Centre business segment includes profit contributions that do not fall within the jurisdiction of the other business segments. Among other items, this includes the CFO, CRO and the CEO business units as well as the profits and losses of subsidiaries and other holdings, provided they are not assigned to the other business segments. Furthermore, this business segment incorporates the net income from securities holdings for which the Management Board is responsible. Also incorporated in this business segment are the amounts arising from decisions taken by management with regard to asset/liability management. This includes contributions to earnings from securities and money market transactions involving UniCredit S.p.A. and its subsidiaries. The Group Corporate Centre business segment also includes the Real Estate Restructuring (RER) customer portfolio.

Other business segment
The Other business segment encompasses the Chief Operating Office business unit and sees itself as a central internal service provider for customers and employees. The Chief Operating Office activities encompass purchasing, organisation, corporate security, logistics and facility management, cost management, back-office functions for credit, accounts, foreign exchange, money market and derivatives as well as in-house consulting. Payments, securities settlement, IT application development and IT operations have been outsourced. Strategic real estate management at HVB is also the responsibility of the Chief Operating Office business unit and is carried out by the Real Estate (GRE) unit, HVB Immobilien AG, Munich and by UniCredit Services S.C.p.A., Milan, which was engaged by HVB Immobilien AG, Munich by way of an operating contract.

Transform 2019 and Team 23
We implemented our three-year group-wide Transform 2019 strategic plan, although the headwind that the industry faced in these years was stronger than we had anticipated. Our new four-year Team 23 strategic plan focuses on growth. We aim to increase and strengthen our customer base and drive forward productivity. In doing so, we intend to deliver sustainable yields, operate reliably with integrity and deal responsibly with resources and the environment; we will also aim to do more than "business as usual". To underpin our growth, in the next four years we will be investing more than previously in further digitalisation, automation and process optimisation, for example, through end-to-end activities. In addition, we will create growth opportunities through greater interaction between business segments and the standardisation of customer platforms. At the same time, a further adjustment of our staffing levels is planned. As in the past, we will do this also in the future through socially compatible measures, i.e. to a large extent via natural fluctuation and partial and early retirement solutions. Moreover, new employment prospects will be created by continuing to promote existing initiatives; severance packages will be concluded where this is not possible. An agreement to this effect was concluded between the senior management and the Central Works Council on 5 December 2019. Our four-year planning is thus embedded in the group-wide Team 23 strategic plan, which is based on four pillars: grow and strengthen client franchise, transform and maximise productivity, disciplined risk management and controls as well as capital and balance sheet management.

Corporate acquisitions and sales
The sale of the associated company SwanCap Partners GmbH accounted for using the equity method was completed with effect from the end of 30 April 2019 (closing).

On 1 August 2019, HJS 12 Beteiligungsgesellschaft mbH, a fully owned subsidiary of UniCredit Bank AG, reached an agreement with an international financial investor on the sale of the shares in Ocean Breeze Energy GmbH & Co. KG. The closing of the transaction took place on 12 December 2019.

In September 2019, HVB Gesellschaft für Gebäude mbH & Co. KG, a fully owned subsidiary of UniCredit Bank AG, reached an agreement with an international asset manager on the sale of the shares held by it in AGROB Immobilien AG. The closing of the transaction took place on 23 October 2019.

Business Situation and Trends (Continued)

Economic report

Underlying economic conditions
Global economic growth has slowed to 2.9% in 2019 compared with the previous year, according to the International Monetary Fund (IMF), although there were some geographical differences. While the USA reported solid growth for 2019, Europe and some emerging markets grew at a slower pace. One of the main reasons for the weaker global economy was a decline in world trade. In addition, economic growth in China contracted in the past year. Even though fiscal stimuli, such as infrastructure projects, are likely to have supported Chinese GDP growth and industrial production in 2019, the trade conflict with the USA and the slowdown in private investments is expected to have had a negative impact.

The US economy was one of the main drivers of growth in the global economy again in 2019, although real GDP growth in the US economy has slowed to 2.3% (from +2.9% in the previous year according to the US Bureau of Economic Analysis (BEA)). In particular, the tensions between the USA and China and the increased uncertainty this caused undermined confidence among businesses, which we believe is why they postponed or cancelled their investment decisions. The export-oriented manufacturing industry even fell into a technical recession in mid-2019. This was offset by the Trump government's expiring fiscal stimulus, which was largely responsible for real GDP growth in 2018 and 2019 exceeding its long-term potential (of around 1.8% according to UniCredit Research). Moreover, a low level of unemployment of less than 4%, coupled with lower taxes, supported private consumption and provided further positive impetus for overall economic growth.

Growth in the GDP in the eurozone was weaker than expected on account of the lower performance figures recorded by Germany and Italy (1.2% in 2019 according to UniCredit Research compared with 1.9% in 2018 according to EuroStat). In this context, particularly the decline in global trade had a dampening effect, which was reflected in a significant gap in economic activity between the manufacturing industry and the services sector. Despite the ongoing tensions in the trade conflict between the USA and China and between the USA and Europe, the related protectionist measures and the uncertainty surrounding Brexit, investing activities in the eurozone remained fairly stable. Lower oil and energy prices bolstered growth in real household income and corporate profits.

By resuming its bond-buying programme in November last year (amounting to €20 billion per month), the European Central Bank (ECB) returned to a more expansionary monetary policy after letting its buying programme expire completely at the end of 2018. It also lowered the deposit rate to minus 0.5% and introduced a two-tier system for remunerating excess liquidity holdings. The inflation rate in the eurozone rose to 1.2% for 2019 as a whole (according to Eurostat), and was thus again below the ECB's target of close to but below 2.0% in this reporting year. In November 2019, the former head of the International Monetary Fund, Christine Lagarde, succeeded Mario Draghi, whose term of office ended in October.

At country level (data according to national statistical offices), the GDP in Germany grew by 0.6% in 2019 compared with 1.5% in 2018, and also in France, growth declined to 1.2% in 2019 compared with 1.7% the previous year. Italy's economic growth also contracted to 0.2% in 2019 compared with 0.9% in 2018. The economic recovery in Spain has slowed further to 1.9% in 2019 after weaker but nevertheless strong growth of 2.6% in 2018.

The lower growth momentum in Germany was largely due to the decline in industrial production and weaker demand from abroad. By contrast, positive impetus for growth came from domestic demand. In addition to a solid increase in private consumer and government spending, GDP growth was supported predominantly by a boost from the construction industry whereas there was a noticeable decline in investments in equipment.

Sector-specific developments

In 2019, the ECB continued to pursue its accommodating monetary policy and was a major factor influencing interest rate levels and spread developments.

In September 2019, the ECB's Governing Council lowered the interest rate on the deposit facility by 10 basis points to minus 0.5%. In addition, the ECB also repeatedly adjusted its outlook for interest rates. Originally, an interest rate hike was not envisaged before the second half of 2020. However, the ECB's Governing Council then announced in September 2019 that it would not raise interest rates before the inflation outlook had risen to the 2.0% target level.

Furthermore, the ECB also decided in September to restart its net bond purchases at rate of €20 billion per month from November 2019. At December 2019, it had purchased €2.6 trillion in assets in total and will reinvest not only the monthly net bond purchases but also maturing assets. At the same time, the ECB has announced that it will continue the net purchases until shortly before the hike in the ECB's key interest rates.

In March 2019, the ECB announced a third series of targeted longer-term refinancing operations (TLTRO III) as a further measure and improved the conditions once again in September. New drawdowns with a term of three years have been possible since September 2019 for seven quarters until March 2021. The interest for TLTRO III is within the range of the main refinancing operations and the interest rate on the deposit facility, whereby the final interest rate will depend, as in the previous programmes, on the development in new loans extended to companies and households without real estate loans.

Furthermore, the ECB has introduced a two-tier system for the interest on reserve holdings, which exempts a part of banks' holdings of excess liquidity from the negative deposit facility rate. European banks will thus be partially relieved of the negative interest on their deposits with the central bank.

With regard to political developments, progress in the area of the European deposit insurance scheme (EDIS) is particularly noteworthy. Following the introduction of the European banking supervision and bank resolution, EDIS is the missing link to completing the banking union. The German Federal Minister of Finance made appropriate proposals in November 2019. Germany's proposals envisage the gradual introduction of EDIS as a reinsurance system if, at the same time, several conditions are met, such as a further reduction of risk in banks' balance sheets and a change in the current regulatory treatment of government bonds. The discussion on the subject of EDIS in the Eurogroup in December 2019 showed that political talks on this are still at an early stage and an implementation of EDIS is questionable.

There is also basic political agreement on an enhanced role for the European Stability Mechanism (ESM). Among other things, the mandate of the ESM will be extended to include financial security for bank resolution by the European Single Resolution Board (SRB). In crisis situations, the ESM can provide a credit line to SRB of up to a maximum amount of €68 billion provided the available resources of the Single Resolution Fund have been fully utilised in advance.

The performance of European bank shares lagged behind the overall market in 2019. While the Euro STOXX 50 gained 25.0% in 2019, the STOXX Europe 600 Banks rose only 9.0% in the same period. This is attributable to macroeconomic and political uncertainty and to a further decrease in interest rates and interest expectations. However, the mood for bank shares brightened again from September onwards.

In the USA, the yield on ten-year US treasury bonds fell significantly from over 2.6% at the end of 2018 down to 1.9% at the end of 2019. The yield on the ten-year bonds of the Federal Republic of Germany also fell significantly in 2019 from a positive 17 basis points down to 71 negative basis points in August. The yield then rose again sharply to negative 19 basis points by the end of the year. In our opinion, the substantial decrease in the level of interest rates is attributable to growing political uncertainty and an expected interest rate cut by the Federal Reserve Bank (FED) and the ECB. The 3-month Euribor remained at negative 45 basis points until September but then rose again to negative 39 basis points. In 2019, the euro depreciated slightly against major currencies (US dollar, Swiss franc, Japanese yen and British pound).

Business Situation and Trends (CONTINUED)

Risk premiums for Italian government bonds narrowed sharply in 2019, particularly in the second half of the year. The spread between the ten-year Italian and German government bonds decreased by 90 basis points to 160 basis points at the end of 2019 compared with 250 basis points at the end of 2018. Risk premiums initially rose in the first half of 2019. The strong showing of the Lega in the European elections and the large losses of the Five-Star Movement (M5S) led to tensions between the coalition partners and an increase in risk premiums. At the same time, in a letter to the Italian finance minister, the EU Commission warned that Italy was running the risk of not complying with EU fiscal policy rules. After intensive negotiations between Brussels and Italy, Brussels declared at the beginning of July that it would not initiate an excessive deficit procedure, which clearly brightened the mood. A new government was formed in Italy in August after M5S members had supported a coalition with the Partito Democratico (PD) under Prime Minister Giuseppe Conte. The diminishing political risk resulted in a higher risk appetite on financial markets and a significant reduction in the risk premium for Italian government bonds and bank bonds of Italian banks.

Operating performance

The 2019 income statement and important events in the 2019 financial year

	2019	2018	CHANGE	
INCOME STATEMENT	€ millions	€ millions	€ millions	in %
Net interest income	3,223	2,757	+ 466	+ 16.9
Net fees and commissions	962	1,010	– 48	– 4.8
Net income from the held-for-trading portfolio	478	345	+ 133	+ 38.6
Other operating income less other operating expenses	605	(673)	+ 1,278	
Operating income	**5,268**	**3,439**	**+ 1,829**	**+ 53.2**
General administrative expenses	(3,596)	(3,193)	– 403	+ 12.6
Payroll costs	(1,955)	(1,624)	– 331	+ 20.4
Other administrative expenses[1]	(1,641)	(1,569)	– 72	+ 4.6
Operating result before provisions for losses on loans and receivables	**1,672**	**246**	**+ 1,426**	**>+ 100.0**
Provisions	145	(242)	+ 387	
Operating result	**1,817**	**4**	**+ 1,813**	**>+ 100.0**
Other income less other expenses	(368)	17	– 385	
Extraordinary income/expenses	1	496	– 495	– 99.8
Profit before tax	**1,450**	**517**	**+ 933**	**>+ 100.0**
Tax	(399)	3	– 402	
Net income	**1,051**	**520**	**+ 531**	**>+ 100.0**
Transfer to the reserve for shares in a controlling				
or majority interest-holding company	(1)	—	– 1	
Withdrawal from the reserve for shares in a controlling				
or majority interest-holding company	—	—	—	
Transfer to other retained earnings	(263)	—	– 263	
Withdrawal from other retained earnings	2,501	—	+ 2,501	
Profit available for distribution	**3,288**	**520**	**+ 2,768**	**>+ 100.0**

1 Including standard amortisation and depreciation on intangible assets and property, plant and equipment.

Net interest income
At €3,223 million, the net interest income generated in the reporting year – net interest income/expenses – including current income from equity securities and other variable-yield securities, participating interests and shares in affiliated companies as well as income from profit-pooling and profit-and-loss transfer agreements – is significantly higher than the previous year's figure (€2,757 million). This is primarily due to income of €522 million from profit-and-loss transfer agreements (previous year: €138 million). This rise is mainly attributable to gains on the disposal of real estate in these companies.

Net fees and commissions
At €962 million, net fees and commissions were slightly lower year on year (€1,010 million).

Fees and commissions receivable of €1,241 million fell slightly compared with the previous year (€1,298 million). This decline is mainly due to lower fees and commissions receivable in the lending and credit business and largely the result of the absence of what is referred to as margin sharing with UniCredit Luxembourg S.A. after the merger as at 1 July 2018.

Fees and commissions payable fell a slight €9 million to €279 million in the reporting year (previous year: €288 million), which is primarily attributable to the decrease in commission paid in the securities and portfolio business.

Net income from the held-for-trading portfolio
There has been a significant year-on-year increase in net income from the held-for-trading portfolio from €345 million to €478 million.

The rise has various reasons. On the one hand, developments on stock markets and in interest rates were positive. On the other, there was stronger customer activity compared with the previous year. The development in interest rates caused negative effects for valuation adjustments, in particular for credit valuation adjustments and funding valuation adjustments.

Other operating income less other operating expenses
Net other operating income less other operating expenses rose a sharp €1,278 million to an income of €605 million in the 2019 financial year (previous year: expense of €673 million).

In April 2019, the Bank reached a settlement with the US and New York authorities to conclude the proceedings for violations of US financial sanctions in the period from 2002 to 2012. The amounts payable according to the settlement were lower than the provisions set aside for it, which means that it was possible to reverse the excess. The net additions to provisions for risks and charges in 2018 were largely due to the increase in provisions for this matter.

General administrative expenses
General administrative expenses were up year on year by €403 million to €3,596 million (previous year: €3,193 million), particularly on account of restructuring costs for early retirement schemes or severance payments in the course of implementing the four-year Team 23 strategic plan coupled with higher pension expenses as a result of the lower level of interest rates.

Operating result before provisions for losses on loans and receivables
The operating result before provisions for losses on loans and receivables rose by €1,426 million year on year to €1,672 million. This resulted in a substantial change in the cost-income ratio (ratio of operating expenses to operating income) to 68.3% after 93.0% in the previous year (adjusted for certain legal risk expenses and restructuring costs 68.2% in 2019 versus 74.1% in 2018).

Provisions for losses on loans and receivables
The provisions for losses on loans and receivables amounted to plus €145 million in the reporting period (previous year: minus €242 million). The net valuation income on lending operations contained in provisions for losses on loans and receivables totals €179 million (previous year: expense of €316 million), which was due to the reversal of general loan loss provisions of €233 million. At €34 million, a net loss was generated with securities held for liquidity purposes (previous year: net gain of €74 million).

Business Situation and Trends (Continued)

Other income less other expenses
Net other expenses of €368 million (previous year: net income of €17 million) is largely attributable to two effects. Due to the sale of the BARD Offshore 1 wind farm and the selling price expected or rather meanwhile received, it was necessary to waive a debt of €280 million on the bonds issued for financing. In addition, a write-down to the value of the participating interest in the affiliated company UniCredit Leasing GmbH of €104 million was carried out within the framework of Team 23.

Extraordinary income/expenses
Extraordinary income/expenses reported in the previous year includes the gain of €496 million on the merger of UniCredit Luxembourg S.A. with UniCredit Bank AG in July 2018.

Profit before tax
There was a substantial year-on-year increase of €933 million in profit before tax to €1,450 million. The reasons for this are in particular the transfers to provisions required in the previous year while the rise in dividends from affiliated companies in connection with the disposals of real estate primarily contributed to a higher result in the current financial year. This is partially offset by the expenses associated with Team 23.

Taxes
There is a tax expense of €399 million in the reporting year (previous year: tax income of €3 million). Among other things, non-tax-deductible expenses for legal risks and for write-downs on participating interests increased the tax expense. The previous-year figure was impacted in particular by the tax-reducing reversal of provisions.

Net income for the year and appropriation of net income
The profit available for distribution, which forms the basis for the appropriation of profit, amounts to €3,288 million. This consists of the net income of €1,051 million generated in the reporting year less the transfer to other retained earnings of €263 million and a withdrawal from other retained earnings of €2,500 million. We will propose to the Shareholders' Meeting that a dividend of €3,288 million be paid in total to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €4.10 per share after around €0.65 for the 2018 financial year. The profit available for distribution of €520 million reported in the previous year was distributed to UniCredit in accordance with a resolution adopted by the Shareholders' Meeting on 3 June 2019.

Assessment of the business situation
In our expectations concerning the development of profit before tax outlined in the outlook in last year's Management Report, we forecast a significant year-on-year increase. At €1,450 million, the profit before tax was a substantial €933 million up on the previous year. This also essentially applies to profit after tax, although the tax expense in 2019 was significantly higher due to counteracting non-deductible effects in the reporting year and tax-reducing effects in the previous year. The higher profit before and after tax was mainly due to the high dividends received from affiliated companies following the sale of real estate and the reversal of provisions that became possible following the conclusion of legal disputes concerning US financial sanctions and thus a significant increase in operating income instead of the only slightly higher projected result. On the other hand, expenses arose directly and indirectly as a result of Team 23. The low level of interest rates required additional expenditure in the area of old-age provision in connection with pension expenses. Consequently, it was not possible to further reduce the operating costs appreciably as planned. However, the reversal of general loan loss provisions resulted in a significant instead of only a slight decline in loan loss provisions.

Adjusted for the results from the provisions for risks and charges for legal risks, the cost-income ratio for 2019 amounted to 68.2% after 74.1% in the previous year and was thus noticeably better than the projected slight improvement. This is mainly due to some of the effects on results described above and an improved net trading income year on year.

In the reporting year, the CET1 capital ratio amounts to 17.1% in accordance with approved financial statements (previous year: 19.7%). The year-on-year decline of 260 basis points is based on the planned special dividend payout already factored into the calculation of the ratio.

Financial position

Total assets
HVB's total assets amounted to €273.0 billion at 31 December 2019. This represents a year-on-year increase of €12.8 billion.

The balances with central banks contained in the cash and cash balances item (€26.1 billion after €11.0 billion in 2018) were up year on year by €15.1 billion. The reason for this is the relief granted to banks in case of negative interest through the introduction of the two-tier system at the ECB. There was a decline of €9.0 billion in the deposit facility account held with Deutsche Bundesbank reported under loans and receivables with banks. Loans and receivables with customers rose by €3.9 billion to €119.2 billion, primarily due to new business in the field of real estate finance and in the syndicate business.

The holdings disclosed under securities (without held for trading portfolios) amounted to €56.9 billion (up €4.8 billion). The rise in holdings of bonds and debt securities in the liquidity reserve was increased in accordance with the liquidity management strategy. This increase relates on the one hand to USD bonds purchased in the course of adjusting USD liquidity management and on the other hand to bonds in euros as after the end of the ECB's bond-buying programme in December 2018, the supply shortage that this programme created eased again.

The termination of the financing for the BARD Offshore 1 wind farm in the course of its sale in 2019 had a reducing effect.

At €42.6 billion, assets held for trading were slightly higher than the previous year's level of €42.3 billion, although the cash positions declined year on year. This figure contains fixed-income securities including changes in value of €12.3 billion (previous year: €13.3 billion), equity securities and other variable-yield securities including changes in value of €9.4 billion (previous year: €10.1 billion) and receivables from securities repurchase transactions in the trading book of €2.0 billion (previous year: €2.8 billion). By contrast, the market values of derivative financial instruments rose to €13.6 billion (previous year: €10.9 billion) mainly as a result of lower interest. Other assets of €5.3 billion (previous year: €5.4 billion) remained almost unchanged.

The shareholdings disclosed under participating interests and shares in affiliated companies came to €1.6 billion (previous year: €1.7 billion). The decline is due to the impairment of the value of a share in an affiliated company.

There was an increase in volumes on the liabilities side in line with the development on the assets side. Within the deposits from banks (up €7.9 billion to €65.1 billion), a sharp increase in securities repurchase transactions (up €5.6 billion) had the most noticeable impact.

There was a decline in securities repurchase transactions with customers (down €3.4 billion). However, deposits from customers rose overall by €3.5 billion to €133.4 billion. The rise is mainly attributable to higher customer deposits (up €4.1 billion) and term deposits (up €2.7 billion).

Debt securities in issue rose by €5.1 billion to €25.2 billion in line with real estate finance in connection with mortgage bonds (up €3.4 billion) in particular. The volume of liabilities held for trading contracted (down €3.3 billion to €21.4 billion).

The decrease of €0.9 billion to €2.4 billion in provisions is largely a result of the conclusion of proceedings concerning violations of US financial sanctions in the period from 2002 to 2012.

Business Situation and Trends (Continued)

Shareholders' equity increased €0.5 billion to €16.4 billion compared with year-end 2018. The dividend payout of €0.5 billion for the previous year is offset by net income of €1.1 billion in 2019. The subscribed capital and the additional paid-in capital remained unchanged compared with the previous year. An amount of €2.5 billion will be withdrawn from retained earnings for profit distribution purposes. At the same time €0.3 billion of the net income will be transferred to retained earnings.

The return on assets is defined in Section 26a of the German Banking Act (Kreditwesengesetz – KWG) as the ratio of net profit to total assets. This amounted to 0.385% at 31 December 2019 (31 December 2018: 0.200%).

Contingent liabilities and other commitments not recognised in the balance sheet increased slightly to €81.5 billion (previous year: €78.8 billion). This figure includes contingent liabilities (€25.4 billion) from general loan guarantees (€0.9 billion), transaction-related guarantees (€20.4 billion) and trading-related guarantees (€3.9 billion). Other commitments of €56.5 billion (previous year: €52.7 billion) consist solely of irrevocable lending commitments, which increased year on year by €3.8 billion.

Risk-weighted assets, key capital ratios and leverage ratio of HVB

The total risk-weighted assets of HVB (including market risk and operational risk) determined in accordance with the Capital Requirements Regulation II (Kapitaladäquanzverordnung – CRR II) amounted to €78.4 billion at 31 December 2019 and were thus €0.4 billion lower than at year-end 2018. This is mainly due to the risk-weighted assets for credit risk (including counterparty default risk), which fell by €1.0 billion to €60.8 billion. The risk-weighted assets for market risk increased by €0.9 billion to €10.0 billion, while the risk-weighted asset equivalents for operational risk declined by €0.3 billion to €7.6 billion.

At 31 December 2019, Common Equity Tier 1 capital compliant with CRR II excluding hybrid capital (CET1 capital) and Tier 1 capital of HVB amounted to €13.4 billion and thus fell compared with year-end 2018 (31 December 2018: €15.5 billion in accordance with approved financial statements). The CET1 capital ratio (ratio of Common Equity Tier 1 capital to the total amount of credit risk-weighted assets and risk-weighted asset equivalents for market risk and operational risk) and the Tier 1 capital ratio under CRR II (including market risk and operational risk) amounted to 17.1% at 31 December 2019 in accordance with approved financial statements (31 December 2018: 19.7% in both cases). The decrease is attributable to the decline in CET1 capital. Own funds came to €13.8 billion at 31 December 2019 (31 December 2018: €16.3 billion in accordance with approved financial statements). The own funds ratio was 17.7% at 31 December 2019 (31 December 2018: 20.6% in accordance with approved financial statements).

The leverage ratio is determined by setting the Tier 1 capital measure against the total exposure measure. The total exposure measure is the sum total of the exposure values of all the assets and off-balance sheet items. In accordance with the Commission Delegated Regulation (EU) 2015/62, the leverage ratio of HVB in accordance with approved financial statements amounted to 3.8% at 31 December 2019 (31 December 2018: 4.5%).

Ratings

The credit rating of UniCredit Bank AG is assessed by Moody's Investors Service Inc. ("Moody's"), Standard & Poor's Credit Market Services Europe Limited ("S&P") and Fitch Ratings Limited ("Fitch").

The ratings of countries and banks are subject to constant monitoring by rating agencies. In the course of harmonising the liability cascade of bank liabilities within the EU, the provisions of Section 46f KWG were amended by the German legislator on 21 July 2018 and thus the insolvency ranking of bank liabilities of German banks was revised, in particular with regard to senior unsecured bonds.

Moody's responded to this legislative amendment by adjusting the rating of certain senior debt instruments of German banks on 3 August 2018. Moody's introduced junior senior bank debt as a class of instruments for senior non-preferred (SNP) debt instruments (contractual subordination). In addition, the senior unsecured debt instruments with legal subordination issued up to 20 July 2018, which had previously been reported under the issuer credit rating, were assigned to the new instrument class, as these debt instruments are equal in rank to SNPs. There was no premium on junior senior bank bonds resulting from possible government support as, in the opinion of Moody's, there is little likelihood of this class of instruments receiving government support. The junior senior unsecured instruments of UniCredit Bank AG were assigned a rating of Baa3. The portfolio of complex structured senior bonds outstanding at 20 July 2018, which to date had been grouped under the "senior senior debt" category, was assigned to the new "senior unsecured bank debt" class of instruments. The senior unsecured rating of UniCredit Bank AG was affirmed at A2. The rating category of senior unsecured bank debt instruments was defined as a point of reference for the issuer credit rating. As a result, the issuer credit rating of UniCredit Bank AG increased from Baa2 to A2. The deposit rating of UniCredit Bank AG was affirmed at A2/stable/P-1, while the counterparty risk rating (CRR) remained unchanged at A1/P-1 and the stand-alone rating at baa2.

Fitch responded to the amendment of Section 46f KWG by introducing an issue rating for senior preferred instruments, which under certain circumstances allows a higher rating than the issuer default rating. The main criterion for this is, in Fitch's view, a sufficient risk buffer through subordinated instruments (senior non-preferred debt and subordinated debt). However, Fitch presently sees a certain degree of uncertainty about the specific effects of UniCredit's resolution strategy on UniCredit Bank AG so that the issue rating of the senior preferred instruments of UniCredit Bank AG was set at currently BBB+/F2, the same level as the issuer default rating (IDR). The deposit rating of UniCredit Bank AG stands at BBB+/F2, the derivative counterparty rating (DCR) at BBB+. The outlook for the IDR remains negative as Fitch believes the fungibility of capital and liquidity could increase within banking groups under the direct supervision of the ECB. The ratings and outlook of UniCredit Bank AG were affirmed by Fitch on 19 November 2019 in the course of a regular rating review.

As part of the specification of the liability cascade, S&P already introduced the senior subordinated debt instrument rating in March 2017. The senior subordinated debt rating of UniCredit Bank AG is BBB. The resolution counterparty rating (RCR) was introduced in June 2018. S&P set its first rating for the RCR of UniCredit Bank AG at A-/A-2 and thus a notch higher than the long-term issuer credit rating. On 12 December 2019, S&P affirmed the ratings of UniCredit Bank AG. The issuer rating and the rating for senior unsecured instruments of UniCredit Bank AG remains at BBB+/A-2 with a negative rating outlook. The negative outlook for the issuer credit rating of UniCredit Bank AG indicates that the rating of UniCredit Bank AG might be lowered and reflects the uncertainties regarding the implementation of UniCredit's resolution strategy and its effects on UniCredit Bank AG, including the size and positioning of the bail-in cushion. Among other things, "negative" as a rating outlook indicates that the rating of UniCredit Bank AG might be lowered if increased economic or sector-specific risks in Germany significantly impair the quality of the assets and the strong capitalisation of UniCredit Bank AG is thus unable to be maintained.

Investments

In the 2019 financial year, investments were made mainly in the IT infrastructure, which primarily serve the purpose of digitalisation and the adjustment to stricter internal and external requirements. These investments were made and accounted for by UniCredit Services S.C.p.A. Among other things, UniCredit Services S.C.p.A. is the subsidiary of UniCredit responsible for IT to which HVB has outsourced its IT activities. No significant investments were made at HVB beyond the above, apart from the investments required in the ordinary course of business.

Business Situation and Trends (Continued)

Offices by region

		ADDITIONS	REDUCTIONS		
	1/1/2019	NEW OPENINGS	CLOSURES	CONSOLIDATIONS	31/12/2019
Germany	**348**	**2**	**—**	**2**	**348**
Baden-Wuerttemberg	15	1	—	—	16
Bavaria	201	—	—	—	201
Berlin	7	—	—	2	5
Brandenburg	7	—	—	—	7
Bremen	—	1	—	—	1
Hamburg	13	—	—	—	13
Hesse	8	—	—	—	8
Lower Saxony	10	—	—	—	10
Mecklenburg-Western Pomerania	4	—	—	—	4
North Rhine-Westphalia	8	—	—	—	8
Rhineland-Palatinate	14	—	—	—	14
Saarland	4	—	—	—	4
Saxony	8	—	—	—	8
Saxony-Anhalt	9	—	—	—	9
Schleswig-Holstein	35	—	—	—	35
Thuringia	5	—	—	—	5
Other regions					
Europe	**8**	**—**	**—**	**—**	**8**
France	1	—	—	—	1
Greece	1	—	—	—	1
United Kingdom	1	—	—	—	1
Italy	1	—	—	—	1
Luxembourg	1	—	—	—	1
Austria	1	—	—	—	1
Switzerland	2	—	—	—	2
Africa	**1**	**—**	**1**	**—**	**—**
South Africa[1]	1	—	1	—	—
Americas	**2**	**—**	**—**	**—**	**2**
USA	2	—	—	—	2
Cayman Islands	—	—	—	—	—
Asia	**5**	**—**	**—**	**—**	**5**
Hong Kong	1	—	—	—	1
Singapore	1	—	—	—	1
Japan	1	—	—	—	1
United Arab Emirates[1]	—	—	—	—	—
South Korea[1]	1	—	—	—	1
Vietnam[1]	1	—	—	—	1
Subtotal	**16**	**—**	**1**	**—**	**15**
Total	**364**	**2**	**1**	**2**	**363**

1 Representative offices.

Relations with affiliated companies

We have prepared a separate report on our relations with affiliated companies in the 2019 financial year which contains the following declaration made by the Management Board in accordance with Section 312 of the German Stock Corporation Act (Aktiengesetz – AktG):

"We declare that, based on the circumstances known at the time the legal transactions listed in this report were entered into, or the measures listed in this report were undertaken or omitted, UniCredit Bank AG received appropriate consideration for each transaction and did not suffer any disadvantage as a result of measures undertaken or omitted, or any disadvantages arising were compensated."

Report on subsequent events (events after the end of the reporting period)

There were no significant events at HVB after 31 December 2019 to report.

Forecast report/Outlook

The Management Report and the annual financial statements include statements, expectations and forecasts concerning the future. These statements, expectations and forecasts are based on plans and estimates that are supported by the information available to us at the present time. We assume no obligation to update these statements in the light of new information or future events. Known or unknown risks and uncertainties may be entailed in forward-looking statements, and the actual results and developments may thus differ significantly from those expected at present. Such discrepancies may result particularly from changes to the general economic situation and the competitive situation, developments on international capital markets, the possible default of borrowers or contracting parties in commercial transactions, the implementation of restructuring measures, amendments to national and international legislation relating in particular to supervisory and tax regulations, the reliability of our risk-management procedures and methods as well as other risks, some of which are described in detail in the Risk Report.

General economic outlook

At present, it is difficult to assess the extent to which the coronavirus will have a negative impact on global economic development. In addition to the large number of those infected in China, the coronavirus has spread further to other Asian countries, Europe and the USA. The WHO now classifies the spread of the novel coronavirus as a pandemic. Besides Asia, Euope, Italy in particular, is also directly affected by a decline in aggregate demand and an interruption of supply chains.

Growth in the global economy is likely to weaken further in 2020 (status as at mid-February 2020; cf. publication of UniCredit Research 2019). After an estimated growth of 2.9% in global output in 2019, we expect a moderate decrease to 2.7% in 2020. In addition to a slowdown in economic momentum in the USA, growth is also likely to contract in the eurozone due to weakening domestic demand. Another negative factor for the global economy is likely to be a renewed decline in China's growth, triggered by trade tensions with the USA and the ongoing transformation of the Chinese economy toward a more consumer-oriented economic model. However, China's monetary and fiscal measures to boost the economy, initiated in 2019, should help to stabilise growth this year.

In our baseline scenario we assume that the trade tensions between the USA and China will continue, albeit without triggering a further escalation. Although the USA and China have reached a "Phase 1" agreement, we consider such an agreement to be only provisional and incomplete, as it does not address the major issues underlying this dispute. Furthermore, we do not expect the USA to impose tariffs on European cars, which is likely to have a positive impact on the EU in particular. However, the threat of possible tariffs is likely to continue. Following Boris Johnson's win in the Brexit election, the UK ended its EU membership on 31 January 2020 and entered a transition phase lasting until the end of 2020 in which the long-term relationship between the United Kingdom and the EU will be renegotiated. However, due to the short transition period only a limited trade agreement between the EU and the United Kingdom is likely to be concluded so that considerable uncertainties remain, especially with regard to an

Business Situation and Trends (Continued)

exit without any agreement. We currently anticipate that there is little risk that the budget negotiations between Italy and the EU Commission in autumn 2020 could weigh on the markets. We also consider it unlikely that Italy will hold early elections in 2020 or 2021. The time window for calling such elections will close at the end of the first half of 2021, as the Italian constitution does not allow parliament to be dissolved in the six months before the current president's mandate expires.

The predicted slowdown in the US economy will contribute noticeably to weaker global growth in 2020. We expect real GDP growth in the USA to be 1.1% in 2020, and therefore 1.2 percentage points lower year on year, on account of late-cycle effects (such as lower profit margins and rising debt risk for US companies) and expiring fiscal measures. In our opinion, other factors will also adversely affect US growth this year. First, the labour market is likely to lose momentum as job vacancies have been declining since the beginning of last year, indicating a more pronounced slowdown in recruitment. As a result, we expect monthly salary increases to remain subdued this year. Combined with the diminishing effect of tax cuts, this is projected to lead to a perceptible decrease in the income gains available. Second, we anticipate that the ongoing trade tensions and the associated uncertainties will continue to weigh on US companies' confidence and cause them to postpone or cancel their investment decisions.

The US Federal Reserve has indicated that after a third rate cut in October 2019, when interest rates were lowered to a target range of 1.50–1.75%, there will probably be no further rate cuts unless there is a "significant" change in the outlook. However, in the context of our baseline scenario, we expect the Federal Reserve to resume its interest rate cuts of 25 basis points per quarter in 2020 and lower the target range to 0.50–0.75% by the year-end 2020. This reflects our forecast that GDP growth will be significantly lower than the Federal Reserve currently expects.

In 2020, we project lower growth of 0.8% in the eurozone and thus anticipate a noticeable decline compared to the previous year (up 1.2%). In this context, particularly the weaker global trade and decline in growth in the USA in the second half of 2020 will impact economic activity in the eurozone. By contrast, domestic demand will presumably also be an important mainstay this year, although its resilience is likely to weaken. Private consumer spending has already been weakening for several quarters, which has led to an increase in the savings ratio. The latter would seem to indicate that households have already started to adjust to a more uncertain environment and the prospects of slower job creation. Further "precautionary saving" this year is therefore possible and will probably have a negative impact on private consumption. Although investment in the eurozone has been stable so far despite a deterioration in companies' profitability, our baseline scenario (i.e. no recovery in foreign demand and continued weak corporate profits) suggests that investment growth is likely to slow down. The construction sector, however, is likely to be more resilient, although, according to our forecast, no large-scale infrastructure projects are in the pipeline in any of the major eurozone countries.

Following the ECB's resumption of its bond purchase programme in November last year, it is likely to keep its monetary policy very expansionary this year as well. We expect the current target interest rates to be maintained, even though the ECB will automatically make further purchases in line with its "chained guidance" monetary policies, which link the end of bond purchases with the timing of the first rate hike, provided the timing of interest rate normalisation is delayed. However, given that part of the ECB's Governing Council has strongly rejected the monetary policy measures adopted in September last year, the bar for further easing in the first half of 2020 is likely to be very high. In the second half of 2020, however, we anticipate that the risk of further monetary easing will increase, triggered by the slowdown in growth in the USA. Against this background it is conceivable that the ECB could cut interest rates (possibly with some adjustment of the tiering parameters), especially if financing conditions were to tighten as a result of a euro appreciation. We expect consumer price inflation in the eurozone to fall to 1.0% for the full year 2020, compared with 1.2% in 2019.

At country level, we forecast a GDP growth rate in Germany of only 0.7% (calendar adjusted: up 0.3%) this year compared with the previous year (2019: up 0.6%). At 1.0%, growth in France is projected to be slightly lower in 2020 than in 2019 (up 1.3%). For Italy, we expect economic activity to remain at a low level this year, following growth of 0.2% in 2019. In Spain, the economic recovery is likely to slow further, from 1.9% in 2019 to an estimated 1.4% in 2020. The UK's economic growth is expected to decline from 1.3% in 2019 to 0.8% this year.

The key driver of German economic growth in 2020 is likely to be domestic consumption. Although we anticipate that the still robust labour market will continue to cool down, companies will shy away from layoffs in order to counteract the shortage of skilled workers and recurring costs of hiring staff if growth picks up in the medium term. Wage growth will therefore contract slightly this year to around 2.0%–2.5% (2019: up 3.0%). This should help to dampen the negative effects of a weaker labour market on private consumption. The construction industry is expected to once again be a pillar of growth. German exports are likely to remain weak this year, even if we assume that there will be no increase in US tariffs on European cars or an escalation of trade barriers between the USA and China. Downward pressure on exports and manufacturing capacity utilisation is likely to dampen capital spending by industrial companies.

Sector development in 2020

In the Italian banking sector, the reduction in the stock of impaired loans – which is still relatively large by European standards – continued markedly. The portion of impaired loans fell from 16.8% at the end of 2015 to 7.2% at 30 September 2019 and in the same period the risk coverage rose from 45.5% to 52.8%. Impaired loans were also further reduced in other countries such as Spain, Ireland or Portugal, which resulted in an overall reduction of risks in the European banking sector. In the aggregate, the impaired loans portfolio fell from €1,038 billion at the end of September 2016 to €618 billion, a reduction of more than €400 billion.

Regulatory developments are the drivers of banking development. Following the harmonisation of creditor hierarchies in the EU at the end of 2018, the EU banking package was published in June 2019. It includes amendments to requirements for own funds (CRR II and CRD V) and to the recovery and resolution of failing banks (BRRD II). With the CRR II Regulation and the CRD V Directive, the banking package transposes key elements of the Basel III framework into European law, although some of the rules do not take effect until 2021. In addition, the EU banking package complements the resolution regime in the EU:

1. The banking package transposes into European law the Total Loss Absorbing Capacity (TLAC) Standard developed by the Financial Stability Board (FSB) for global systemically important banks.

2. The Minimum Requirement for Own Funds and Eligible Liabilities (MREL) for banks in the EU was revised. The new regulations are intended to increase the liabilities available in the event of resolution and therefore enhance the resolution capacity of banks. In the primary market, banks have increasingly issued TLAC- and MREL-eligible, non-preferred senior bonds and this trend is likely to continue. In addition, capital requirements will be extended by mandatory compliance with a leverage ratio starting in mid-2021.

Furthermore, the final Basel III reform package, which was adopted by the Group of Central Bank Governors and Heads of Supervision (GHOS) at the end of 2017, is currently being transposed into European law. The new regulations relate mainly to the calculation of credit and operating risk and the respective capital backing of banks. The introduction of a minimum level of own funds (referred to as an output floor) for banks represents a significant change. The output floor is to be implemented gradually over a period from 2022 to 2027 and tends to restrict the scope of banks in calculating their need for own funds with their own risk quantification methods. Depending on their implementation, the final Basel III rules should lead to increased capital requirements, especially for large banks, which should result in the institutions concerned bolstering their capital cover by 2027.

Business Situation and Trends (Continued)

Further relevant regulatory issues are the unified requirements by the European Banking Authority regarding the definition of default (DoD) and stricter supervisory expectations on the part of the ECB regarding loan loss provisions for new non-performing loans and receivables.

The profit situation of European banks remains challenging. The 15 largest European banks generated a return on equity of less than seven percent in the last four quarters, which is significantly below the profitability of 15 largest US banks, at twelve percent. However, the European banking market represents a heterogeneous picture in terms of profitability; some banking markets achieve returns of more than eight percent, while other markets report returns on equity well below the cost of equity.

Development of HVB

In our view the macropolitical environment in Europe remains difficult to assess, despite the easing in the trade negotiations between the USA and China and the still unclear Brexit situation, and is resulting in a structurally high volatility in financial and capital markets. Given this overall scenario, forward-looking statements on performance are unreliable.

In this persistently challenging environment for the financial sector, we nevertheless assume that we will generate a good profit before tax in the 2020 financial year based on the satisfactory development in our operating activities in the 2019 reporting year, our solid business model and the assumption that the political and macroeconomic environment will remain relatively stable. This is likely to be significantly better than in the 2019 reporting year, partly due to planned disposals of real estate. At the planned tax rate, it should also be possible to post a significantly better result in profit after tax.

As previously described in the section “Transform 2019 and Team 23”, the “Transform 2019” programme was implemented. The new Team 23 programme is based on the four pillars, “Grow and Strengthen Client Franchise”, “Transform and Maximise Productivity”, “Disciplined Risk Management & Controls” and “Capital and Balance Sheet Management”. These measures are intended to open up further growth opportunities and efficiency gains that will be reflected in slightly higher operating income in the 2020 financial year.

As planned, the cost-income ratio will improve slightly in the 2020 financial year compared with 2019 based on a slight rise in operating income and a slight decline in operating costs.

For 2020, we expect to see a significant rise in loan-loss provisions compared with the low level in 2019. In the reporting year, loan-loss provisions benefited from the generally positive economic development in Germany and were again low by historical standards.

As regards HVB’s capital base, we anticipate a CET1 capital ratio in a range of between 14% and 16% for the 2020 financial year.

Opportunities in terms of future business policy and corporate strategy, performance and other opportunities

The opportunities described below are offset by risks that can restrict the exploitation of those opportunities and plans. The risks arising from the business policy and corporate strategy are described in the Risk Report.

HVB is a member of one of the largest banking groups in Europe, UniCredit. HVB is one of the largest private financial institutions in Germany and has competence for the international markets and investment banking business within UniCredit. HVB operates in a domestic market which is the largest in the whole of Europe in terms of economic power and size of population. Moreover, Germany is one of the few countries in the world that continues to enjoy a financial rating of AAA. All in all, HVB can thus exploit its regional orientation combined with the international network of a large European banking group.

This results in the following opportunities for each business unit:

Within the Commercial Banking business segment, the Unternehmer Bank business unit is seeking profitable growth and an expansion of market shares in its corporate banking business through its positioning as a principal or core bank and the acquisition of new customers. As a strategic business partner, the Unternehmer Bank is closely integrated in the entrepreneurial activities of its customers. The most important strategic challenges of customers include, among other things, foreign trade, internationalisation, digitalisation and corporate succession. The entrepreneur's private sphere is also a focal point of our comprehensive advisory services in the Wealth Management business unit. For this reason, the growth initiatives of the Unternehmer Bank are geared to these needs.

In the Private Clients Bank business unit, we will continue to pursue the path we have embarked upon of fundamentally modernising our retail banking business by expanding our digital offering. The main focus is on growing and expanding customer loyalty, supported by the intended positioning as a quality provider, as well as on supporting and advising customers.

In the CIB business segment, the strategic focus is on expanding and strengthening sustainable and long-term customer relationships. To this end, we offer advice with product solutions for financing and capital procurement. We see further business potential in the expansion and improved use of our international network. To increase the efficiency of our customer-bank relations and thus enhance our cross-selling potential, we are expanding our processing and access platforms. We also wish to better exploit the opportunities afforded by digitalisation.

As a universal bank, HVB has a high level of cross-selling potential due to the cooperation between the Private Clients Bank and the Unternehmer Bank, as well as CIB. As a result of the integrated CIB, Mittelstand customers in the Unternehmer Bank benefit from HVB's investment banking solutions. Furthermore, the Unternehmer Bank supports the internationalisation activities of its customers by assisting them in their foreign activities in UniCredit's home countries. Extensive opportunities for new business also arise by providing support in succession planning. On account of its capital base, HVB is, in our opinion, already well equipped for any tightening of regulatory requirements and can take advantage of the growth opportunities that arise in the market.

Over the coming years, HVB aims to continuously optimise internal structures and processes, especially within the framework of Team 23. At the same time, we are making use of the opportunities to cooperate within UniCredit across country and company lines.

In addition, the possible consolidation wave in the banking sector in Germany, which is widely discussed in public, creates new growth opportunities for HVB. Through selective investments, we plan to make better use of our growth potential in the individual regions, customer groups or product areas. This will be supported by process optimisations to create gains in efficiency and might involve an adjustment of structures, locations or roles.

Digitalisation has greatly altered the finance industry and customers' expectations with regard to their bank and will continue to do so going forward. Already today, HVB is pressing ahead with digital transformation in individual business areas and has applied various models in different areas in terms of digitalisation.

HVB has opportunities to recruit highly qualified employees and managers. Both the size of UniCredit and the strategic positioning of HVB have a beneficial impact on the recruitment of employees and managers. Supporting female managers at junior level is an explicit part of the business strategy.

We see further potential for opportunities in our long-term orientation to customers and other stakeholders.

Risk Report

HVB as a risk-taking entity

By their very nature, the business activities of HVB are subject to risk. HVB defines risk as the danger of suffering losses on account of internal or external factors. In the course of our business activities, risks are identified, quantified, assessed, monitored and actively managed. We therefore regard it as one of our core duties to apply these considerations in order to integrate risk-management, risk-controlling and risk-monitoring processes in all business segments and functions of HVB. These activities are the precondition for providing adequate capital backing and maintaining an adequate liquidity base.

The Risk Report deals exclusively with the risks at HVB. The opportunities are presented separately in the section of the Financial Review in this Management Report entitled “Opportunities in terms of future business policy and corporate strategy, performance and other opportunities”.

HVB is divided into the following business segments:
– Commercial Banking
– Corporate & Investment Banking
– Group Corporate Centre
– Other

“Other” is shown as an individual business segment separate from consolidation effects for the first time in the 2019 reporting year. The previous-year figures have been adjusted accordingly. In the past, the two segments were presented together as the “Other/consolidation” business segment. The relevant presentations have been carried out in the notes to the consolidated financial statements in segment reporting.

Risk types

Credit risk is defined as the risk that a change in the credit rating of a contracting party (borrower, counterparty, issuer or country) induces a change in the value of the corresponding receivables. This change in value may be due to the default by the contracting party, meaning it is no longer in a position to meet its contractual obligations.

Market risk is defined as the risk of incurring losses on positions held on and off the balance sheet in the trading or investment books as a result of unfavourable changes in the market value of securities or financial derivatives. The most relevant of these prices are interest rates (used to determine and discount cash flows), share prices, credit spreads (including, but not limited to, changes in these spreads due to credit defaults or rating changes), spot exchange rates, commodity prices and derived prices such as volatilities and correlations between these parameters.

Liquidity risk is understood to be the danger that the Bank is not able to meet its payment obligations on time or in full. However, it is also defined as the risk of sufficient liquidity not being available when required or that liquidity can only be obtained at higher interest rates, or that the Bank will only be able to liquidate assets on the market at a discount.

In line with the Capital Requirements Regulation (CRR), HVB defines **operational risk** as the risk of losses resulting from inadequate or deficient internal processes or systems, human error or external events. This definition includes legal risk, but excludes strategic and reputational risk. Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.

These risk types are described in detail in the section entitled "Risk types in detail". All of HVB's other risk types are summarised in the section entitled "Other risks", which are presented in an abridged form.

The following risk types are summarised as other risks:
- **Real estate risk** covers potential losses resulting from changes in the fair value of the real estate portfolio of HVB. No land or properties are included that are held as collateral in lending transactions.
- **Business risk** is defined as losses from unexpected negative changes in the business volume and/or margins that are not attributed to other risk types. It can lead to long-term losses in earnings, thereby diminishing the fair value of the company. Business risk can result above all from a serious deterioration in the market environment, changes in the competitive situation or customer behaviour, changes in the cost structure, and changes in the underlying legal conditions.
- **Pension risk** can occur both on the assets side and the liabilities side (pension commitments). This may be caused by a decline in the fair value of plan assets on the assets side due to disadvantageous changes in market prices as well as an increase in the obligations on the liabilities side, due for instance to a reduction in the discount rate. Furthermore, there are actuarial risks such as longevity risk (changes to the mortality tables) on the obligation side. In this context, pension risk is the risk that the pension provider will have to provide additional capital to service the vested pension commitments.
- **Financial investment risk** covers potential losses arising from fluctuations in the measurement of HVB's equity interests. HVB's financial investment risk stems from the occurrence of losses in equity provided, in connection with a financial investment to other companies that are not consolidated in HVB's accounts or are not included in market risk.
- **Strategic risk** results from management either not recognising early enough or not correctly assessing significant developments or trends in the Bank's environment. As a consequence, fundamental management decisions could, in retrospect, prove to be disadvantageous in terms of the bank's long-term goals. In addition, some decisions may be difficult to reverse or cannot be reversed at all. In the worst case, this can negatively impact the profitability and risk profile of HVB.
- **Reputational risk** is defined as the risk of negative effects on the income statement caused by adverse reactions by stakeholders due to a changed perception of the Bank. This altered perception may be triggered by a primary risk such as credit risk, market risk, operational risk, liquidity risk, business risk, strategic risk or also independently of any triggering primary risk.

Integrated overall bank management

Risk management
HVB's risk management programme is built around the business strategy adopted by the Management Board of HVB, the Bank's risk appetite and the risk strategy adopted throughout the Group.

The risk-taking capacity upon achievement of the set targets is assessed on the basis of the risk strategy and the business and risk plans, using the available financial resources. At the same time, limits are defined in the planning process to ensure that the risk-taking capacity is maintained. The determination of the risk-taking capacity is carried out for HVB Group.

Risk Report (Continued)

Pursuant to the Minimum Requirements for Risk Management (Mindestanforderungen an das Risikomanagement – MaRisk), multi-year budgeting is performed in relation to the internal capital. This involves analysing the relevant risk types over a time horizon of at least three years and taking into account a deteriorating macroeconomic environment. Two scenarios with negative consequences are examined independently of each other to permit an assessment of the effect of a deteriorating macroeconomic business environment. Whereas the first scenario assumes a conventional recession in Germany on account of the trade conflict between the USA and China and the associated cooling in the global economy, the second scenario is based on a pause in growth in the major economies of the European Monetary Union. Since the available financial resources are considered with the same scenarios, it is possible to make a statement about how the risk-taking capacity will evolve overall over three years, taking into account the macroeconomic scenarios.

Implementation of the risk strategy is a task for the Bank as a whole, with key support from the Chief Risk Officer (CRO) organisation. The CRO organisation is responsible for risk management and risk policy guidelines set by the Management Board, reporting on a regular basis to the Management Board and the Risk Committee of the Supervisory Board on HVB's risk situation.

New releases and updates to instructions, policies and the risk strategy are communicated through the Bank's internal information system.

Functional separation

In addition to Bank-wide risk management, integrated overall bank management is accompanied by comprehensive risk controlling and risk monitoring in accordance with the MaRisk rules, which is functionally and organisationally independent.

Risk controlling

Risk controlling is defined as the operational implementation of the risk strategy. The Senior Risk Management CIB & Large Commercial Bank – Credits unit and the Credit RR & NRR Germany (KRI) unit are responsible for the operational management of credit risk for the Commercial Banking and Corporate & Investment Banking (CIB) business segments. The senior risk managers and the credit specialists take lending decisions in the defined "risk-relevant business". They thus make it possible for the business segments to take on risk positions in a deliberate and controlled manner within the framework of the risk strategy and to evaluate whether it is profitable to do so from the overall perspective of the customer relationship and on the basis of risk-return considerations. In the "non-risk-relevant business", the business segments are authorised to take their own lending decisions under conditions set by the CRO organisation. The Market Risk unit is responsible for controlling market risk and the Finance unit within the Chief Financial Officer (CFO) organisation for controlling liquidity risk. The senior management is responsible for controlling operational risk and reputational risk with the support of the relevant operational risk managers.

Controlling the business risk consists mainly of the planning of earnings and costs by the individual business segments, which the CFO organisation proactively coordinates. The relevant business segments are responsible for controlling the financial investments. The real estate risk arising from the Group's own property portfolio is controlled centrally by the Chief Operating Office (COO) unit. HVB has undertaken to provide a range of different pension plans, which are largely financed by various investment vehicles, some of which are external. Under the capital investment process, there are separate rules covering the specific risk controlling of the different pension plans in each case. Some of these are subject to supervision by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – BaFin), specifically by its insurers and pension funds supervision, and therefore need to comply with external rules and regulations. Controlling of strategic risk is the shared responsibility of HVB's Management Board.

Risk monitoring

The central risk monitoring function within the CRO organisation is responsible for identifying, measuring and evaluating the risks at HVB. It is subdivided in accordance with risk types. The risk monitoring functions for the following risk types: market risk and liquidity risk (for the liquidity risk, however, exclusively the risk monitoring functions of stress tests, calculation and monitoring of early warning indicators, calculation of the short-term concentration risk, evaluation of the funding plan) are bundled in the Market Risk unit and operational risk and reputational risk is bundled in the Operational & Reputational Risks unit. In addition, the Market Risk unit also monitors the market risk component of pension risk at regular intervals using a separately developed model (aggregated view of the plan assets and liabilities). As part of the asset management of the plan assets, the options for risk positioning are limited by both external and internal regulations. Ongoing monitoring of the respective rules is performed in accordance with the specific policies of the various pension plans. With regard to the monitoring of liquidity risk, some tasks are performed by the Market Risk unit while further risk monitoring functions for this risk type are the responsibility of the Finance unit within the CFO organisation (constant monitoring of the liquidity risk situation and compliance with limits). The Strategic Credit & Integrated Risks unit monitors credit risk, business risk, financial investment risk and real estate risk as well as the aggregated economic capital and the internal capital requirements. The monitoring of strategic risk is the shared responsibility of HVB's Management Board.

The following are quantifiable risk types: credit risk, market risk, operational risk, business risk, financial investment risk, real estate risk and pension risk. The available financial resources are defined, quantified and compared with the risk capital for the analysis of the risk-taking capacity.

Liquidity risk is also a quantifiable risk but does not flow into the calculation of the risk-taking capacity.

A qualitative approach is used to monitor strategic risk and reputational risk.

Divisions and committees

Chief Risk Officer

The controlling and cross-business segment management of risk at HVB fall within the competence of the Chief Risk Officer (CRO). This is where all the key functions involved in the identification, analysis, assessment and reporting of risk are performed together with the ongoing tracking, handling, monitoring and controlling of risk. These activities are supported and complemented by various CFO units, notably with regard to liquidity risk.

The CRO organisation is divided into units that deal with lending business in the back office. The main functions of these units include:

– operational functions in the credit-decision and credit-monitoring processes for the risk-relevant lending business, complete with monitoring of the issuer and counterparty limits
– data management for the restructuring and workout portfolio
– restructuring activities with a view to minimising losses for the Bank

Risk Report (Continued)

At the same time, there are units that cover operational and strategic aspects of risk monitoring. Their main functions include:
– the development, enhancement, parameterisation and calibration of the rating models used to determine the probability of our customers defaulting
– validation of Pillar I and II systems for risk measurement that contain the following components: models, associated processes, IT systems and data
– the development of concepts used to identify and control credit risk and concentrations, including country risk
– responsibility for the measurement methods and the refinement of the measurement methods and systems, and for the management and measurement of market risk and liquidity risk
– responsibility for the measurement methods and the refinement of the measurement methods and systems, and for the management and measurement of operational risk as well as responsibility for reputational risk and its management
– the determination of the internal capital and the economic capital base
– ensuring ICAAP compliance, ensuring compliance with the MaRisk rules as part of the responsibility for credit risk and economic capital, and the performance of stress tests
– ensuring compliance with regulatory rules regarding internal and external reports
– risk reporting

Chief Financial Officer
The Finance and Regional Planning & Controlling units from the Chief Financial Officer (CFO) organisation play a major role in risk monitoring. The Finance unit notably covers the management of short- and long-term liquidity at HVB (Asset Liability Management) acting in concert with the front office units and asset/liability management. The Finance unit is also responsible for the management of capital and capital allocation as well as the risk-return methodology.

Regional Planning & Controlling has been tasked with central business management and cost controlling. This unit is also responsible for the creation and validation of the segment report in accordance with IFRS; it similarly has responsibility for the processes involved in preparing the income budgets and for the income projections. Furthermore, the segment-related controlling departments for all the segments apart from CIB come under this unit. Controlling of the CIB business segment is the responsibility of CIB Planning and Control. Among other things, this department is responsible for the reconciliation of net trading income, which it carries out jointly with Accounting.

Asset Liability Management
The Finance unit controls Asset Liability Management by managing short-term and long-term liquidity within HVB. Its main objectives are to ensure that HVB has adequate liquidity at all times and to optimise funding costs. Asset Liability Management monitors trends and happenings on the money and capital markets and manages liquidity and funding requirements. As part of liquidity risk management, the Finance unit performs ongoing monitoring of the liquidity risk situation, in addition to the activities on the part of CRO, and manages funding activities together with the front office units. Within the framework of a liquidity cost allocation mechanism for all significant business activities, the internal transfer prices for the lending and deposit-taking activities are continually reviewed for appropriateness and regularly adjusted to reflect the market situation, for instance. The measures implemented in connection with these functions serve to support HVB's return targets.

Internal Audit
A number of important tasks regarding the implementation of an efficient risk management system have been entrusted to the Internal Audit department as described in the section entitled "Monitoring the effectiveness of the ICS".

Risk Committee
The Management Board has entrusted the following tasks to the Risk Committee (RC), subject to its management competence and its ultimate decision-making authority at any time:
- development and implementation of suitable policies and methods, especially for credit risk and credit portfolio management together with other risk topics
- discussion of and decision on strategic risk policy issues
  A submission is always made to the Management Board when required for legal reasons (such as to comply with the MaRisk rules).

The RC generally meets once a month. Each meeting of the RC has a different main topic – either risk management or risk governance.

RC meetings focusing on risk management concentrate on the analysis of the business performance and risk development, and the ensuing measures. Method and process issues are also discussed at RC meetings which focus on risk governance alongside the risk strategy and the internal rules and instructions.

Asset Liability Committee
The Asset Liability Committee (ALCO) makes decisions at its monthly meetings on the asset/liability management of HVB. The committee pursues the following key goals:
- establishment of uniform asset/liability management methods for HVB
- optimum utilisation of liquidity and capital resources
- coordination between the requirements of the business segments for financial resources and the business strategy

Stress Test Council
The Management Board, as the body responsible for bank management, delegated the topic of stress tests to the RC and the Stress Test Council (STC) as a specialist committee. The tasks of the STC include:
- coordination of all stress-testing activities within HVB, including the refinement of the stress-testing methodology
- definition and coordination of cross-risk-type stress scenarios, including the validation of the underlying parameters
- analysis and presentation of stress-testing results and their use to prepare recommendations for managementt

Reputational Risk Council
The task of the Reputational Risk Council (RRC) is to manage HVB's reputational risks. It is the decision-making body for all business transactions and other activities that give rise to a reputational risk to HVB. Such activities include those relating to:
- projects and outsourcing activities
- the development of new products and the exploitation of new markets
- special purpose vehicles

Risk Report (Continued)

Implementation of overall bank management

Strategy

The business strategy and the risk strategy define the key pillars of business and risk policy for HVB. The subsidiaries, outsourcing and information and communications technology (ICT) are incorporated in both the risk strategy and the business strategy. The HVB business strategy describes the strategic starting point and organisational structure, the key pillars of the business strategy at overall bank level and the sub-strategies of the individual business segments.

The HVB risk strategy is derived consistently from the business strategy, supplementing it with the relevant aspects of risk management. In this context, HVB's risk strategy encompasses the risk types of credit risk and market risk together with their controlling using the economic capital and risk-type-specific limits, as well as operational risk, financial investment risk, real estate risk and business risk, which are controlled using only the economic capital. In addition, the strategic objectives for reputational risk, strategic risk, liquidity risk, pension risk and outsourcing are presented in terms of quality. The risk strategy is supplemented by the Industry Credit Risk Strategy, which specifies the risk appetite within the various industries.

The strategies approved by the Management Board of HVB are reviewed on both an ad hoc and an annual basis and modified when necessary.

Overall bank management

The management of HVB is part of the overall bank management of HVB Group. The metrics defined for the overall bank management of HVB Group are reviewed in the annual budgeting process; they are used to assess the success of the business strategy and the risk strategy. Earnings targets, risk targets, liquidity targets and capital targets are defined in the budgeting process together with the targeted risk-taking capacity at overall Bank level. The limits for the internal capital are defined and monitored in order to ensure the risk-taking capacity. For the purposes of business segment management, the economic capital limits are distributed for each risk type (credit risk and market risk) to ensure that the planned economic risks move within the corridor defined by the Management Board of HVB.

Key performance indicators (KPIs) generally applicable across all business segments have been defined for the management of HVB Group. These KPIs serve to entrench the aspects of profitability and growth, as well as restrictions and sustainability.

The value-oriented management of HVB Group focuses on the measurement of the business activities in accordance with return and risk considerations, with a risk-return target set for each of the business units of HVB Group. The expected economic returns are calculated using the allocated capital principle that is applied group-wide by UniCredit. Within the scope of the principle of dual control, both regulatory capital, in the sense of used core capital (Common Equity Tier 1), and internal capital are allocated to the business segments. Both resources are expected to yield an appropriate return, the amount of which is derived from the returns expected by the capital market.

In line with the parameters defined in the business and risk strategies, the defined targets are broken down to business segment level and then translated into operational metrics for sales management. The defined targets are monitored using a standardised report to the Management Board of HVB. The Management Board of HVB initiates counter-measures in response to deviations from the targets defined in the budgeting process.

Regulatory capital adequacy

Used core capital (Common Equity Tier 1)

For the purposes of planning and monitoring risk-weighted assets, the business segments are required to have core capital backing of equivalent risk-weighted assets arising from credit, market and operational risks equal to an average of 12.5%. The expected return on investment is derived from the average used core capital (Common Equity Tier 1).

Management of regulatory capital adequacy requirements

Essentially, the following three processes have been defined from the normative capital perspective to safeguard an appropriate capital base over the long term:

Yearly planning of the regulatory capital taking account of regulatory requirements, while applying the three capital ratios listed below, which are managed within HVB Group's risk appetite framework using internal target, trigger and limit levels:
– Common Equity Tier 1 capital ratio: ratio of Common Equity Tier 1 capital to the sum of risk-weighted assets arising from credit risk positions and the equivalent risk-weighted assets from market and operational risk positions
– Tier 1 capital ratio: ratio of Tier 1 capital to the sum of risk-weighted assets arising from credit risk positions and the equivalent risk-weighted assets from market and operational risk positions
– total capital ratio: ratio of equity funds to the sum of risk-weighted assets arising from credit risk positions and the equivalent risk-weighted assets from market and operational risk positions

Quarterly performance of stress tests of the regulatory capital ratios under various scenarios (details on the stress tests can be found in the section entitled "Stress tests").

Monthly performance of a rolling eight-quarter projection on a monthly basis to provide an ongoing forecast of the capital ratios of HVB Group.

More details on how these equity ratios have developed are presented in the section entitled "Risk-weighted assets, key capital ratios, liquidity and leverage ratio of HVB" in the Financial Review of the present Management Report of HVB.

HVB and UniCredit S.p.A. agreed with the relevant regulators that HVB and HVB Group would not fall below a total capital ratio of 13%. This agreement will remain in force until further notice. The total capital ratio of HVB was 17.7% at the end of December 2019 (31 December 2018: 20.6%).

Economic capital adequacy

HVB Group determines its internal capital. The internal capital is the sum of the aggregated economic capital for all quantified risk types (with the exception of liquidity risk), a premium for pension risk and financial investment risk and the economic capital for small legal entities. The economic capital measures the potential for unexpected loss over a time horizon of one year with a confidence level of 99.90%.

In the 2018 reporting year, the risk metrics for economic capital were presented from the calculations for HVB Group for the first time. This means that all risks arising from unlimited Statements of Responsibility of HVB for subsidiaries are also taken into account and adequately reflected. The HVB Group figures shown below are indicated as HVB figures accordingly. The risk metrics of HVB Group for economic capital are also shown under the respective risk type as HVB's figures.

When the aggregated economic capital is determined, risk-mitigating diversification effects are taken into account between the individual risk types. HVB Group deploys UniCredit's group-wide model for risk aggregation that uses parameters that are uniform throughout the group for determining interdependencies between the risk types. In terms of methodology, the model is based on a copula approach where the parameters are estimated using the statistical Bayesian method. The economic capital for small legal entities of HVB Group is calculated with no differentiation by risk type.

Risk Report (Continued)

An all-round overview of the risk situation of HVB Group is obtained by assessing the risk-taking capacity on a quarterly basis, as shown in the table "Internal capital after portfolio effects".

Internal capital after portfolio effects (confidence level 99.90%)

	2019		2018	
Broken down by risk type	€ millions	in %	€ millions	in %
Credit risk	3,248	46.1	3,144	37.6
Market risk	1,617	23.0	2,004	23.9
Operational risk	412	5.9	1,263	15.1
Real estate risk	322	4.6	475	5.7
Business risk	354	5.0	234	2.8
Aggregated economic capital	**5,952**	**84.6**	**7,120**	**85.1**
Pension risk	615	8.7	874	10.4
Financial investment risk	222	3.2	185	2.2
Model risk cushion	158	2.2	161	1.9
Economic capital of small legal entities	91	1.3	28	0.3
Internal capital of HVB	**7,038**	**100.0**	**8,368**	**100.0**
Available financial resources of HVB	**16,061**		**17,170**	
Risk-taking capacity of HVB, in %	**228.2**		**205.2**	

Contains rounding differences.

Internal capital fell by €1,330 million in comparison to 31 December 2018. Applying the current methods/models retroactively to the reference date of 31 December 2018 would yield internal capital of €6,994 million (including the model risk cushion).

More details on the individual changes within the types of risk can be found in the respective sections on the corresponding types of risk.

Internal capital (without pension risk and without the model risk cushion) broken down by business segment (confidence level 99,90%)

	2019		2018	
Broken down by business segment	€ millions	in %	€ millions	in %
Commercial Banking	1,478	23.6	1,828	24.9
Corporate & Investment Banking	4,302	68.7	4,627	63.1
Group Corporate Centre	166	2.6	514	7.0
Other	319	5.1	363	5.0
Consolidation	—	—	—	—
Internal capital (without pension risk and without model risk cushion) of HVB	**6,265**	**100.0**	**7,332**	**100.0**

Risk appetite

The risk appetite is defined as part of the annual strategy and planning process for HVB Group, whereby selected metrics are monitored only for HVB. The risk appetite metrics comprise specifications that are subdivided into the categories of “Pillar I”, “commercial” and “specific risks”. Targets, triggers and limits are defined for these metrics that allow excessive risk to be identified and counter-measures to be initiated at an early stage. The matter is escalated to the appropriate committees and the Management Board of HVB, should the defined limits be exceeded or not reached.

Consistent going concern approach

Since 2019, HVB Group has managed its risk-taking capacity from an economic perspective as part of an approach to the ongoing protection against risks and the continuation of business activities from a capital perspective (continuity of operations). At the same time, targets, triggers and limits are defined for regulatory capital backing as well as for risk-taking capacity.

Recovery plan

The preparation of recovery plans (RPs) is intended to facilitate the restructuring of systemically important financial institutions. UniCredit S.p.A. and HVB have been identified as systemically important at a global level and at a national level, respectively. Supervision of HVB passed to the ECB when the Single Supervisory Mechanism (SSM) came into effect in November 2014. According to a decision of the Joint Supervisory Team (JST), HVB, as part of UniCredit, has not been required to prepare a HVB Group recovery plan since 2015. For this reason, HVB works closely together with UniCredit S.p.A. each year to prepare a joint “UniCredit Group Recovery Plan”. This Recovery Plan was officially submitted to the ECB on 30 September 2019 and has been in effect since then.

Risk-taking capacity

As part of an analysis of our risk-taking capacity, HVB Group measures the internal capital against the available financial resources. Furthermore, the risk-taking capacity is analysed across a defined multi-year period as part of the planning process.

HVB Group uses an internal definition for the available financial resources which, like risk measurement, has been based on a going concern approach since 2019. Under this approach, available financial resources are sufficient to protect against risks so as to ensure business operations are maintained. The risk-taking capacity is defined by comparing unexpected losses at the confidence level (internal capital) with the ability to absorb losses using the available financial resources. When determining the available financial resources, regulatory core capital is taken as the starting point. To maintain consistency with internal risk quantification, certain capital deductions (particularly expected losses and securitisation positions) within the definition of equity are brought into line with the internal economic perspective and some future profits are taken into account.

Since the 2018 reporting year, the risk metrics for economic capital, the available financial resources and the risk-taking capacity are presented based on the calculations for HVB Group and shown as HVB’s figures.

The available financial resources at HVB totalled €16,061 million as at 31 December 2019 (31 December 2018: €17,170 million).

Risk Report (Continued)

With internal capital (including the model risk cushion) of €7,038 million, the risk-taking capacity for HVB is 228.2% (31 December 2018: 205.2%). This figure is higher than the target of 170% HVB Group set itself in the 2019 risk appetite framework. The rise of 23.0 percentage points in comparison with 31 December 2018 for HVB is attributable to the reduction of €1,330 million or 15.9% in the internal capital in 2019. The available financial resources have fallen by €1,109 million or 6.5%. The decline in available financial resources is largely due to a reduction in the core capital on account of the development in reserves.

Limit concept

The risk limit system is a key component of the ICAAP at HVB Group. Its purpose is to ensure the Bank's risk-taking capacity at each reporting date by means of an integrated controlling process. A wide-ranging, consistent limit system that includes the specification of limits for internal capital and economic capital, risk-type-specific limits and limits for risk concentrations has been implemented to ensure this. It covers all the risks that need to be backed with capital. Consequently, unexpected losses for credit, market, operational, business and real estate risk are currently recorded. In addition, pension risk, financial investment risk, any model risks and the economic capital for small legal entities are included in the internal capital by means of a cushion.

This system of limits reflects the business and risk strategies, taking into account the risk appetite and the available financial resources, at the level of HVB Group, and ensures compliance with the risk-taking capacity. The risk limits are approved by the Management Board of HVB each year during the strategy process.

The internal capital limits are allocated at the level of HVB Group broken down by risk type and for the internal capital as a whole. Based on the aggregate limit set for internal capital, the risk-taking capacity of HVB Group is guaranteed at each reporting date.

In order to identify at an early stage any potential overshooting, HVB has specified triggers in the form of early warning indicators as well as the defined limits. The utilisation of, and hence compliance with, the limits is presented in the Bank's reports on a monthly basis.

Stress tests

The MaRisk rules call for stress tests to be carried out regularly using various scenarios.

Various macroeconomic downturn scenarios and a historical scenario were calculated for the cross-risk-type stress tests in 2019:
- Contagion scenario – focusing on the political tensions within the EU
- Recession scenario – recession in Germany due to a massive decline in global demand
- Historical scenario – based on the 2009 financial crisis
- Financial intermediary scenario – a second, stricter variant of the historical scenario additionally reflects the default by the financial intermediary with the highest stressed counterparty risk exposures
- Protectionism scenario – protectionism, China slowdown and Turkey shock
  This scenario considers the introduction of a policy of protectionism in the USA that throttles growth in China in conjunction with a growth shock in Turkey
- Interest rate shock scenario – rise in interest rates in the eurozone (calculated until March 2019)
- US hard landing and hard Brexit – recession in the USA and the UK leaves the EU without a departure agreement (from June 2019 onwards)

Taking account of macroeconomic developments in 2019, the aforementioned downturn scenarios and the underlying baseline scenario were reviewed and the corresponding macroeconomic parameters and market parameters were adjusted.

The stress tests across risk types are presented and analysed within the structure of the Stress Test Council on a quarterly basis and any measures required are presented to the Risk Committee and the Management Board of HVB. Both the risk-taking capacity and the minimum requirements for regulatory capital ratios of HVB Group were met and complied with, even after the occurrence of the stress test scenarios listed. The risk-taking capacity within the scope of the stress test was established with a confidence level of 99.90%.

Furthermore, inverse and ad hoc stress tests are carried out.

Inverse stress tests involve analysing what events could endanger the continued existence of the Bank as a going concern. The continued existence as a going concern is considered at risk when the original business model proves to be no longer feasible or viable. The hypothetical events analysed included fraud by a trader, rating downgrades, a bank run and default by customers and industries.

Ad hoc stress tests are carried out in response to internal and external events that might have a considerable impact on HVB Group.

Concentrations of risk and earnings
Concentrations are accumulations of risk positions that react in a similar way to specific developments or events. Concentrations may have an impact within a risk type or equally across risk types. They indicate increased potential losses resulting from an imbalance of risk positions held with customers and in products or specific industries and countries.

Concentrations are analysed, monitored, managed and reported at least once a year with regard to the relevant risk drivers for credit, market, liquidity and operational risk. In particular, appropriate instruments and processes ensure the prompt identification of concentrations. Monitoring, the suitability of which is reviewed each year, is used as the steering approach for the risk types of financial investment risk, real estate risk and pension risk.

The risk management processes for concentrations have been set up with a view to interlinking risk drivers across the risk types, such that concentration risk is integrated into the assessment and controlling functions.

The concentration of earnings at individual customers, business segments, products, industries or regions represents a business-related strategy risk for the Bank. Risks arising from concentrations of earnings are monitored each year, as their avoidance is an important indicator of sustainable diversification and hence the viability of the business model in crisis situations.

Risk inventory
The scheduled comprehensive yearly risk inventory at HVB was started in February 2019. The existing and potential new risks were analysed and critically evaluated by means of structured interviews with numerous decision-makers within HVB and by means of questionnaires, among other things. The outcome of the 2019 risk inventory was presented to the Risk Committee and HVB's Management Board in September 2019 and included in the calculation and planning of the risk-taking capacity following approval. The risk inventory serves to review the overall risk profile of HVB. Various topics are identified, some of which are included in the stress test and in the validation of the measurement methods used for the material risk types and other ICAAP components.

Risk Report (Continued)

Internal reporting system
The internal reporting system supports risk monitoring at portfolio level in particular. The portfolio sections used in this connection were defined for the purpose of risk controlling and are not congruent with the portfolio sections that are defined for accounting purposes in the context of the classification of financial instruments. Within the framework of the internal reporting system, information is provided on the overall risk to HVB's Management Board, the Risk Committee of the Supervisory Board and the Risk Committee on a monthly basis, to the full Supervisory Board at least on a quarterly basis and also on an ad hoc basis. In addition, further monthly risk reports are created focusing on specific business segments, countries or industries.

Risk types in detail

1 Credit risk

Credit risk consists of the following categories:
– credit default risk (including counterparty risk and issuer risk)
– country risk

Categories

Credit default risk
Credit default risk is considered to occur with regard to a specific contracting party when one or both of the following criteria are satisfied:
– The Bank assumes the contracting party is probably not in a position to meet its entire contractual obligation towards HVB as whole, without having to take recourse to measures like the sale of collateral (where present).
– The contracting party is more than 90 days in arrears in terms of a material receivable of HVB.

The credit default risk also encompasses counterparty risk and issuer risk.

Counterparty risk
Counterparty risk arises from the possible loss of value due to the default of the counterparty in trading activities (such as derivatives involving interest rates, foreign exchange, equities/indices, or other futures or derivative contracts). It is divided into the following components:
– settlement risk
– pre-settlement risk
– money market risk (cash risk)

Issuer risk
Issuer risk is defined as credit default risk in the securities holding resulting from the downgraded credit rating or default of an issuer that can lead to a loss of value through to total loss. Issuer risk arises from the purchase of securities, securities issuance activities, credit derivatives and the placement of securities.

Country risk
Country risk is the risk of losses caused by events attributable to actions by the government of a given country. This includes the repayment of capital in a specific country being prevented by government intervention, which gives rise to various risks (such as transfer risk, expropriation risk, legal risk, tax risk, security risk). It also includes the risk of repayment of capital being prevented by a deterioration in the economic and/or political environment (such as through recession, a currency and/or banking crisis, natural disasters, war, civil war, social unrest). Country risk encompasses:
– sovereign risk (state as counterparty)
– transfer and conversion risk

Strategy

A risk strategy has been approved for HVB that operationalises the strategic controlling of credit risk. This is done by setting targets and limits for different metrics as needed. Controlling using economic capital, together with volume and risk metrics, is particularly important in this regard. The planning of the targets and limits is embedded in HVB's annual plan, similarly taking into account ceilings arising from the requirements regarding the capital base. Firstly, the limits are intended to leave scope for implementation of the business planning and, secondly, to set upper limits, specifically with regard to economic capital.

Systematic controlling and setting of limits for credit risk are essential for sustaining HVB's strategic orientation. The risk strategy is intended to make it possible for both the sales controlling and risk management functions to back transactions with concrete, measurable criteria in order to optimise the risk profile of the credit portfolio. To achieve this, the expected and unexpected losses of a given borrower are determined. These form the basis for drawing up limits and in some cases target portfolios for the different risk types, exposures and risk metrics.

The Industry Credit Risk Strategy includes an assessment of the opportunities and risks for every industry, from which controlling signals and quantitative ceilings for new business are derived.

Limit system

The credit risk strategy defines limits for risk metrics and risk types for individual portfolios. These are allocated at the following levels:
- HVB Group
- HVB
- business segments of HVB Group and HVB
- products and special portfolios (such as Leverage and Project Finance and shadow banking entities)

The following criteria are analysed with regard to the performing portfolio: exposure, expected loss and risk density. An overshooting of the limits is generally not permitted.

In order to avoid concentrations of risk in credit default risk, the following concentration limits and, where appropriate, target portfolios are used for controlling purposes:
- single-name concentrations
- industry concentrations
- concentration limits for countries and regions

The utilisation of the individual limits is classified using a traffic light system:
- green: limit utilisation is below a defined trigger
- yellow: limit utilisation is below the limit but above the defined trigger
- red: limit utilisation is above the limit

If a limit or a trigger is exceeded, an escalation process is initiated to eliminate the overshooting or prevent an overshooting of the limit in the event that a trigger is exceeded. The corresponding responsibilities are defined in the escalation process to ensure the permanent controlling effect of the limits.

Risk Report (Continued)

Credit risk mitigation
In new lending, HVB pursues the strategy of applying loan collateral that would present an economic benefit to the Bank in the event of default.

For the reduction of credit risk, only such collateral is used as meets the requirements of the Advanced Internal Ratings Based (A-IRB) approach in accordance with Basel III.

Methods have been implemented to value collateral that meet the requirements of Basel III. Empirically determined ratios for realisation proceeds and costs are employed in the valuation together with realisation periods. The land charges are calculated using a statistical model to update the current and forecast fair values at the time of realisation. The fair values are adjusted on an annual basis to reflect the market developments actually observed, and the forecast is reviewed and, where necessary, adjusted. Special simulation methods for valuing collateral have been devised for collateral types with a low default history. In the case of securities, HVB resorts to its own haircut calculations based on historical data. In addition, collateral is taken into account using a substitution approach if permissible under the CRR.

The most significant collateral types in terms of value in the lending business are land charges, guarantees and pledges of financial collateral, which together account for approximately 90% of all valued collateral.

In trading activities, over-the-counter (OTC) derivatives, security financing transactions (SFTs) and exchange-traded derivatives (ETDs) are hedged on the basis of the respective contractual provisions with the counterparties. In the case of OTCs, these are the International Swaps and Derivatives Association (ISDA), the German Master Agreement for Derivatives (Deutscher Rahmenvertrag für Finanztermingeschäfte – DRV) and the Credit Support Annex (CSA, appended to an ISDA master agreement) or BRV (appended to a DRV master agreement). In the case of SFTs, these are the Global Master Repurchase Agreement (GMRA) or the Global Master Securities Lending Agreement (GMSLA). For credit risk reduction, only collateral recognised as eligible under the CRR is permitted for regulatory purposes. Internally, the collateral policy defines conditions for accepting collateral in trading activities. The back office has a consultation and veto right in this regard. Collaterals from the trading business are measured on the basis of current market prices. The counterparty risk exposure is forecast using a refined internal model for predicting the amount of collateral needed and the value of the collateral provided (simulation method).

Measurement
We use the following risk measurement methods and metrics to assess our credit risk.

Probability of default (PD)
The internal customer-segment-specific rating and scoring methods of HVB that are available for all significant credit portfolios form the basis for the measurement of credit default risk. The reliable determination of our customers' PDs is critical for credit decisions, pricing and core capital backing under Basel III (A-IRB model) as well as for the internal credit risk model.

The PDs determined on the basis of the rating and scoring methods lead to allocation to a rating class on a ten-point scale. The rating classes 1 to 7 are set aside for performing loans and the rating classes 8 to 10 for non-performing loans, with the rating classes 8–, 9 and 10 representing default classes.

In contrast to ratings at customer level for which the customer represents the risk for the Bank, in the case of a transaction rating the risk relates to the transaction. In this instance, the customer is not considered the risk-bearing entity; the individual transaction is rated with its clearly specified risk instead. Structured loans and securitisations are typical examples of transaction ratings.

Loss given default (LGD)
The LGD indicates what proportion of the underlying portfolio of receivables would almost certainly be lost in the event of a default. The expected proceeds from the collateral used to reduce credit default risk have a major influence on the amount of the LGD. At the same time, the amount of the LGD is determined by borrower-related criteria. The reliable determination of our customers' LGD is critical for credit decisions, pricing, core capital backing under Basel III (A-IRB model) and our internal credit risk model.

Exposure at default (EAD)
The EAD is the expected amount of the receivable at the time of default. It covers current arrears together with the probable future utilisation by the borrower. These probable future utilisations are determined on the basis of historical data and validated on an annual basis. Off-balance-sheet exposures such as unused, externally committed credit lines are also employed as the reference point for the EAD parameters. The EAD parameters are also incorporated in the credit decision, pricing, core capital backing under Basel III (A-IRB model) and the internal credit risk model.

The credit-risk-oriented calculation of exposures and limits is also carried out for issuer risk. This involves calculating a fair-value-oriented exposure for the individual positions in the trading book, which shows and limits the maximum potential fair value loss without taking account of residual values. A credit-risk-oriented, nominal-value-based exposure is used to limit the banking book and asset-backed security (ABS) positions. Netting effects are taken into account when the limits are set.

In terms of counterparty risk, a simulation method is used to determine future exposure figures for the pre-settlement risk within the scope of an internal model. The default conditional metric used in the internal model to determine the future exposures makes it possible among other things to incorporate the correlation effects between market risk and credit risk, and notably the specific wrong-way risk. The simulation is carried out for up to 50 future dates on the basis of 3,000 market data scenarios for each calculation date.

Expected loss (EL) (standard risk costs)
The expected loss shows the credit default losses to be expected from the credit portfolio over the next 12 months, taking into account the current ratings and collateral on hand. Among other things, it is used for risk identification, as both an absolute and a relative value, in pricing, for profitability calculations and for limitation purposes.

Risk density
The risk density is another risk metric alongside the EAD and expected loss that is used to manage the individual HVB sub-portfolios. HVB calculates the risk density as the ratio of expected loss to performing exposure in basis points (bps). It indicates the development of risk in a given portfolio.

Unexpected loss (economic capital, EC)
The economic capital measures the amount of capital required to cover the unexpected loss beyond the expected loss, which, with a probability of 99.90%, will not be exceeded over the next 12 months. This risk metric makes the risk content of the various sub-portfolios comparable, taking into account the concentration risks in the portfolio. It is also used in pricing and the Bank's risk-adjusted profitability calculations.

Risk Report (Continued)

Internal credit risk model
HVB has been using the credit portfolio model used throughout UniCredit to measure the economic capital of credit risk. The group model follows the structural Merton approach under which correlations between the borrowers are mapped using a multi-factor model, taking into account fluctuations in value arising from rating changes (migration risk) for certain sub-portfolios as well as the pure credit default risk.

The credit portfolio model covers all banking book positions and counterparty risks arising from derivative positions that are relevant pursuant to the definition of credit risk. Issuer risk from the trading book continues to be recorded using the incremental risk charge (IRC) model, which forms part of the market risk in the presentation of the ICAAP.

Country risk is integrated using appropriate PD add-ons. Risk-reducing factors are included by applying reductions to the LGDs and PDs.

Risk-based and market-oriented pricing
Pricing methods and tools are used to manage risk and profitability in the lending business that take into account all cost components – in particular the expected standard risk costs and the cost of capital – and that are each adjusted to reflect the current parameters and bank management. Lending decisions are made under risk/return considerations that are determined in the obligatory pre-calculation prior to a transaction being concluded.

Monitoring and controlling
Risk monitoring takes place at the level of individual exposures. In addition, various instruments are used at portfolio level.

Individual exposures are monitored in both lending and trading operations with the aid of classical monitoring systems, such as rating analysis and early warning systems. Individual exposure limits are also defined in line with the probability of default to limit the risks entered into. Monitoring and reporting of any limit overshootings takes place on a monthly basis.

Special features of counterparty risk and issuer risk
We employ limit systems as a key element of the management and controlling of counterparty risk as well as issuer risk to prevent an increase in our risk position that does not comply with the strategy. Each new trade is entered and applied to the corresponding limit without delay (the same day). The pre-settlement risk is established on the basis of an internal model method (IMM) and is recognised by the banking supervisory authorities for calculating capital requirements. To reduce counterparty risk relating to financial institutions, HVB uses derivative exchanges in its function as a central counterparty.

Quantification and specification
The economic capital for credit risk at HVB, without taking account of diversification effects between the risk types and without the model risk cushion, amounts to €3,406 million, which is €82 million lower than the total reported value as at 31 December 2018 (€3,488 million).

Credit default risk
The following tables and charts for credit default risk show the aggregate exposure values (total of non-performing and performing exposure) of HVB including issuer risk from the trading book. Issuer risk arising from the trading book is, moreover, included in the regulatory market risk analysis by way of the incremental risk charge. The comments in this regard can be found in the section covering market risk.

The aggregate exposure to credit default risk is referred to as credit default risk exposure, or simply exposure, in the following. Account balances on the entry date are included in the calculation of exposure.

The remaining exposures assigned to the former Real Estate Restructuring business segment are excluded from the analysis because the portfolio does not include any further new business and is earmarked for elimination. The portfolio has been reduced consistently in recent years and now stands at a mere €29 million (31 December 2018: €44 million).

Development of metrics by business segment

Broken down by business segment	EXPECTED LOSS[1] € millions 2019	EXPECTED LOSS[1] € millions 2018	RISK DENSITY[2] in bps 2019	RISK DENSITY[2] in bps 2018
Commercial Banking	151	140	15	15
Corporate & Investment Banking	130	141	9	11
Group Corporate Centre	0	0	11	6
Other	0	0	12	31
Consolidation	—	—	—	—
HVB	**281**	**281**	**12**	**13**

1 Expected loss of the performing exposure without issuer risk in the trading book.
2 Risk density as a ratio of expected loss to performing exposure without issuer risk in the trading book in basis points (bps); 100bps = 1%.

In 2019, the expected loss of HVB remained almost constant at €281 million and risk density fell by 1bp.

In this context, the expected loss in the CIB business segment fell by €11 million despite an increase in exposure, which resulted in an improvement in the risk density by 2bps. This is mainly attributable to the business performance in the shipping industry group.

The rise of €11 million in the expected loss in the Commercial Banking business segment is partly due to business expansion in the private customers segment.

Breakdown of credit default risk exposure by business segment and risk category

(€ millions)

Broken down by business segment	CREDIT DEFAULT RISK EXPOSURE 2019	CREDIT DEFAULT RISK EXPOSURE 2018	OF WHICH COUNTERPARTY RISK 2019	OF WHICH COUNTERPARTY RISK 2018	OF WHICH ISSUER RISK IN BANKING BOOK 2019	OF WHICH ISSUER RISK IN BANKING BOOK 2018	OF WHICH ISSUER RISK IN TRADING BOOK 2019	OF WHICH ISSUER RISK IN TRADING BOOK 2018
Commercial Banking	100,293	96,568	3,332	2,823	—	—	—	—
Corporate & Investment Banking	148,672	133,521	19,276	18,346	42,395	35,541	4,097	4,270
Group Corporate Centre	12	192	5	186	6	6	—	—
Other	97	105	—	—	—	—	—	—
Consolidation	—	—	—	—	—	—	—	—
HVB	**249,074**	**230,386**	**22,612**	**21,355**	**42,401**	**35,547**	**4,097**	**4,270**

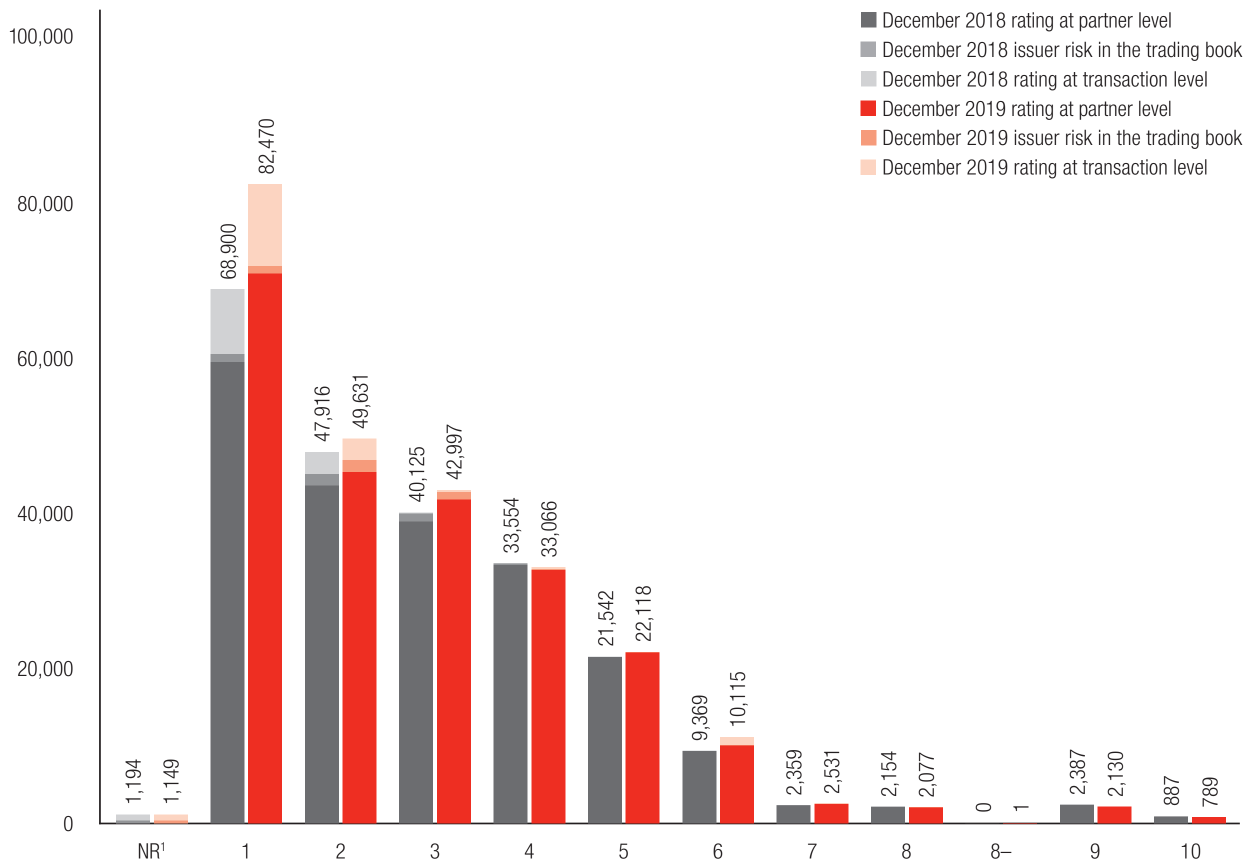
HVB's credit default risk exposure increased by €18,688 million in 2019.

Exposure rose by €15,151 million particularly in the CIB business segment, notably as a result of the liquidity reserves built up with Deutsche Bundesbank, foreign state institutions and in the public sector.

Exposure in the Commercial Banking business segment increased by €3,725 million, which was driven primarily by the exposure built up in the private customers industry group.

Risk Report (Continued)

Breakdown of credit default risk exposure by rating class (€ millions)



1 Not rated.

The rating structure of HVB changed over 2019 mainly on account of the development of exposure in the financial institutions (including foreign sovereigns) and public sector (including German sovereign) industry groups.

In rating class 1, exposure increased a significant €13,570 million, the main reason for this being the build-up of HVB Group's liquidity investments with Deutsche Bundesbank, foreign state institutions and in the public sector.

Development of metrics by industry group

	CREDIT DEFAULT RISK EXPOSURE € millions		OF WHICH ISSUER RISK IN TRADING BOOK € millions		EXPECTED LOSS[1] € millions		RISK DENSITY[2] in bps	
Broken down by industry group	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Financial institutions								
(including foreign sovereigns)	66,973	58,389	3,257	2,970	35	29	6	5
Real estate	27,175	27,490	64	66	23	22	9	8
Public sector (inclusive German sovereign)	22,718	20,043	49	307	2	1	1	1
Special products	15,361	12,532	0	17	13	8	8	6
Energy	11,902	12,462	96	142	13	14	11	12
Chemicals, pharma, healthcare	11,687	10,316	141	162	23	18	20	18
Food, beverages, agriculture	10,759	10,771	30	48	14	13	13	13
Automotive	8,572	8,670	100	125	11	8	14	10
Consumer goods, textile industry	6,497	6,566	22	22	19	16	30	24
Metals	6,397	5,525	47	83	10	12	16	23
Construction, building materials	6,348	5,300	17	32	8	7	12	14
Machinery	6,100	5,437	19	8	10	13	18	24
Services	5,843	5,626	51	39	16	15	28	28
Telecommunication, IT	5,182	5,412	105	148	9	11	19	22
Transport, travel	4,161	3,826	41	54	9	7	24	21
Electronics	3,083	2,921	26	20	4	3	12	11
Shipping	2,409	2,845	0	1	15	40	77	187
Media, paper	2,390	2,405	23	11	4	6	18	24
Tourism	2,352	2,342	5	10	3	7	15	29
Private customers	23,131	20,988	0	0	40	31	17	15
Others	34	520	4	5	0	0	21	3
HVB	**249,074**	**230,386**	**4,097**	**4,270**	**281**	**281**	**12**	**13**

1 Expected loss of the performing exposure without issuer risk in the trading book.
2 Risk density as a ratio of expected loss to performing exposure without issuer risk in the trading book in basis points (bps); 100bps = 1%.

How the top five industries developed within HVB is described below.

Risk Report (Continued)

Financial institutions (including foreign sovereigns)
The exposure in the financial institutions (including foreign sovereigns) industry group rose by €8,584 million in 2019. This development is largely attributable to the liquidity reserves built up with Deutsche Bundesbank and foreign state institutions and with issuers.

Part of the exposure in the financial institutions (including foreign sovereigns) industry group resulted from credit risk exposure to UniCredit S.p.A. and other entities affiliated to UniCredit (upstream and downstream exposure) on account of the strategic positioning of HVB as the group-wide centre of competence for the markets and investment banking business of UniCredit and other business activities (such as export finance and guarantees).

Real estate
In the real estate industry, exposure as at 31 December 2019 decreased year on year by more than €315 million (down 1.1%), whereby the expected loss was kept almost at the previous-year level.

The financing business remains focused on Germany.

HVB continues to place its focus on disciplined risk management in compliance with financing policies. Market and portfolio developments are monitored on an ongoing basis in order to be in a position to identify and counter negative developments at an early stage.

Public sector (including German sovereign)
The public sector (including German sovereign) industry group contains private enterprises with public-sector owners as well as state entities. As the German states and the development banks enjoying the formers' full liability represent important counterparties for internal liquidity management, the vast majority of the exposure is due to HVB's own liquidity reserves.

In the public sector (including German sovereign) industry group, exposure increased by €2,675 million in 2019. This increase is essentially attributable to liquidity reserves, in respect of which use was made of suitable investment opportunities. With an expected loss of €2 million and a risk density of 1bp, the portfolio quality is stable.

Special products
Special products transactions include ABS/CDO bond investments, customer-related securitisations, securitisations of UniCredit's own assets, structured credit products such as structured fund financing, structured leasing transactions and other structured financial transactions (not including project and acquisition financing).

The exposure was increased in the special products industry group by €2,829 million in 2019, mainly as a result of growth in customer-related securitisations in line with the 2019 risk strategy, for which a strategy of growth within clearly defined parameters involving conservative credit standards (for instance in relation to asset classes, rating quality) was defined for sub-segments of the special products portfolio. The expected losses and the risk density stand at €13 million or 8bps.

Energy
Exposure in the energy industry group decreased by €560 million in 2019.

In the case of new business such as project loans on the renewable energy side, HVB acted in line with the 2019 risk strategy and financing standards such that there was a slight improvement in the portfolio quality with an expected loss of €13 million and a risk density of 11bps.

Exposure development of countries/regions
The following tables show the comprehensive concentration risk at country level. The exposure figures are shown with regard to the risk country of the customer.

Development of credit default risk exposure of eurozone countries (€ millions)

Broken down by eurozone countries	CREDIT DEFAULT RISK EXPOSURE 2019	2018	OF WHICH ISSUER RISK IN TRADING BOOK 2019	2018
Germany	147,366	132,653	848	891
Italy	10,278	8,659	789	784
France	9,040	8,076	437	448
Ireland	7,686	6,290	27	43
Spain	7,281	7,526	200	131
Luxembourg	4,869	5,006	60	74
Netherlands	4,471	4,422	91	183
Austria	1,992	1,923	341	378
Belgium	1,745	1,340	37	34
Finland	346	339	20	40
Greece	181	201	0	0
Cyprus	77	53	1	0
Portugal	38	102	4	52
Slovenia	23	22	6	4
Malta	21	42	0	0
Lithuania	11	9	10	9
Estonia	6	2	1	2
Slovakia	3	3	0	1
Latvia	1	6	1	4
Supranational organisations and multilateral banks	3,100	2,481	283	99
HVB	**198,535**	**179,155**	**3,156**	**3,177**

Italy

The size of the portfolio results from HVB's role as group-wide centre of competence for the markets and investment banking business of UniCredit. The exposure to Italy also includes the exposure with UniCredit S.p.A.

Risk Report (Continued)

Development of credit default risk exposure by country/region outside the eurozone (€ millions)

Broken down by country/region outside the eurozone	CREDIT DEFAULT RISK EXPOSURE 2019	CREDIT DEFAULT RISK EXPOSURE 2018	OF WHICH ISSUER RISK IN TRADING BOOK 2019	OF WHICH ISSUER RISK IN TRADING BOOK 2018
USA	11,710	9,805	320	136
UK	10,496	11,290	125	243
Switzerland	6,649	6,636	205	259
Japan	6,424	6,246	2	3
Asia/Oceania (without Japan, China, Hong Kong)	3,822	4,036	3	23
Western Europe (without Switzerland, UK)	2,205	2,202	80	124
China (including Hong Kong)	1,622	1,944	0	0
Near/Middle East	1,536	1,761	0	0
Turkey	1,397	1,925	5	12
CIS/Central Asia (without Turkey)	1,319	1,193	31	28
Africa	1,266	1,148	1	5
Eastern Europe (without euro countries)	809	1,277	146	226
North America (including offshore jurisdictions, without USA)	737	1,133	5	11
Central/South America	548	635	18	23
HVB	**50,540**	**51,231**	**941**	**1,093**

In 2019, the total exposure to countries/regions outside the eurozone fell by €691 million.

Financial derivatives

Alongside the goal of generating returns, derivatives are employed to manage market risks resulting from trading activities (in particular, risks arising from interest-rate fluctuations and currency fluctuations), and also serve to provide cover for on- and off-balance-sheet items within asset/liability management. Besides market risk, derivatives bear counterparty risk or, in the case of credit derivatives, which additionally serve to manage credit risk, also issuer risk.

The positive fair values are relevant for purposes of credit default risk as replacement values for the OTC derivatives, which represent the potential costs that HVB Group would incur to replace all of the original contracts with equivalent transactions in case of simultaneous default by all counterparties.

On the basis of these replacement values and not taking into account any risk-reducing effects, the maximum counterparty risk for HVB as at 31 December 2019 totalled €76.0 billion (31 December 2018: €60.7 billion). The year-on-year rise of €15.3 billion is primarily attributable to the increase in exposure in interest rate swaps.

In accordance with the regulatory provisions under CRR as well as taking account of the internal model method (IMM) that has been approved by the regulatory authorities for use by HVB to determine counterparty risks, HVB's derivative business results in risk-weighted assets arising from counterparty risk of €4.1 billion as at 31 December 2019 (31 December 2018: €4.2 billion).

The following tables provide detailed information especially on the nominal amount and fair values of all derivative transactions and credit derivative transactions of HVB.

Derivative transactions

(€ millions)

	NOMINAL AMOUNT					FAIR VALUE			
	RESIDUAL MATURITY			TOTAL		POSITIVE		NEGATIVE	
	UP TO 1 YEAR	MORE THAN 1 YEAR UP TO 5 YEARS	MORE THAN 5 YEARS	2019	2018	2019	2018	2019	2018
Interest rate derivatives	**1,177,333**	**1,097,930**	**1,016,811**	**3,292,074**	**2,515,950**	**63,822**	**46,710**	**59,267**	**42,568**
OTC products									
Forward rate agreements	248,732	—	—	248,732	243,160	29	5	34	4
Interest rate swaps	826,130	982,393	903,736	2,712,259	2,002,836	58,166	42,593	54,027	38,262
Interest rate options									
– purchased	14,685	46,250	52,851	113,786	96,057	5,178	3,532	404	471
– written	12,833	59,878	60,225	132,936	98,672	407	576	4,779	3,830
Other interest rate derivatives	36,575	4	—	36,579	11,405	41	4	23	1
Exchange-traded products									
Interest rate futures	38,117	9,405	—	47,522	57,018	—	—	—	—
Interest rate options	261	—	—	261	6,802	1	—	—	—
Foreign exchange derivatives	**228,965**	**38,185**	**3,445**	**270,595**	**266,920**	**2,698**	**3,237**	**2,743**	**3,625**
OTC products									
Foreign exchange forwards	177,651	21,048	3,253	201,952	204,131	2,169	2,680	2,196	3,009
Foreign exchange options									
– purchased	25,363	9,045	128	34,536	30,814	221	356	269	205
– written	25,815	8,093	63	33,970	31,755	262	175	278	411
Other foreign									
exchange derivatives	86	—	—	86	220	46	26	—	—
Exchange-traded products									
Foreign exchange futures	50	—	—	50	—	—	—	—	—
Foreign exchange options	—	—	—	—	—	—	—	—	—
Cross-currency swaps	**44,066**	**105,117**	**51,168**	**200,351**	**200,278**	**4,262**	**5,665**	**4,082**	**5,520**
Equity/index derivatives	**62,537**	**57,540**	**10,669**	**130,746**	**79,944**	**4,428**	**3,274**	**3,748**	**3,119**
OTC products									
Equity/index swaps	5,535	3,844	298	9,677	11,296	280	530	285	452
Equity/index options									
– purchased	3,737	2,780	1,170	7,687	5,240	191	268	49	48
– written	13,434	9,464	6,641	29,539	20,767	140	384	828	562
Other equity/index derivatives	14,369	705	1	15,074	855	1,519	55	—	2
Exchange-traded products									
Equity/index futures	10,403	8,205	52	18,661	6,781	—	—	—	—
Equity/index options	14,630	31,514	2,457	48,601	33,779	2,298	2,037	2,586	2,055
Equity swaps	429	1,029	50	1,507	1,226	—	—	—	—
Credit derivatives[1]	**7,281**	**4,366**	**827**	**12,474**	**28,584**	**101**	**223**	**235**	**341**
Other transactions	**7,524**	**6,831**	**854**	**15,209**	**12,340**	**736**	**1,568**	**853**	**807**
HVB	**1,527,706**	**1,309,970**	**1,083,775**	**3,921,450**	**3,104,016**	**76,047**	**60,677**	**70,928**	**55,980**

1 For details of credit derivatives, please see the tables “Credit derivatives” and “Credit derivatives by reference asset” below.

Derivative transactions with a residual maturity of up to three months accounted for a nominal total amount of €800,637 million as at 31 December 2019 (of which credit derivatives on a prorata basis: €1,580 million).

Risk Report (Continued)

Derivative transactions by counterparty type

(€ millions)

	FAIR VALUE			
	POSITIVE		NEGATIVE	
	2019	2018	2019	2018
Central governments and central banks	9,232	7,188	1,276	1,242
Banks	38,963	30,730	40,769	32,560
Financial institutions	24,695	19,236	26,433	20,186
Other companies and private individuals	3,157	3,523	2,450	1,992
HVB	**76,047**	**60,677**	**70,928**	**55,980**

Credit derivatives

(€ millions)

	NOMINAL AMOUNT					FAIR VALUE			
	RESIDUAL MATURITY			TOTAL		POSITIVE		NEGATIVE	
	UP TO 1 YEAR	MORE THAN 1 YEAR UP TO 5 YEARS	MORE THAN 5 YEARS	2019	2018	2019	2018	2019	2018
Banking book	**—**	**82**	**3**	**85**	**94**	**—**	**2**	**10**	**9**
Protection buyer									
Credit default swaps	—	82	—	82	91	—	2	10	9
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	—	—	3	3	3	—	—	—	—
Protection seller									
Credit default swaps	—	—	—	—	—	—	—	—	—
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	—	—	—	—	—	—	—	—	—
Trading book	**7,281**	**4,284**	**824**	**12,389**	**28,490**	**101**	**221**	**225**	**332**
Protection buyer									
Credit default swaps	3,303	1,837	368	5,507	13,985	12	73	78	138
Total return swaps	419	503	49	972	580	18	7	128	115
Credit-linked notes	—	142	3	145	171	3	5	1	2
Protection seller									
Credit default swaps	3,559	1,732	401	5,692	13,727	68	136	15	76
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	—	70	3	73	27	—	—	3	1
HVB	**7,281**	**4,366**	**827**	**12,474**	**28,584**	**101**	**223**	**235**	**341**

Credit derivatives by reference asset

(€ millions)

	NOMINAL AMOUNT				
	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT-LINKED NOTES	TOTAL 2019	TOTAL 2018
Public sector bonds	2,482	—	6	2,488	14,097
Corporate bonds	8,601	138	95	8,834	12,995
Equities	—	—	—	—	—
Other assets	198	834	120	1,152	1,492
HVB	**11,281**	**972**	**221**	**12,474**	**28,584**

Single-name credit derivatives make up 54.5% of the total; multi-name credit derivatives, relating notably to baskets or indices, account for a share of 45.5%.

Stress tests
By carrying out stress tests in the credit portfolio, the credit risk managers obtain information on a quarterly basis about the possible consequences of a deterioration in the underlying economic conditions in addition to the monthly analysis of the real portfolio development. The focus here is on the risk metrics of risk-weighted assets, expected loss and economic capital, and the changes in the portfolio quality. Concentration stress tests, ad hoc stress tests and inverse stress tests are carried out alongside the stress tests based on macroeconomic scenarios (results of which are included in the cross-risk-type stress analysis, among other analyses).

2 Market risk

Categories
We define interest rate risk as the risk of values changing on account of fluctuations in interest rates.

Foreign currency risk arises from fluctuations in exchange rates.

Stock and commodity risk is defined as the risk arising from changing rates on the stock and/or commodity markets.

We define the credit spread as the premium on the interest rate compared with a risk-free investment. Fluctuations in the credit spread give rise to credit spread risk.

The risk that results from changes in volatilities is subsumed in option risk.

Strategy
Market risk essentially arises in the CIB business segment. As was already the case in previous years, the focus in 2019 was again on customer transactions.

One part of the market risk is entailed in trading books while the other part – mainly invested in interest-bearing-securities – lies in strategic investments or in liquidity reserve portfolios. All positions exposed to market risk are subject to corresponding limits.

Limit system
All transactions exposed to market risk in the trading and banking books of HVB are aggregated every day to form value-at-risk (VaR) metrics and set against the risk limits for internal control purposes. The Management Board of HVB approves and, if necessary, adjusts the risk limits every year. Limits are defined for trading books by using VaR limits, whereas limits are set for the combination of trading and banking books by total VaR limits. Both groups of limits are equally binding and compliance is equally enforceable.

At the beginning of 2019 when the risk strategy for HVB Group was adopted, the overall VaR limit of €90 million and the trading book limit of €47 million were confirmed without change.

Monitoring of the regulatory metrics stressed value-at-risk and incremental risk charge to be used additionally for the internal market risk model is ensured by setting limits for the risk values that are reported on a weekly basis.

Alongside management using the VaR approach, the risk positions of key units are restricted by an additional bundle of granular limits. These limits relate to sensitivities, stress test results and nominal volumes in various risk classes.

Risk Report (Continued)

Measurement

The VaR shows the maximum expected loss caused by market price fluctuations that with a certain probability (confidence level) will not be exceeded over a given period. We use a confidence level of 99.00% and a holding period of one day for internal risk reports, management and risk limits.

We use a historical simulation to calculate the VaR. This simple method makes it possible to calculate the VaR without having to make any fundamental assumptions regarding the statistical distribution of the movements in the portfolio value. It encompasses the generation of the hypothetical distribution of earnings (gains and losses) from a portfolio of financial instruments directly using the historical market price fluctuations in a defined observation period. In October 2019, this period was reduced from the last 500 days to the last 250 days.

HVB has defined several further market risk metrics under the current CRR rules for risk management as well as the VaR:

- The stressed VaR is calculated in the same way as the VaR, although the 12-month observation period has been selected covering the most significant negative market changes for HVB's trading portfolio. The amount calculated for the regulatory report relates to a holding period of ten days and a confidence level of 99.00%.
- The incremental risk charge (IRC) for credit-risk-sensitive positions is the internal approach used to determine the specific risks (specific price risk for net interest positions). This includes credit default risk and migration risk, meaning that both the change in ratings (migration) and the potential default on a credit product are taken into account. The calculated amount for both regulatory and internal reporting relates to a holding period of one year and a confidence level of 99.90%.
- In addition, further risks not taken account of in the internal market risk model are covered by the regulatory standard approach. This essentially relates to the specific risk entailed in securitisations and risk positions in the form of units in undertakings for collective investment (UCI) and as of December 2019, risks arising from shares and indices caused by implicit fluctuations in the repo rate.
- Based on the CRR regulations, we calculate risks with regard to the credit valuation adjustment (CVA). The CVA risk shows the risk of losses in value based on changes in the expected counterparty risk for all relevant OTC derivatives under CRR. We use our own internal model to calculate the vast majority of the CVA. For the regulatory report, the internal model calculates both the CVA VaR and the stressed CVA VaR on the basis of a 10-day holding period and a confidence level of 99.00%.

Monitoring and controlling

The market risk positions in the trading and banking books are monitored using a hierarchical limit system that restricts the potential loss from market risk. This involves restricting the VaR totals from trading positions by setting trading book limits. At the same time, all positions, irrespective of the regulatory or IFRS classification, are limited by what are known as total VaR limits.

The VaR figures are reported daily along with the limit utilisation and the earnings figures (P/L figures) to the Management Board member responsible and the persons responsible in the CIB business segment. Whenever trading book and/or total VaR limits are exceeded, an escalation process is triggered immediately and the reduction of the positions in question monitored.

The Market Risk Management department has direct access to the front-office systems used in trading operations. The monitoring of trading activities comprises prompt allocation to credit risk limits and detailed validation and coordination of the P/L on the following day. In this context, both the daily changes in the market price risk profile and the P/L generated from new business are calculated.

In addition to the daily reports, the management is informed on a weekly and monthly basis about the results of the risk analysis, including the results of back-testing and stress tests as well as sensitivity ratios.

Since 2019, HVB has been calculating economic capital on the basis of the assumption that operations will continue (continuity of operations). To calculate and allocate the economic capital requirements for market risk, the hypothetical distribution used to determine the VaR is based on an observation period of 500 trading days, excluding credit spread movements for positions carried at cost. The results from the credit valuation adjustment (CVA) and funding valuation adjustment (FVA) risk are added to this hypothetical distribution, whereby the FVA is derived from the expected future funding costs of derivative transactions. Unlike in internal risk controlling, any hedge effect of the model book for equity is not included in the economic capital. Furthermore, market risks are also included that arise from the Incremental Default Risk Charge (IDRC), which in contrast to the regulatory IRC approach only takes account of issuer default, the market risk standard approach, add-ons for ABS risks and for gap option risks. All risks, with the exception of the add-ons, are scaled accordingly to obtain a holding period of one year and a confidence level of 99.90%.

The regulatory capital requirement for market risk encompasses the VaR and stressed VaR for, in each case, a 10-day holding period together with the IRC and the market risk standard approach. The CVA risk is also taken into account. When calculating the capital requirement, the individual risk metrics are aggregated by regulatory averages, maximum calculation and scaling.

Quantification and specification

The economic capital for market risk at HVB, without taking account of diversification effects between the risk types, amounts to €1,742 million. The change compared with the figure as at 31 December 2018 (€2,357 million) is due to the change in the calculation method to the going concern approach. If the current approach is applied retroactively to the to the reference date for market risk, the result is economic capital of €1,453 million as at 31 December 2018.

The following table shows the aggregated market risk for the trading and banking book positions at HVB over the course of the year. Most of the market risk arises from positions of the CIB business segment of HVB.

Risk Report (Continued)

Market risk of HVB (VaR, 99.00% confidence level, one-day holding period)

(€ millions)

	MARKET RISK OF TRADING BOOK ACTIVITIES			MARKET RISK OF TRADING AND BANKING BOOK ACTIVITIES[3]		
	AVERAGE	PERIOD END		AVERAGE	PERIOD END	
	2019	31/12/2019	31/12/2018	2019	31/12/2019	31/12/2018
Credit spread risk	3	2	3	18	12	13
Interest rate positions	5	7	4	8	9	5
Foreign exchange positions	2	3	1	3	2	4
Equity/index positions[1]	3	2	3	3	2	3
HVB Group[2]	**6**	**7**	**6**	**18**	**13**	**16**

1 Including commodity risk.
2 Because of the diversification effects between the risk categories, the total risk is less than the sum of the individual risks.
3 Because of the diversification effect between the trading book and the banking book, the difference in the figures shown does not correspond to the banking book risks.

The regulatory capital requirements for the past twelve months are described below, broken down by the relevant risk metrics.

Regulatory capital requirements of HVB

(€ millions)

	31/12/2019	30/9/2019	30/6/2019	31/3/2019	31/21/2018
Value at risk	81	76	62	58	80
Stressed value at risk	293	266	219	196	288
Incremental risk charge	264	253	248	249	222
Market risk standard approach	55	10	11	13	14
CVA value at risk	10	12	12	11	10
Stressed CVA value at risk	68	89	89	82	86
CVA standard approach	29	28	25	27	26

Regulatory back-testing of the internal model at HVB for 2019

The forecasting quality of the VaR measurement method is reviewed by means of daily back-testing that compares the computed regulatory VaR figures with the changes in the hypothetical portfolio value. Six reportable back-testing outlier occurred in 2019. The hypothetical loss was larger than the forecast VaR figure on these days. These six outliers were all caused by severe market movements, particularly by strong fluctuations on the interest market.

Alongside back-testing using the hypothetical change in value, HVB also uses a back-testing method based on the change in the actual portfolio value to validate the model. In 2019, there were five instances of a limit being exceeded, which were due to strong market fluctuations.

Besides back-testing, further methods are used on a quarterly basis to check the quality of the model. These involve analysing the suitability of both the modelling and the risk factors used and adjusting them as required. Risks that cannot be adequately modelled are monitored and limits set for them if they are material.

Market liquidity risk

Market liquidity risk relates to the risk that the Bank will suffer losses due to the disposal of assets that can only be liquidated on the market at a discount. In an extreme case, HVB may not be able to sell such an asset, as the market does not offer enough liquidity or the Bank holds a position that is too large to set against the market turnover. The CRO organisation is responsible for managing market liquidity risk and conducts advanced market liquidity analyses.

Stress tests

In addition to calculating the VaR and the other risk metrics, we conduct stress tests on a monthly basis to determine the potential losses in our market risk positions resulting from extreme market movements and extraordinary events. The scenarios we examine range from large movements in interest rates, currency and equity markets through to disruptions in the underlying volatilities. Further scenarios are also considered for HVB, such as a widening of credit spreads. We also analyse macroeconomic stress test scenarios based on real market upheavals in the past (historical stress tests) or current threats (hypothetical stress tests).

Risk Report (Continued)

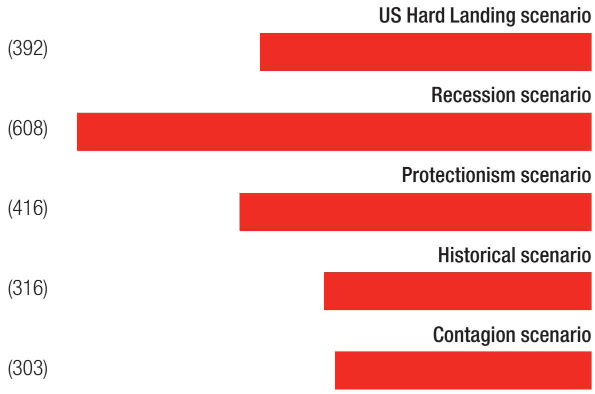
The Historical scenario is calculated to evaluate the effects of a potential financial crisis. This scenario reflects the trend in the financial crisis in 2009. To take account of the low market liquidity, the time horizon for this scenario was extended and covers a period of three months.

Further hypothetical scenarios are based on the potential market movements in the event of a worsening of the debt crisis in Europe (Contagion scenario) or a negative demand shock in Germany (Recession scenario). The Protectionism scenario sees a slowing in Chinese growth following a policy of protectionism in the USA and simulates a growth shock in Turkey. The US hard landing scenario is used to analyse the impact of an abrupt end to the longest expansion phase of the American economy in history and a disorderly withdrawal of the UK from the EU.

In contrast to previous years, the presentation of stress test results selected here no longer includes the results used to determine capital adequacy, but those used for internal management purposes. The main consequence of this is that only stress test losses of financial instruments measured at fair value are taken into account, whereas financial instruments carried at cost in the past contributed to the results. The previous-year results presented in this report were also calculated using the new approach and therefore differ from the results in the previous year's report.

At 31 December 2019, the most significant stress test result of this package of stress test scenarios involves a potential loss of €0.6 billion in the Recession scenario (31 December 2018: loss of €0.8 billion). This scenario is also used in the cross-risk-type stress tests, where it is analysed for risk-taking capacity.

HVB stress test at 31 December 2019 (€ millions)



As described under the sub-header "Stress tests" in the section entitled "Implementation of overall bank management", inverse stress tests were again carried out in 2019. Risks resulting from market risk in the banking portfolio were also included in this analysis.

Interest rate risk in the banking book

The interest rate risk in the banking book is the risk relating to the Bank's capital and income caused by changes in interest rates. The strategy of the interest rate risk in the banking book aims to reduce negative effects on net interest income caused by fluctuations in interest rates over several years and to generate sustainable earnings. The modelling of contractually short-term deposits and non-interest bearing assets and non-interest bearing liabilities helps to stabilise the flow of income. Interest rate risk management also takes account of customer behaviour with regard to early repayments of loans. Parameters are based on historical data as well as trend analyses.

HVB measures and monitors this risk with regard to the change in the economic value as well as the income of the Bank. In this context, it is ensured that the methodologies and models as well as limits or thresholds for the sensitivity of net interest and the present value are consistent. Interest rate risk exposure from commercial banking transactions is managed and hedged by the Treasury department, which monitors market risk on a daily basis. Present value-based measurement shows the effects of fluctuations in the interest rate on the economic value of assets and liabilities as a relevant risk measure. In line with regulatory reporting requirements, the absolute change in present value and the coefficients from the change in present value and regulatory own funds are calculated on a monthly basis in the event of a 200bps increase or a 200bps decrease in interest rates. According to Circular 6/2019 (BA) of the Federal Financial Supervisory Authority on interest rate risks in the banking book, the calculations of the +/– 200 basis points interest rate shocks have been adjusted and the collection of early warning indicators was also included. These evaluations are carried out with (management view) and without (regulatory view) taking account of the hedge effect from the model book for own funds.

Information on interest rate risks in the banking book

	REGULATORY PERSPECTIVE		MANAGEMENT PERSPECTIVE	
	31/12/2019	31/12/2018	31/12/2019	31/12/2018
Change in present value +200 basis points in € millions	(1,697)	(1,713)	(52)	(36)
Interest rate coefficient in %	(12.3)	(10.5)	(0.4)	(0.2)

HVB is well below the specified 20% mark, above which the banking supervisory authorities consider a bank to have increased interest rate risk, and below the 15% mark, which is seen as an early warning indicator. Customer margins are not included.

In addition to the present value approach, a simulation of net interest in the banking book is performed for HVB on a monthly basis. The focus of this analysis is the impact of changes in interest rates on net interest income compared with the benchmark scenario over a defined time horizon. The scenarios are limited internally with parallel shifts in the yield curve by plus 100bps or minus 30bps for transactions in euros and other foreign currencies in combination with a minus 100bps interest rate shock for positions in US dollars and British pounds. Assumptions regarding the elasticity of demand and savings deposits are also taken into account. Depending on the contractual agreement with the customer, a floor of 0% could be employed for commercial banking products. In such a case, the interest rate shock of minus 30/minus 100bps would not be fully applied. Model assumptions are also incorporated into the analysis. This relates notably to products with unknown and/or undefined maturities and included options. The results are below the internal limit of 9%.

Effects of changes in the interest rate on net interest

	31/12/2019		31/12/2018	
	€ millions	in %	€ millions	in %
+100 basis points	144	5.8	191	8.9
–30 basis points / –100 basis points	(50)	(2.0)	(119)	(5.6)

The resulting sensitivity analysis was carried out on the basis of the planned net interest for the 2019 financial year. The change in results compared with the previous year can be explained by the changed positions held by the Bank and the persistently low interest rates.

Furthermore, additional stress test scenarios are performed to estimate the basis risk (resulting from the imperfect correlation in reference interest rates for different instruments and products) and the effects of nonparallel shocks.

3 Liquidity risk

Liquidity risk comprises the following risk categories:
– short-term liquidity risk
– operational liquidity risk (part of short-term liquidity risk)
– funding risk
– market liquidity risk

Categories

Short-term liquidity risk

Short-term liquidity risk relates to the risk of a discrepancy in the amount and/or maturity of incoming and outgoing payments in the short run (one year or less).

Intraday/operational liquidity risk, which is part of the short-term liquidity risk

Operational liquidity risk arises when a financial institution cannot meet its intraday payment obligations (payment obligations within one trading day) from its current incoming and outgoing payments, hence becoming technically insolvent. This can be considered a special type of short-term liquidity risk. An intraday cushion is set up as part of the short-term liquidity cushion with a view to balancing the intraday liquidity requirement and covering unforeseen payment obligations.

Funding risk

The funding risk (structural liquidity risk) is defined as the risk of not being able to raise the necessary refinancing funds at an appropriate ratio between medium to long-term assets and liabilities (over one year), at acceptable prices and in a stable and sustainable manner without adversely affecting the Bank's day-to-day operations or financial position. It could potentially have an impact on the funding costs (own credit and market funding spread) and thus on the future earnings of the company.

Market liquidity risk

Information on market liquidity risk is contained in the section entitled "Market risk".

Strategy
Liquidity management at HVB is divided into short-term liquidity management (one year or less) and long-term liquidity management (more than one year). Risk drivers that may be the cause of potential liquidity outflows have been identified for the various segments.

Furthermore, various dimensions of liquidity risk management have been defined to which appropriate instruments and controlling mechanisms have been assigned depending on the type of risk involved.

The risk appetite is defined with regard to liquidity risk on the basis of the business activities and taking into account risk sources and risk drivers. This forms the foundation for the management and limit mechanisms, such as liquidity reports, projections and plans, and the definition of liquidity cushions to be maintained for unexpected outflows of liquidity during the day. Furthermore, a limit system has been set up and triggers defined. The result is the specification of a minimum survival period that matches the risk appetite.

Limit system
For the management of short-term liquidity risk, we have put in place a cash-flow-oriented limit system that presents the relevant balances within HVB per working day and limits the positions appropriately.

The difference between the calculated potential liquidity requirement and the existing liquidity reserves is limited.

A limit was set for operational liquidity risk as part of short-term liquidity risk by implementing a minimum balance to be observed during the day, by means of which additional liquidity is maintained to cover unforeseeable outflows (intraday liquidity cushion).

Funding risk or structural liquidity risk is restricted by defining a limit for the ratio of liabilities to assets.

The effects arising from the change in funding spreads are to a very large extent taken into account by limiting funding risk. In addition, the internal transfer prices for the lending and deposit-taking activities are continually reviewed for appropriateness and regularly adjusted to reflect the market situation.

Reduction
Among other ways of reducing liquidity risk, we specify processes, implement an early warning system complete with early warning indicators and a limit system, and manage the highly liquid assets made available as collateral.

Measurement
Short-term liquidity risk
To measure short-term liquidity risk, cash flow profiles are produced on a daily basis. The resulting balances are compared with the available liquidity reserves, which consist primarily of the available highly liquid securities eligible at all times as collateral for central bank borrowings. The cumulative balance of the above-named components is backed with limits for all maturity buckets of up to three months for the relevant units of HVB.

Risk Report (Continued)

The aggregate amount for the three-month maturity bucket is published in the Risk Report for short-term liquidity risk as the relevant figure for managing the Bank's liquidity risk.

Furthermore, stress-test scenarios based on the liquidity profiles of the HVB units are simulated at regular intervals and the impact on liquidity is calculated. The corresponding stress-test scenarios take account of both company-specific influences (e.g. potential HVB-specific incidents) and external factors (e.g. disruptions in global financial markets), as well as a combination of company-specific and external factors (e.g. the scenario demanded under the MaRisk rules). A time horizon of up to two months is defined for the individual stress-test scenarios, during which the available liquidity reserves are expected to exceed the simulated outflows of liquidity. This ensures that counter-measures can be initiated promptly, if required. In addition, the defined early warning indicators and relevant concentration risks are determined and monitored at regular intervals.

Calculating the liquidity coverage ratio (LCR) is intended to ensure that an institution is able to meet its short-term payment obligations under the assumption of an acute stress scenario over a period of 30 calendar days.

Funding risk
To measure funding risk, the long-term funding needs based on the expected business development are reported and updated in a co-ordinated process. The long-term funding need, which is used to set the funding targets and is presented to the Asset Liability Committee (ALCO), takes into account the assets and liabilities falling due in the planning period. To present the funding structure, maturity mismatches between the long-term assets and liabilities are shown in defined maturity buckets. The key assumptions underlying the risk measurement methods are reviewed on a regular basis to assess their appropriateness. The net stable funding ratio (NSFR) is used as the key internal indicator for measuring funding risk according to Basel III requirements. An internal indicator (adjusted NSFR) is calculated for the time horizon greater than three years, in which connection the net surplus of current liabilities to assets is assumed to be stable.

Monitoring and controlling

Short-term liquidity risk
The task of monitoring the short-term liquidity situation at HVB has been entrusted to the Finance unit in the CFO organisation. This essentially involves analysing and controlling the short-term liquidity profiles within the scope of the limits defined and monitored by the CRO organisation on a daily basis. The monitoring and controlling of operational intraday liquidity risk are essentially performed on the basis of various minimum balances that must be observed during the day and at the beginning of the day. These are set against the current volumes in the relevant accounts on a regular basis and monitored. Responsibility for monitoring and controlling developments on the respective local markets rests with the local Treasury units, which report to the Finance unit as and when necessary.

For short-term liquidity risk, moreover, weekly stress analyses based on various scenarios allow us to make projections on the impact of sudden disruptions on the liquidity position, enabling us to take the necessary management measures as early as possible. Units in the CRO organisation are responsible for monitoring and analysing the stress-test scenarios, the early warning indicators and concentration risk, while the CFO organisation has been tasked with monitoring and analysing the holding of freely disposable securities eligible as collateral for central bank borrowings that can be used at short notice to cover unexpected liquidity outflows. Additional market liquidity analyses are carried out by the CRO organisation during the stress tests.

Funding risk
The task of monitoring the structural liquidity situation at HVB has similarly been entrusted to the Finance unit in the CFO organisation. This essentially involves analysing and controlling the long-term mismatches in the maturities of assets and liabilities within the scope of the defined limits and also specified funding targets. Compliance with the long-term funding ratios is monitored on a monthly basis. The funding risk of HVB is broken down by product, market and investor group. The front-office units implement the volume and product parameters derived from the funding targets cost-efficiently upon consultation with the Finance unit. This activity is similarly supported by a liquidity cost allocation mechanism – known as Funds Transfer Pricing (FTP) – for all significant business activities, the principles of which are defined in the FTP policy.

The ALCO and the management are regularly informed about the current liquidity and funding situation. A contingency plan is in place to allow the impact of potential liquidity crises to be managed. This plan describes and regulates the distribution of responsibilities, internal reporting requirements, decision-making powers and potential measures.

The rules and regulations governing liquidity management are defined in a liquidity policy adopted by the Management Board of HVB. The key points contained in the policy relate to the ability to satisfy financial obligations at all times in line with the defined risk appetite. Its objectives include the following: optimising the projected cash flows, restricting the cumulative short-term and operational liquidity differences, performing stress tests at regular intervals and restricting the long-term maturity mismatches between the liabilities side and the assets side.

The liquidity policy and contingency plan together with supplementary remarks are updated at regular intervals by the CRO organisation with support from the CFO organisation. The liquidity policy is implemented by the operational business units and coordinated and monitored for the relevant units of HVB by the Market Risk unit in the CRO organisation.

Quantification and specification
Short-term liquidity risk
Within the framework of our limit system, we showed an overall positive balance of short-term liquidity risk of €43.8 billion at HVB for the three-month maturity bucket at the end of December 2019 (31 December 2018: €36.0 billion). The holding of available securities eligible as collateral for central bank borrowings that can be employed on the next banking day to compensate for unexpected outflows of liquidity amounted to €21.9 billion at the end of 2019 (31 December 2018: €17.7 billion).

The liquidity coverage ratio (LCR) of a minimum of 100% to ensure that an institution is able to meet its short-term payment obligations was exceeded at HVB as at 31 December 2019 with a figure of more than 100%.

Funding risk
The funding risk of HVB was again low in 2019 thanks to our broad funding base in terms of products, markets and investor groups. This ensured that we were able to obtain adequate funding for our lending operations in terms of volume and maturity within the framework of our limit system. By the end of December 2019, HVB had obtained longer-term funding with a volume of €10.5 billion (31 December 2018: €9.3 billion) in which connection no further Targeted Longer-Term Refinancing Operation of the ECB (TLTRO-III programme) was concluded. There is a regulatory minimum ratio to be complied with from 2021 for the NSFR. HVB adhered to a ratio of over 100% in 2019 based on Basel III requirements. The internal indicator "adjusted NSFR greater than three years" was over 100% in 2019. On account of their ratings, our Pfandbriefe still remain an important funding instrument.

Risk Report (Continued)

Stress tests
Stress analyses are carried out at regular intervals, enabling us to make projections on the impact of sudden disruptions to our liquidity position on the basis of various scenarios so that we can initiate appropriate management measures as early as possible.

We include Bank-specific, market-wide and combined scenarios when conducting our stress tests. The calculations at the end of the year 2018 showed that the available liquidity reserves were sufficient to cover the funding requirements over the minimum period demanded.

4 Operational risk

Strategy
The risk strategy pursues the goal of reducing operational risk to a reasonable level from a profitability perspective and taking the defined risk appetite into account. This is primarily intended to reduce or avoid significant losses by taking appropriate measures and also helps to generate a sustainable improvement in earnings.

To make the risk strategy more specific, Bank-wide and business segment-specific action areas are defined on the basis of influencing factors relevant to operational risk.

Limit system
Operational risk is managed overall for HVB based on an internal capital limit of HVB Group.

Reduction
HVB has a group-wide operational risk organisational structure. The individual business segments of HVB are responsible for identifying, analysing and managing operational risk.

Loss events that have occurred and significant risks are reported to the Management Board and the Risk Committee at regular intervals. On a local level, operational risk managers report losses and relevant risks to their senior management on a quarterly or half-yearly basis.

Information technology (IT)
UniCredit Services S.C.p.A. provides most of HVB's IT services. HVB's Information and Communication Technology (ICT) management processes require continual adjustments to be made to the internal control system (ICS) for IT to allow for all significant IT risks within the ICT management processes, among other things, to be monitored and managed appropriately. This also includes the processes in the field of the IT infrastructure in turn outsourced by UniCredit Services S.C.p.A. to Value Transformation Services (V-TS, a joint venture of IBM and UniCredit Services S.C.p.A.) as defined for the separate controls in HVB's ICS. In addition, the control system will be adjusted as necessary in line with the potential improvements identified at regular intervals and findings from audits.

Business continuity management, IT service continuity management and crisis management
The business continuity, IT service continuity and crisis management function demonstrated its effectiveness and appropriateness by successfully mastering critical situations. In addition, the emergency precautions are adapted constantly to accommodate new threats.

Legal risk and compliance risk

Legal risk as a subcategory of operational risk is defined as the possibility of losses, damage or costs caused by lack of knowledge of the current legal situation or by a delay in reacting to changes in the law, insufficient and/or inadequate application of the law or unforeseeable changes to case law and/or the interpretation of the law by the authorities.

The Legal, Corporate Affairs & Documentation department is responsible for managing legal risk and provides advice on legal matters to all units of HVB. Excluded from this are tax law, labour law (only legal disputes), data protection and the legal areas covered by compliance, which are overseen by the respective functional departments.

Compliance risk is defined as an existing or future risk to income or capital as a consequence of infringements of or non-compliance with laws, regulations, statutory provisions, agreements, mandatory practices or ethical standards. This may result in fines, compensation for damage and/or contracts being rendered null and void in addition to damaging a bank's reputation.

The management of compliance risk is normally a task of the Bank's Management Board. Pursuant to Section 25a of the German Banking Act (Kreditwesengesetz – KWG), it is required to ensure that a proper business organisation is in place, encompassing in particular effective risk management, including an ICS. The Compliance function forms part of the ICS (as a second line of defence) that helps the Management Board to manage compliance risk. According to the three lines of defence, however, the business units (first line of defence) have the task of identifying and mitigating their own compliance risks.

The Minimum Requirements for Compliance (MaComp) and MaRisk both require a compliance function to be put into place. Both also contain rules on how such compliance function should be structured. At HVB, both functions are combined in the Compliance unit in order to ensure a uniform approach. Money-laundering and fraud prevention as well as preventive measures against infringements of financial sanctions and embargos are also assigned to the Compliance unit. Comprehensive risk assessment is ensured by this approach. On account of its high degree of specialisation, tax compliance is managed and refined within the CFO organisation exclusively by the Tax Affairs unit.

Legal risks

HVB is involved in various legal proceedings. The following is a summary of cases against HVB, which individually or collectively in the respective subject areas have a value in dispute exceeding €50 million or are of substantial significance for HVB for other reasons.

In many cases, there is substantial uncertainty regarding the outcome of the proceedings and the amount of possible damages. These cases include criminal or administrative proceedings by the relevant authority and claims in which the petitioner has not specifically quantified the amounts in dispute. In all proceedings where it is possible to reliably estimate the amount of possible losses, and the loss is considered likely, provisions have been set up based on the circumstances and consistent with Handelsgesetzbuch (HGB) accounting principles applied by HVB.

Risk Report (Continued)

VIP 4 Medienfonds Fund
Various investors in Film & Entertainment VIP Medienfonds 4 GmbH & Co. KG to whom the Bank issued loans to finance their participation, brought legal proceedings against HVB. In the context of the conclusion of the loan agreements the plaintiffs claim that inadequate disclosure was provided by the Bank about the fund structure and the related tax consequences. A settlement was reached with the vast majority of the plaintiffs. An outstanding final decision with respect to the question of HVB's liability for the prospectus in the proceeding pursuant to the Capital Markets Test Case Act (Kapitalanleger-Musterverfahrensgesetz) which is pending at Munich Higher Regional Court, will affect only a few pending cases.

Derivative transactions
The number of complaints and lawsuits filed against HVB by customers in connection with inadequate advice in the context of the conclusion of derivative transactions is declining. Among other things, the arguments raised are that the Bank allegedly did not sufficiently inform the customer with respect to potential risks related to such transactions and especially did not inform the customer about a potential initial negative market value of the derivative. Experience gained so far shows that the characteristics of the relevant product and the individual circumstances of each case are decisive for assessing the risks. In particular, the statute of limitations, the client's economic experience and risk tolerance, and the actual investment advice given play a crucial role.

Proceedings related to claims for withholding tax credits
On 31 July 2014 the Supervisory Board of HVB concluded its internal investigations into the so-called "cum-ex" transactions (the short selling of equities around dividend dates and claims for withholding tax credits on German share dividends) at HVB. The findings of the Supervisory Board's investigation indicated that the Bank sustained losses due to certain past acts/omissions of individuals. The Supervisory Board has brought proceedings for compensation against three individual former members of the Management Board, not seeing reasons to take any action against the current members. These proceedings are ongoing.

In addition, criminal investigations have been conducted against current or former employees of HVB by the Prosecutors in Frankfurt/Main, Cologne and Munich with the aim of verifying alleged tax evasion offences on their part. HVB cooperated – and continues to cooperate – with the aforesaid Prosecutors who investigated offences that include alleged tax evasion in connection with cum-ex transactions both for HVB's own book as well as for a former customer of HVB. Proceedings in Cologne against HVB and its former employees were closed in November 2015 with, inter alia, the payment of a fine of €9.8 million by HVB. The investigations by the Frankfurt/Main Prosecutor against HVB under section 30 of the Administrative Offences Act (the Ordnungswidrigkeitengesetz) were closed in February 2016 by the payment of a fine of €5 million. The investigation by the Munich Prosecutor against HVB was closed in April 2017 with legally binding effect following the payment of a forfeiture of €5 million.

In December 2018, in connection with an ongoing investigation against former Bank employees by the Cologne Prosecutor, HVB was informed of the initiation of an investigation in connection with an administrative offence regarding "cum-ex" transactions involving Exchange Traded Funds ("ETF"). In April 2019 these investigations were extended to so called ex/ex-transactions, in which an involvement of the Bank in the sourcing of cum/ex transactions of other market participants on the ex-day is suspected. The facts are being examined internally. HVB cooperates with the authorities.

The Munich tax authorities are currently performing a regular field audit of HVB for the years 2013 to 2016 which includes, among other things, a review of other transactions in equities around the dividend record date. During these years HVB performed, among other things, securities-lending transactions with different domestic counterparties which include, but are not limited to, different types of security transactions around the dividend date. It remains to be clarified whether, and under what circumstances, tax credits can be obtained or taxes refunded with regard to different types of transactions carried out close to the dividend record days, and what the further consequences for the Bank will be in the event of different tax treatment. It cannot be ruled out that HVB might be exposed to tax claims in this respect by relevant tax offices or third-party claims under civil law. HVB is in constant communication with relevant regulatory authorities and the competent tax authorities regarding these matters. HVB has made provisions.

Lawsuit for consequential damages
A customer had filed an action against HVB for consequential damages of €236 million for the following reasons: In 2010, HVB was ordered by Frankfurt Higher Regional Court to pay damages in the amount of €4.8 million to the plaintiff due to the faulty handling of a bill of exchange and in addition to compensate further damages suffered by the plaintiff as a result of this deficiency. In 2011, the plaintiff filed an action against HVB with Frankfurt Regional Court for alleged consequential damages in the amount of €33.7 million and extended this action several times to a total of €236 million in the meantime. By ruling dated 31 August 2017, Frankfurt Regional Court dismissed the claim and followed HVB's opinion on the claim being unfounded and the allegations raised by the plaintiff being unreasonable. The appeal of the plaintiff against the court ruling filed with the Frankfurt Higher Regional Court was dismissed on 19 March 2019. Frankfurt Higher Regional Court fully acknowledged the justification given by the Regional Court and did not permit an appeal. The plaintiff filed a complaint against not admitting the case to the third instance to the Federal Court of Justice, which was dismissed in December 2019.

Claim in relation to collateral enforcement
In late 2019, a holding company of a German industrial group brought a claim against HVB, in its capacity as security agent for a group of noteholders and lenders, aiming at obtaining the annulment and/or damages in relation to an allegedly fraudulent collateral enforcement. The alleged claim is still under evaluation.

Financial sanctions matters
In March 2011, HVB received a subpoena from the District Attorney for New York County (DANY) relating to historical transactions involving certain Iranian entities designated by the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) and their affiliates. In the subsequent years, DANY, the U.S. Department of Justice (DOJ), OFAC, the New York State Department of Financial Services (DFS), and the Board of Governors of the Federal Reserve System and the New York Federal Reserve Bank (Fed) (collectively: U.S. and New York authorities) initiated their own investigations respecting historical compliance by HVB with applicable U.S. sanctions laws and regulations.

Risk Report (Continued)

HVB has cooperated extensively with the U.S. and New York authorities, including conducting its own voluntary investigation of its U.S. dollar payments practices and its historical compliance with applicable U.S. financial sanctions, in the course of which certain historical non-transparent practices were identified. Even before the conclusion of these investigations, HVB initiated substantial and substantive remediation activities relating to policies and procedures, which are ongoing.

On 15 April 2019, HVB reached a resolution with the U.S. and New York authorities regarding these investigations. No further enforcement actions are expected relating to the subject of the resolved investigation.

As part of the settlements with the U.S. and New York authorities (DANY, OFAC, DOJ, DFS and Fed), HVB made certain commitments to implement remedial compliance controls and conduct risk assessments relating to the business lines, to provide periodic reports and certifications concerning the implementation and effectiveness of the compliance program to the U.S. and New York authorities, and to engage an independent external party to conduct an annual review of the effectiveness of the compliance program whose findings will be shared with the U.S. and New York authorities. Most of these reporting requirements will expire after three to five years, but may be extended at the discretion of the U.S. and New York authorities.

Lehman Brothers Special Financing Claim

The Lehman Brothers Special Financing Claim (LBSF) relates to HVB's holding of: (A) 2005-1 €19,000,000 Class A2-A9 notes issued by Ruby Finance Plc (Ruby), and (B) 2004-1 Upper Thames €25,000,000 Credit-Linked Synthetic Portfolio Notes due in 2043 and issued by Quartz Finance PLC (Quartz).

Both Ruby and Quartz entered into contracts for derivatives with Lehman Brothers Special Financing, Inc. LBSF included these credit derivative transactions in omnibus avoidance proceedings commenced before the U.S. Bankruptcy Court on 1 October 2010 (LBSF v Bank of America, N.A. et. al. Adv. Pro. No. 10-03547; the "Adversary Proceeding"). On 18 July 2012, LBSF amended its First Amended Claim in the Adversary Proceeding, in order to, among other things, add the London Branch of HVB as a "Noteholder Defendant", in an attempt to claw-back distributions for the benefit of LBSF (as derivative counterparty) already made by both Ruby and Quartz to HVB (as noteholder).

The U.S. Bankruptcy Court held a hearing on 4 May 2016 on an omnibus motion to dismiss filed by the Noteholder Defendants, and the decision of Bankruptcy Judge Chapman on the omnibus motion was issued on 28 June 2016. In her decision, Judge Chapman dismissed the case against HVB and the other Noteholder Defendants.

LBSF unsuccessfully appealed against such decision to the U.S. District Court for the Southern District of New York.

On 13 April 2018, LBSF filed notice of appeal to the Second Circuit Court of Appeals. The parties exchanged pleadings. The appeal hearing was held on 26 June 2019 and we await the judgement.

Euro-denominated bonds issued by EU countries
On 31 January 2019, UniCredit S.p.A. and HVB received a Statement of Objections from the European Commission referring to the investigation by the European Commission of a suspected violation of antitrust rules in relation to European government bonds. The subject matter of the investigation extends to certain periods from 2007 to 2012, and includes alleged activities by HVB in a part of this period. The Statement of Objections does not prejudge the outcome of the proceeding; should the Commission conclude that there is sufficient evidence of an infringement, a decision prohibiting the conduct and imposing a fine could be adopted, with any fine subject to a statutory maximum of 10% of company's annual worldwide turnover.

HVB had access to the entirety of the European Commission's file on the investigation from 15 February 2019 onwards. As a result of the assessment of the files, the Bank regards it no longer remote but possible, even though not likely, that a cash outflow might be required to fulfil a potential fine arising from the outcome of the investigation. On the basis of the current information, it is not possible to reliably estimate the amount of any potential fine at the present date.

UniCredit S.p.A. and HVB have responded to the raised objections on 29 April 2019 and participated in a hearing before the European Commission on 22-24 October 2019. Proceedings are ongoing. There is no legal deadline for the Commission to complete antitrust inquiries.

On 11 June 2019, HVB and UniCredit Capital Markets LLC were named, among other financial institutions, as defendants in a putative class action already pending in the United States District Court for the Southern District of New York. The third amended class action complaint, filed December 3, 2019, alleges a conspiracy among dealers of Euro-denominated bonds issued by European central banks to fix and manipulate the prices of those bonds, among other things by widening the bid-ask spreads they quoted to customers. The putative class consists of those who purchased or sold Euro-denominated bonds issued by European central banks in the US between 2007 and 2012. The third amended class action complaint does not include a quantification of damages claimed. The proceedings are in their inception. Motions to dismiss – a procedural device contemplated by the United States Federal Rules of Civil Procedure which provides defendants with an opportunity to challenge the legal sufficiency of a complaint and present arguments that the complaint should be dismissed – will likely be fully briefed before the end of the second quarter of 2020 and will likely include the argument that the complaint fails to state a claim.

Measurement
The operational risk of HVB Group is calculated for HVB and its material subsidiaries – HVB Immobilien AG and UniCredit Leasing GmbH (together with subsidiaries) – using an internal model in accordance with the Advanced Measurement Approach (AMA model). The standard approach is applied for all other subsidiaries in the respective area of application.

The AMA model is based mainly on internal and external loss data. The process involves computing loss distributions for each model risk category. A model risk category is determined by combining the Basel loss event category and the product category of the loss event. Scenario data are used to complete the data for rare yet extreme events.The method used to aggregate the individual data sources is based on the Bayesian model and is applied to the loss distribution parameters for each model risk category.

The VaR is determined using a Monte Carlo simulation, taking account of correlations between the model risk categories as well as risk-reducing measures such as insurance policies. Finally, the VaR is modified to reflect internal control and business environment factors.

The model was developed by UniCredit S.p.A. HVB checks the plausibility of the calculation results on an annual basis and validates the model to ensure that it is appropriate.

The AMA model for calculating the capital for operational risk was changed at the end of the second quarter of 2019. The changes essentially included adjusting the method for selecting the appropriate distribution of loss volumes for each model risk category. In addition to other changes, including an adjustment for control and business environment factors, the model was adjusted for the purpose of implementing the requirements set out in Chapter 3, Sections 2 and 3 of Commission Delegated Regulation (EU) 2018/959 of 14 March 2018 supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards of the specification of the assessment methodology under which competent authorities permit institutions to use Advanced Measurement Approaches for operational risk.

Furthermore, with effect from the end of the second quarter, the approach used to calculate HVB Group's economic capital for operational risk was harmonised with the approach used by UniCredit. In line with UniCredit's approach, economic capital is calculated based on the Advanced Measurement Approach (AMA) at the level of the UniCredit corporate group as a whole and then distributed as a first step to the subgroups (known as hubs), including HVB Group, and as a second step, to the AMA subsidiaries, using a risk-sensitive allocation mechanism. Previously, the economic capital was calculated using the internal AMA model at HVB Group level with subsequent allocation to HVB and its AMA subsidiaries.

Stress tests
The impact of macroeconomic scenarios on operational risk is analysed within the scope of the cross-risk-type stress tests.

5 Other risks

HVB groups together in the section entitled “Other risks” the following types of quantifiable risk as other risks: real estate risk, business risk, pension risk and financial investment risk as well as the strategic risk and reputational risk types, which are described exclusively in qualitative terms. The risk arising from outsourcing activities is not treated as a separate risk type at HVB, but is considered a cross-risk type and is consequently listed under other risks.

Real estate risk

A fundamental distinction is made in real estate risk between (strategic) real estate required for operations and (non-strategic) real estate that is not used for operations. The longer term orientation for strategic real estate corresponds with the Bank’s strategy of preferring Bank-owned properties over rented properties for own use and making such properties available for the banking operations of HVB at market terms on a cost-optimised basis. In 2019, mainly maintenance and repair measures were carried out at the sites owned by HVB.

Facility concepts are drawn up for both the Bank-owned portfolio and the rented properties, under which the requirements of the business segments and also economic viability are the key factors for decisions, taking into account the assumptions listed.

The main risks for the Bank-owned portfolio stem mainly from the development of the market value. The risk drivers are the future usage by the Bank, property rents/Bank rents, market rents, rental contract periods, occupancy rate and required investment. The medium-term goal for the non-strategic real estate portfolio, on the other hand, is to realise the best possible value upon disposal of the overall portfolio; in this regard, the impact on both the income statement and the Bank’s other management instruments is crucial for the individual decisions. This tallies with the overarching strategy for dealing with real estate risk.

Real estate risk is managed overall for HVB on the basis of an internal capital limit of HVB Group. In addition, economic capital limits adjusted for diversification effects were allocated to the business segments for 2019 in the context of overall bank management. Based on these limits, early warning indicators have been additionally defined in the form of targets and triggers in order to identify in advance any overshooting.

The Bank uses an empirical Bayesian model with a confidence level of 99.90%. This model applies an expected shortfall approach which also takes account of the possible risk of extreme values (tail risk) (i.e. losses in excess of the VaR).

The economic capital for the real estate risk is measured by the Credit Risk Modelling & Systems (CRS) unit and calculated by the Chief Data Office (CDO). The Strategic Credit & Integrated Risks (SCI) unit is responsible for reporting to the business segments, the CRO, the Management Board and the Risk Committee of the Supervisory Board. In line with the risk strategy, quarterly risk reporting also includes a comparison of the actual values with the limits.

Risk Report (Continued)

The economic capital for the real estate risk of HVB, without taking account of diversification effects between the risk types and without the model risk cushion, amounts to €426 million at 31 December 2019, which represents a decrease of €209 million (31 December 2018: €636 million). The fully diversified economic capital for the real estate risk at HVB stands at €322 million (31 December 2018: €475 million). The change in economic capital is mainly attributable to the use of the group-wide real estate risk model, which uses a Bayesian estimate rather than the variance/covariance approach, and a different capital allocation process incorporating the potential risk of extreme values (tail risk). Other factors affecting the estimates of economic capital include changes in the composition of the real estate portfolio (on account of the introduction of IFRS 16) and in the market value development of property assets.

Applying the group-wide real estate risk model introduced in the first half of 2019 retroactively to the reference date, the comparative value for economic capital as at 31 December 2018 would be €406 million, excluding diversification effects between the risk types and excluding the model risk cushion. The elimination of the effect of the change in model results in an increase of €20 million in economic capital.

The risk figures relate to a portfolio valued at €3,894 million.

Breakdown of the real estate portfolio by type

	PORTFOLIO VALUE € millions		SHARE in %	
	2019	2018	2019	2018
Strategic real estate	2,207	2,216	56.7	57.1
Non-strategic real estate	1,687	1,665	43.3	42.9
HVB	**3,894**	**3,881**	**100.0**	**100.0**

The impact of macroeconomic scenarios on real estate risk is analysed within the scope of the cross-risk-type stress tests.

Business risk

The strategy for business risk is based on the direction of business over the medium term and is reflected in planning. As part of its general cost and income management, each business unit is responsible for the operational management of business risk.

Business risk is managed overall for HVB on the basis of an internal capital limit of HVB Group. Based on this limit, early warning indicators have been additionally defined in the form of targets and triggers in order to identify in advance any overshooting.

HVB uses a group-wide model to measure the economic capital used by business risks that is based on a time series model of the quarterly income. The economic capital requirement corresponds to the unexpected loss and is quantified using value-at-risk (VaR) metrics over a period of one year and a confidence level of 99.90%.

The economic capital for the business risk is measured by the Credit Risk Modelling & Systems (CRS) unit and calculated by the Chief Data Office (CDO). The Strategic Credit & Integrated Risks (SCI) unit is responsible for reporting to the business segments, the CRO, the Management Board and the Risk Committee of the Supervisory Board. In line with the risk strategy, quarterly risk reporting also includes a comparison of the actual values with the limits.

The economic capital for HVB's business risk, without taking account of diversification effects between the risk types and without the model risk cushion, amounted to €526 million at 31 December 2019 (31 December 2018: €380 million). The fully diversified economic capital for HVB's business risk totals €354 million as at 31 December 2019 (31 December 2018: €234 million).

The impact of macroeconomic scenarios on business risk is analysed within the scope of the cross-risk-type stress tests.

Pension risk

In risk management the risks are calculated and monitored at regular intervals using a model devised specifically for pension risk. A risk figure is determined periodically using calculations based on changes in key risk parameters for both the various capital investments and the cash flows on the obligations side. A figure of €612 million was determined as at 31 December 2019 for the total pension risk of HVB (31 December 2018: €868 million). The decline compared with year-end 2018 is primarily due to the further reduction in interest rates and, as a consequence, a further potential interest rate shock of a lower magnitude than assumed. The risk figure is incorporated in the calculation of the risk-taking capacity in the form of an additive component to the internal capital. In addition, the impact on pension risk is analysed at regular intervals as part of the cross-risk-type stress tests.

Low interest rates continue to be seen as the main negative factor for both the amount of the pension obligations disclosed and the amount of the income that can be generated from the plan assets with acceptable risk. In the current low interest rate environment, it is quite possible that the discount rate will fall to the historically low levels reached in the course of 2019 and the pension obligations will thus increase.

Risk Report (Continued)

Financial investment risk

The financial investment portfolio mainly consists of holdings in unlisted companies, equity derivatives and other fund shares (real estate funds and other closed-end funds). All the investments to be included in the financial investment risk are either considered strategic and allocated to a business segment or competence line, or deemed non-strategic and connected with the fundamental goal of reduction.

The financial investment risk is managed overall for HVB on the basis of an internal capital limit of HVB Group. In addition, the business segments have been allocated limits for economic capital for the year 2019 that were adjusted for diversification effects in the sense of overall bank management. On the basis of these limits, early warning indicators have been additionally defined in the form of targets and triggers in order to identify in advance any overshooting.

The risk from holdings in unlisted companies is covered by applying a cautious approach of 100% capital backing of the investment value. In addition, risks from hedge funds, private equity funds (including issuer risks from the trading book) and FX risks from the investment portfolio are no longer included in financial investment risk but are included in the calculation of the market risk.

The economic capital for the real estate risk is measured by the Credit Risk Modelling & Systems (CRS) unit and calculated by the Chief Data Office (CDO). The Strategic Credit & Integrated Risks (SCI) is responsible for reporting to the business segments, the CRO, the Management Board and the Risk Committee of the Supervisory Board. In line with the risk strategy, quarterly risk reporting also includes a comparison of the actual values with the limits.

The economic capital for financial investment risk at HVB, without taking into account any diversification effects between the risk types and without the model risk cushion, rose by €37 million and stands at €222 million as at 31 December 2019 (31 December 2018: €185 million). HVB's fully diversified economic capital amounts to €222 million as at 31 December 2019 (31 December 2018: €185 million).

Breakdown of the financial investment portfolio

	PORTFOLIO VALUE € millions		SHARE in %	
	2019	2018	2019	2018
Private equity investments	10	19	4.5	10.3
Other holdings[1]	212	166	95.5	89.7
HVB	**222**	**185**	**100.0**	**100.0**

1 Listed and unlisted investments.

For the purpose of the cross-risk-type stress tests, a 100% capital charge is assumed for the stressed economic capital irrespective of the macroeconomic scenarios.

Strategic risk

As a universal bank, HVB focuses on the one hand on the regional development of the German market, on the other hand, it is the centre of competence for the investment banking of the whole of UniCredit. Therefore, HVB's profitability and risk profile of are influenced in particular by the economic development in Germany and the development of international financial and capital markets. In this context, strategic risk results from management either not recognising early enough or not correctly assessing significant developments or trends in the Bank's environment. As a consequence fundamental management decisions could, in retrospect, prove to be disadvantageous in terms of the Bank's long-term goals. In addition, some decisions may be difficult to reverse or cannot be reversed at all. In the worst case, this can negatively impact the profitability and risk profile of HVB.

The following areas are currently classified as relevant for the occurrence of strategic risk:

- Economic environment – If, among other things, the stabilising measures in the eurozone do not take effect or economic growth slows in Europe, this could have negative effects on the operating result of HVB.
- Strategic orientation of the business model of HVB – The persistently low level of interest rates could, for example, lead to imbalances in the earnings contributions of the business segments.
- Bank-specific risks – The intensification of competition in the financial sector could, for example, lead to further shifts in market shares.
- Regulatory and legal framework – Should HVB or one of its subsidiaries not fully comply with the regulatory requirements of the supervisory authorities, this could lead to sanctions by the competent supervisory authority.
- Rating of UniCredit Bank AG – A rating change downwards (downgrade) could make refinancing costs more expensive or have a negative impact on business opportunities as a counterparty in the interbank market or with rating-sensitive customers.

The strategic risk is not quantified as part of internal capital but is assessed qualitatively instead. This assessment is based on a traffic light system: low risk (green), increased risk (yellow) and high risk (red). Furthermore, continual monitoring is performed of the national and international environment in which HVB operates (for example, political, economic, regulatory or specific banking market conditions) and a constant review of the Bank's own strategic positioning.

Strategic risk is monitored on an ongoing basis by the Management Board and its staff offices and, if necessary, analysed in depth on an ad hoc basis. Any changes in the strategic parameters are discussed at Management Board meetings, whereby alternative courses of action are derived and implemented accordingly. A dialogue with external experts (such as management consultants and independent auditors) regarding strategic issues and options at Management Board level and below ensures the involvement of external experts' know-how.

Risk Report (Continued)

Reputational risk

HVB applies a holistic approach to reputational risk management. This means that all significant new activities and transactions at the Bank are regularly analysed with regard to reputational risk ("change-the-bank" approach) and individual units at the Bank are examined at regular intervals regarding latent reputational risk at the same time ("run-the-bank" approach).

Commercial transactions and new activities such as new product processes, outsourcing, projects and particular investments (such as SPVs) are included in the "change-the-bank" approach, as well as any other new activity as is appropriate. The employees responsible in each case are required to analyse the transactions/activities to identify any reputational risk, taking into account the existing guidelines. Once a reputational risk has been identified, the appropriate specialist departments are called in who will assess the reputational risk identified in terms of quality. The Reputational Risk Council (RRC) will obtain a decision on the basis of the risk analysis and the qualitative assessment.

Under the "run-the-bank" approach, the individual units of the Bank are examined at regular intervals with regard to existing and/or latent reputational risk. The process starts with what are known as risk self-assessments by important function owners (risk managers) together with the local operational risk managers. A list of questions is used to carry out the risk self-assessments. Senior management is subsequently interviewed about reputational risk. The senior managers have the opportunity to review the reputational risk identified in their unit during the interview and add further material reputational risks. Where it is possible and makes sense to do so, additional countermeasures are defined for the individual reputational risks.

The Bank has decided not to directly quantify reputational risk under the "run-the-bank" process on account of the fundamental difficulty of accurately assessing the possible effects of reactions from stakeholders. Instead, the risk is classified in accordance with a three-tier system (traffic light logic) as part of the "run-the-bank" approach. This involves determining the aggregate risk across two dimensions: impact on the income statement and probability of occurrence. Any reputational risk identified is documented in the Bank's own IT system (as necessary during the year).

The individual business segments and central units are responsible for reputational risk management. Overall responsibility for monitoring rests with the Operational & Reputational Risks unit (CRO organisation). The Operational & Reputational Risks unit consolidates the results of the senior management interviews and prepares a yearly RepRisk Report covering the largest reputational risks at HVB.

Risks arising from outsourcing activities

Outsourcing involves the transfer of activities and processes to intragroup and external service providers. Parts of the operational risk can also be mitigated by transferring the liability, while contractual risks arising from the outsourcing arrangement remain within HVB. An outsourcing arrangement is deemed to exist when a different company is contracted to carry out activities and processes in connection with the performance of banking business, financial services or other typical banking services that would otherwise be performed by the outsourcing company itself. This includes outsourcing arrangements within UniCredit as well as the subcontracting of outsourced activities and functions to subcontractors.

Outsourcing risk is considered a cross-risk-type risk at HVB and is not treated as a separate risk type. Outsourcing activities affect the following risk types in particular: operational risk, reputational risk, strategic risk, business risk, credit risk, market risk and liquidity risk. Those risks that are identified and assessed in an in-depth risk analysis are managed as part of the respective risk type. Specific risks arising from outsourcing activities that cannot be assigned directly to a specific risk type are managed by the unit responsible for the outsourcing in question.

The respective project team and defined functional departments (including Operational Risk Management, Compliance, Legal, Corporate Affairs & Documentation, Data Protection and Business Continuity Management) use a standardised procedure to classify outsourcing arrangements as "not critical/ material" and "critical/ material". An in-depth risk analysis covering the other risk types as well as operational risk is performed for all outsourcing arrangements classified as critical/ material (and for all outsourcing arrangements in accordance with the EBA GL 2019/02 applicable since 1 October 2019). A retained organisation (RTO) responsible for the arrangement is set up for each outsourcing arrangement that manages the risks identified. The identified risks are incorporated in HVB's risk management in the processes defined for the risk types concerned. The operational risk managers help the project manager and the heads of the RTOs to prepare and/or update the related risk analyses.

Three new outsourcing arrangements at HVB in the Luxembourg branch were put in place with UniCredit International Bank S.A. relating to tasks completed before the transformation of the subsidiary UniCredit Luxembourg Bank S.A into the Luxembourg branch within the subsidiary itself. These outsourcing arrangements relate to (i) back-office services covering data maintenance and transaction execution (master data, securities, payments), (ii) application support for various ICT applications and (iii) support for compliance activities. These outsourcing arrangements were classified as material without significant impact at the time when the arrangements were set up, now they are classified as critical/material. This did not give rise to any material change to the risk. In addition, HVB set up a critical/material outsourcing arrangement with Amundi Deutschland GmbH for the Premium Invest asset management mandate.

ICS – Internal Control System

Internal control system with regard to the financial reporting process

Definitions and objectives

Section 289 (4) of the German Commercial Code (Handelsgesetzbuch – HGB) requires capital-market-oriented companies as defined in Section 264d HGB to describe the main features of the internal control system (ICS) and risk management system with regard to the financial reporting process.

The risk management system is formulated in broad terms and relates above all to strategic management, the identification, quantification, assessment, monitoring and active management of risk. The ensuing coordination of risk-management, risk-controlling and risk-monitoring processes in our Bank is presented in the Risk Report in the present Management Report. The respective risk types are described in detail in the sections entitled "Risk types" and "Risk types in detail".

Risks with regard to the financial reporting process might, for example, involve human processing errors, system weaknesses or fraudulent conduct resulting in significant financial misrepresentations or delays in financial reporting, and these might not reflect the actual situation or not give an appropriate view of the assets, liabilities and financial position. These risks might possibly entail legal penalties and, in addition, the erosion of investors' confidence and damage to the Bank's reputation. The purpose of the internal control system in relation to the financial reporting process is to implement controls that ensure with an adequate degree of certainty that the annual financial statements together with the Management Report are prepared in compliance with regulations despite the identified risks.

The ICS encompasses the policies, processes and measures needed to ensure the financial reporting process and compliance with the applicable legal provisions. It is intended to ensure that internal and external financial reports are correct and reliable and that the assets, provisions, liabilities, and deferrals and accruals are classified, recognised and measured and changes in equity are correctly shown.

The method used for the design of the ICS and thus the introduction and risk assessment of processes is based on the international "Internal Control – Integrated Framework" standard issued by the Treadway Commission's Committee of Sponsoring Organizations (COSO) and creates a solid methodological framework. The main task in this context is to define specific objectives to facilitate a control system and to monitor the effectiveness of the control system on this basis. The following objectives are pursued:

- Completeness: All transactions are recorded and all assets and liabilities, provisions and shareholders' equity are included in the financial statements.
- Measurement: The assets and liabilities, provisions and transactions are disclosed at their correct amounts in the financial reports.
- Presentation and disclosure: The financial reports are correctly classified and discussed with regard to recognition, structure and disclosures in the notes to the consolidated financial statements, comply with the legal requirements and are published on schedule.

Even the extensive structuring of the ICS can naturally only ensure that the objectives of the ICS are achieved with reasonable assurance but not with absolute certainty. The documented controls carried out within the framework of the ICS for the relevant processes or systems are therefore unable to completely eliminate mistakes or fraudulent actions. It must also be taken into account in this context that the work performed and spending on the ICS must be commensurate with the benefits achieved.

ICS organisation

The Management Board determines the extent and orientation of the ICS specifically geared to the Bank, taking measures to refine the systems and adapt them to changing conditions. At Board meetings, it regularly discusses the key topic of the Internal Control Business Committee (ICBC), in terms of the consolidation and monitoring of all projects and measures related to the ICS.

Responsibility for the financial reporting process and, in particular, for the preparation of the annual and consolidated financial statements rests with the CFO organisation. The CFO receives significant support in this context from the CRO organisation by the CRO also assuming responsibility for the measurement of financial instruments (receivables, securities and derivatives), among other things.

The CFO organisation is also supported in the technical process of preparing the financial statements by the Human Resources department (recognition and measurement of payroll expenses), the Legal department (recognition and measurement of legal disputes and other legal risks) and external third parties. The latter essentially extends to various expert opinions of external service providers relating to such things as the measurement and accounting treatment of pension provisions.

Technical system support for the application systems used in the Accounting department and especially in connection with preparing the financial statements has been outsourced to UniCredit Services S.C.p.A., the UniCredit subsidiary responsible for IT. UniCredit Services S.C.p.A. is monitored and managed by the Retained Organisation in the Chief Operating Office (COO).

Organisational structure and tasks of the CFO organisation

For purposes of the financial reporting processes, the Chief Financial Officer (CFO) organisation is essentially broken down into the following areas:

HVB's financial reporting is conducted by the Accounting, Shareholdings, Regulatory Reporting (CFF) unit. This unit has functional responsibility for the financial reporting systems employed by HVB. At the same time, the CFF unit is responsible for fundamental accounting questions under IFRS and the German Commercial Code and for preparation of the annual financial statements. Furthermore, it prepares the financial reporting in the Annual Report of HVB. The management and administration of shareholdings for financial reporting purposes is also positioned in this unit. In addition, it submits the regulatory reports for HVB to the banking supervisory authorities.

The central tax department (CFT/Tax Affairs) should monitor compliance with all tax laws on the one hand and on the other hand, it advises its customers (Management Board, business lines and competence lines) on the tax-related concerns of HVB, including its foreign branches.

Regional Planning & Controlling (CCP) is tasked with central business management and cost controlling at HVB. Furthermore, CCP prepares and validates the internal segment report in accordance with IFRS. This department also has process responsibility for the preparation of income budgets and income projections. Moreover, the business segment-related controlling departments for all the segments excluding CIB and GCC are assigned to CCP. Controlling for CIB is the responsibility of CPA. This department also carries out the reconciliation of trading income for Markets jointly with Accounting. The reconciliation of trading income for Treasury is carried out between Accounting and Finance (CDF).

The Chief Data Office (CDO) is responsible for data and information governance in coordination with the Group Data Office. In addition, significant parts of the data produced are amalgamated in CDO for the CFO in order to achieve a continual improvement in data quality. This department also has responsibility for the implementation of various IT projects relating to financial reporting.

ICS – Internal Control System (Continued)

Controls in the ICS for risk minimisation
To reduce the risk of misrepresentation in financial reporting as described above, we carry out various preventive and investigative controls which are integrated in operating processes. This includes controls to ensure compliance with instructions, functional separation and compliance with approval authority regulations. The controls comprise both automated system-based controls within the IT systems and manual controls.

As part of UniCredit, HVB is also obliged to comply with Law 262 ("Savings Law" – Law 262/2005, passed in Italy in 2005 and amended by Legislative Decree 303/2006, based on the Sarbanes-Oxley Act in the United States). Alongside the internal CFO controls, there are also checking and control steps in the upstream processes and organisations.

Based on the requirements under Law 262 and the legal requirements under the German Commercial Code, a number of financial reporting processes complete with the risks and controls included therein are documented in the course of implementing the ICS at HVB. The corresponding process descriptions include presentations of both the individual process steps and the organisational units involved in the processes. At the same time, risk and control are to be defined, together with their assessment, and documented.

The focus of risk and monitoring analysis is on identifying and evaluating the risks relevant to financial reporting. Identified risk potential is to be sufficiently reduced through defined control steps. Periodic random sampling is intended to document the implementation of these controls and provide adequate records. If controls are identified that do not sufficiently reduce risk, or if no controls are in place, measures are initiated to eliminate the identified deficiencies. The timely implementation of these measures is reviewed on a quarterly basis.

Furthermore a yearly analysis is carried out on the basis of what are known as "company level controls". This is a list of questions based on the international COSO standards, the answers to which are used to check the existence of comprehensive control measures in HVB Group that are suitable for reducing the risk of incorrect external presentation or incorrect actions, not only with regard to financial reporting.

In a half-yearly certification process, the management of the departments in charge of processes confirms to the CFO of HVB Group and the CFO to UniCredit that controls to ensure correct reporting have been carried out.

The controls cover the aspects of the ICS described below:

There are general accounting rules set out in the Bank-wide Operating Guidelines, the application of which is mandatory for all process participants.

HVB uses SAP's standard SAP Balance Analyzer and Business Warehouse software to prepare its annual financial statements. The SAP Balance Analyzer concept is based on the mainly automated uploading of individual transaction data from the upstream systems relevant to financial reporting (sub-ledger). The Accounting department collates the data relevant to the financial statements. It reconciles the positions delivered by the upstream systems and automatically checks the totals against the general ledger account balances, which serves as proof of the completeness of balance sheet items. At the same time, it also corrects errors and performs manual bookings of one-off transactions and closing entries. Adjustments and closing entries are carried out by authorised persons in accordance with the principle of dual control. Furthermore, deviation analyses are conducted at item level to minimise the risk of error and incomplete data.

The ICS for securities, derivatives and other trading-related transactions also comprises the following components:

– The allocation of transactions to the holding categories compliant with IFRS and HGB is primarily governed by the orientation of the operating units. The determination of the holding category is determined individually for each trading book and the related trading strategy. The Accounting department is incorporated as an authorising body to ensure compliance with individual requirements relating to classification based on the respective accounting standard.
– Booking standards based on the respective holding category – initiated by transactions – are defined in the accounting systems.
– The income calculated for purposes of financial reporting is checked on a monthly basis by comparing it with the result of the economic income statement that serves as the basis for the daily information provided to the Management Board members. Following this, the results are analysed and comments made on the content of the deviation analysis.
– The Risk Control department, which reports to the CRO, performs several tasks in connection with ensuring the valuation and other information relevant for the financial statements (for example: level allocation) of the financial instruments mentioned above. Firstly, transactions are checked by the Risk Control department to ensure compliance with market pricing. Secondly, the Risk Control department reviews the valuation of financial instruments in the front office systems. Depending on the market parameters and asset classes, market data are supplied by both the trading departments and external sources such as Bloomberg, Reuters and MarktIT. Valuation adjustments and valuations based on estimates are to be agreed by the CRO and CFO units.
– In accordance with the separation of functions, the back office handles the processing of HVB trades. For derivatives, this is UniCredit Services S.C.p.A., which is supervised by the COO unit. Furthermore, external service providers have been engaged to process securities transactions in Germany and for the Milan branch. It has thus been ensured that trades are processed independently of the Trading department.

A cross-departmental new product process is in place for developing and launching new products, as stipulated in the Operating Guidelines. The products relevant for a new product process are addressed in this process. It involves all the departments concerned as they have veto rights and are authorised to enforce amendments up to and including the termination of the new product process.

The figures presented in the balance sheet and income statement are validated using deviation analysis at historical comparative figures and budget figures and on the basis of non-recurring effects in an ongoing process that is carried out over the entire course of the reporting year as part of the process of preparing the monthly and quarterly financial statements. In addition, the data are also verified by analysing the segment report.

ICS – Internal Control System (Continued)

With regard to the presentation and disclosure of financial reporting-related data in financial reports, controls have been implemented to ensure compliance with disclosure duties. This is carried out by means of checklists and by the data being reviewed and approved by management personnel within the CFO organisation.

UniCredit Services S.C.p.A. carries out the back-up and archiving of data from financial reporting-related application systems under the responsibility of the CFO in accordance with Section 257 HGB in conjunction with Sections 238 and 239 HGB and the German Generally Accepted Accounting Principles (GAAP) under the supervision of the Retained Organisation and the respective banking expert responsible. In the course of what are referred to as first level controls, controls between the upstream systems (e.g. EuroSIG) and the general ledger have been outsourced to UniCredit Services S.C.p.A. via additional service level agreements (SLAs). Another technical review takes place in the Accounting department as a second level control.

The required protection against unauthorised access, and compliance with the principles of functional separation when using the Bank's financial reporting application systems are ensured notably by requesting and periodically monitoring individual rights in the authorisation management systems. For SAP rights, special approval is provided across the board by the functional units responsible for the application. The use of individual rights automatically implies a time restriction of no more than one year.

Furthermore, appropriate contingency plans are in place to ensure the availability of human and technical resources to handle processes regarding financial reporting. These contingency plans are constantly updated and refined.

Monitoring the effectiveness of the ICS

Internal Audit

The Internal Audit department is a process-neutral instrument of the Management Board, to which it reports directly. According to its internal regulations, the Management Board bears the overall responsibility for setting up the Internal Audit department and ensuring that it functions properly. In the reporting year, operational responsibility for the audit function was assigned to the Board Spokesman (CEO).

The Internal Audit department is responsible for the risk-oriented, process-neutral auditing and assessment of all activities and processes, regardless of whether they are outsourced or not. The outsourced activities may be audited by the internal audit function of the service provider.

For this purpose, Internal Audit carries out a risk-based selection of individual operating and business processes in order to set scheduling priorities for audits. The Minimum Requirements for Risk Management (MaRisk) stipulate that all operating and business processes must be audited at least every three years. In the case of activities and processes deemed to be of lower priority in terms of risk, it is permissible to deviate from the three-year cycle. Operating and business processes subject to especially high levels of risk are audited at least once a year. If the need arises or it is instructed to do so, the Internal Audit department may also carry out tasks in subsidiaries.

The Bank's Internal Audit department must audit and assess the following areas in particular:
– functionality, effectiveness, economic efficiency and appropriateness of the internal control system
– applications, functionality, effectiveness and appropriateness of the risk management and risk control systems, reporting, information systems, and finance and accounting
– compliance with legal and regulatory standards as well as other regulations
– observation of internal operational guidelines, ordinances and regulations
– correctness of operational and business processes
– regulations and measures to protect assets

While audit reports are submitted to audited units and the responsible Management Board members, the Management Board as a whole receives quarterly reports and an annual report which includes an overview of audit findings as well as significant deficiencies, major deficiencies, severe deficiencies and particularly severe deficiencies as defined in the MaRisk rules, the measures taken and their current status.

The head of the Internal Audit department informs the Audit Committee and the Risk Committee of the Supervisory Board on a quarterly basis at meetings of these committees of the main findings of the audits carried out by Internal Audit.

Supervisory Board

It is the task of the Supervisory Board to advise the Management Board on the running of the Bank and monitor it as it conducts its business. Particularly with respect to the monitoring of the financial reporting process and the effectiveness of the ICS, the Supervisory Board receives support from the Audit Committee pursuant to Section 107 (3) of the German Stock Corporation Act (Aktiengesetz – AktG) and Section 25d (9) Nos. 1 and 2 of the German Banking Act (Kreditwesengesetz – KWG). In this context, the Audit Committee also addresses the ICS in connection with the financial reporting process. Furthermore, the Supervisory Board – and, in a preparatory role, the Audit Committee – is itself integrated into the financial reporting processes through its monitoring of the financial reporting performed by reviewing and approving the financial statements and the Management Report as well as the proposal for the appropriation of profits. In addition, the Audit Committee and the Supervisory Board discuss the interim financial information with the Management Board as such information becomes available throughout the year.

Refinement of the ICS

When changes are made to the legal provisions and regulations for financial reporting, they must be assessed to determine what consequences, if any, they have for the financial reporting processes. In the case of amendments or new regulations that would have an impact on the accounting processes, a corresponding project is set up to cover measures such as IT adaptations, working procedures and posting instructions and the effects on financial reporting across all departments and business segments.

In the course of the update of the ICS, moreover, new processes are subject to half-yearly reviews in terms of organisational changes or changes in content by the persons responsible for the process. If necessary, the documentation is modified and a new risk assessment performed. In addition, the completeness of the process documentation must be checked and, if necessary, further relevant processes added and assessed, and integrated into routine ICS operations.

Income Statement of UniCredit Bank AG

For the year ended 31 December

EXPENSES (€ millions)

				2019	2018
1	Interest payable			1,215	1,143
	including: netted positive interest from borrowings				
	€241 million				(263)
2	Fees and commissions payable			279	288
3	Net expense from the held-for-trading portfolio			—	—
4	General administrative expenses				
	a) payroll costs				
	aa) wages and salaries	1,383			1,183
	ab) social security costs and expenses for				
	pensions and other employee benefits	572			441
			1,955		1,624
	including: for pensions				
	€401 million				(271)
	b) other administrative expenses		1,621		1,546
				3,576	3,170
5	Amortisation, depreciation and impairment losses				
	on intangible and tangible assets			22	26
6	Other operating expenses			78	988
7	Write-downs and impairments for receivables and				
	certain securities as well as additions to provisions				
	for losses on guarantees and indemnities			—	242
8	Write-downs and impairments on participating				
	interests, shares in affiliated companies				
	and investment securities			345	—
9	Expenses from absorbed losses			21	8
10	Extraordinary expenses			3	—
11	Taxes on income			394	(8)
12	Other taxes, unless shown under				
	"Other operating expenses"			5	5
13	Net income			1,051	520
	Total expenses			**6,989**	**6,382**

INCOME

(€ millions)

			2019	2018
1	Interest income from			
	a) loans and money market operations	3,224		3,103
	including: netted negative interest from borrowings			
	€150 million			(154)
	b) fixed-income securities and government-inscribed debt	324		234
			3,548	3,337
2	Current income from			
	a) equity securities and other variable-yield securities	285		348
	b) participating interests	5		9
	c) shares in affiliated companies	78		68
			368	425
3	Income earned under profit-pooling			
	and profit-and-loss transfer agreements		522	138
4	Fees and commissions receivable		1,241	1,298
5	Net income from the held-for-trading portfolio		478	345
	including: transfer as per Section 340e HGB			
	€— million			(—)
6	Write-ups on bad and doubtful debts and on certain			
	securities as well as release of provisions for losses on			
	guarantees and indemnities		145	—
7	Write-ups on participating interests,			
	shares in affiliated companies and investment securities		—	28
8	Other operating income		683	315
9	Extraordinary income		4	496
10	Net loss		—	—
	Total income		6,989	6,382
1	Net income		1,051	520
2	Withdrawal from retained earnings			
	a) from the reserve for shares in a controlling			
	or majority interest-holding company	—		—
	b) from other retained earnings	2,501		—
			2,501	—
3	Transfer to retained earnings			
	a) to the reserve for shares in a controlling			
	or majority interest-holding company	1		—
	b) to other retained earnings	263		—
			264	—
4	Profit available for distribution		3,288	520

Balance Sheet of UniCredit Bank AG

at 31 December

ASSETS (€ millions)

			2019	2018
1	Cash and cash balances			
	a) cash on hand	6,044		5,994
	b) balances with central banks	20,040		4,995
	including: with Deutsche Bundesbank			
	€16,117 million			(820)
			26,084	10,989
2	Treasury bills and other bills eligible			
	for refinancing with central banks			
	a) Treasury bills and zero-interest treasury notes and			
	similar securities issued by public authorities	—		—
	including: eligible for refinancing with			
	Deutsche Bundesbank			
	€— million			(—)
	b) bills of exchange	—		—
			—	—
3	Loans and receivables with banks			
	a) repayable on demand	3,801		12,302
	b) other loans and receivables	20,629		23,654
			24,430	35,956
	including: mortgage loans			
	€— million			(—)
	municipal loans			
	€37 million			(53)
	against pledged securities			
	€— million			(—)
4	Loans and receivables with customers		119,238	115,379
	including: mortgage loans			
	€44,681 million			(42,676)
	municipal loans			
	€6,753 million			(7,230)
	against pledged securities			
	€719 million			(298)
	Amount carried forward:		**169,752**	**162,324**

LIABILITIES

(€ millions)

			2019	2018
1 **Deposits from banks**				
a) repayable on demand		5,944		5,734
b) with agreed maturity dates or periods of notice		59,190		51,540
			65,134	57,274
including: registered Mortgage Pfandbriefe in issue				
€599 million				(496)
registered Public Pfandbriefe in issue				
€294 million				(383)
bonds given to lender as				
collateral for funds borrowed:				
registered Mortgage Pfandbriefe				
€— million				(—)
and registered Public Pfandbriefe				
€— million				(—)
2 **Deposits from customers**				
a) savings deposits				
aa) with agreed period of notice of three months	13,544			13,577
ab) with agreed period of notice				
of more than three months	90			82
		13,634		13,659
b) registered Mortgage Pfandbriefe in issue		3,931		4,271
c) registered Public Pfandbriefe in issue		1,964		2,207
d) other debts				
da) repayable on demand	83,359			78,479
db) with agreed maturity dates or periods of notice	30,488			31,304
including: bonds given to lender as				
collateral for funds borrowed:				
registered Mortgage Pfandbriefe				
€— million				(—)
and registered Public Pfandbriefe				
€— million				(—)
		113,847		109,783
			133,376	129,920
Amount carried forward:			**198,510**	**187,194**

at 31 December

ASSETS (€ millions)

			2019	2018
Amount brought forward:			**169,752**	**162,324**
5 **Bonds and other**				
fixed-income securities				
a) money market paper				
aa) issued by public authorities	4			3
including: those eligible for collateral for				
Deutsche Bundesbank advances				
€— million				(—)
ab) issued by other borrowers	151			69
including: those eligible for collateral for				
Deutsche Bundesbank advances				
€— million				(—)
		155		72
b) bonds and notes				
ba) issued by public authorities	18,398			16,379
including: those eligible for collateral for				
Deutsche Bundesbank advances				
€13,506 million				(13,148)
bb) issued by other borrowers	32,016			28,497
including: those eligible for collateral for				
Deutsche Bundesbank advances				
€23,818 million				(15,788)
		50,414		44,876
c) own bonds		6,311		7,133
nominal value €6,300 million				(7,125)
			56,880	52,081
6 **Equity securities and other variable-yield securities**			707	679
6a **Held-for-trading portfolio**			42,615	42,304
7 **Participating interests**			109	95
including: in banks				
€8 million				(8)
in financial service institutions				
€28 million				(28)
8 **Shares in affiliated companies**			1,502	1,597
including: in banks				
€— million				(—)
in financial service institutions				
€384 million				(488)
Amount carried forward:			**271,565**	**259,080**

LIABILITIES

(€ millions)

			2019	2018
Amount brought forward:			**198,510**	**187,194**
3 Debt securities in issue				
a) bonds				
aa) Mortgage Pfandbriefe	17,770			14,350
ab) Public Pfandbriefe	1,540			1,169
ac) other bonds	5,911			4,634
		25,221		20,153
b) other debt securities in issue		—		—
including: money market paper				
€— million				(—)
acceptances and promissory notes				
€— million				(—)
			25,221	20,153
3a Held-for-trading portfolio			21,376	24,707
4 Trust liabilities			4	4
including: loans taken out on a trust basis				
€4 million				(4)
5 Other liabilities			7,673	7,388
6 Deferred income				
a) from issuing and lending operations		76		80
b) other		185		250
			261	330
6a Deferred tax liabilities			—	—
7 Provisions				
a) provisions for pensions				
and similar commitments		—		—
b) tax provisions		523		290
c) other provisions		1,866		3,051
			2,389	3,341
8 Subordinated liabilities			571	654
9 Participating certificates outstanding			—	—
including: those due in less than two years				
€— million				(—)
10 Fund for general banking risks			638	638
thereof: special items as per Section 340e (4) HGB				
€347 million				(347)
Amount carried forward:			**256,643**	**244,409**

Balance Sheet of UniCredit Bank AG (Continued)

at 31 December

ASSETS (€ millions)

			2019	2018
	Amount brought forward:		**271,565**	**259,080**
9	**Trust assets**		4	4
	including: loans granted on a trust basis			
	€4 million			(4)
10	**Intangible assets**			
	a) internally generated intellectual property rights			
	and similar rights and assets	—		—
	b) purchased franchises, intellectual property rights			
	and similar rights and assets,			
	as well as licences to such rights and assets	4		6
	c) goodwill	—		—
	d) advance payments	1		—
			5	6
11	**Property, plant and equipment**		148	181
12	**Other assets**		1,113	735
13	**Prepaid expenses**			
	a) from issuing and lending operations	44		33
	b) other	166		123
			210	156
14	**Deferred tax assets**		—	—
15	**Excess of plan assets over pension liabilities**		3	120
	Total assets		**273,048**	**260,282**

LIABILITIES

(€ millions)

			2019	2018
Amount brought forward:			**256,643**	**244,409**
11 Shareholders' equity				
a) called-up capital				
subscribed capital		2,407		2,407
divided into:				
802,383,672 shares of common				
bearer stock				
b) additional paid-in capital		9,791		9,791
c) retained earnings				
ca) legal reserve	—			—
cb) reserve for shares in a controlling				
or majority interest-holding company	11			10
cc) statutory reserve	—			—
cd) other retained earnings	908			3,145
		919		3,155
d) profit available for distribution		3,288		520
			16,405	15,873
Total liabilities and shareholders' equity			**273,048**	**260,282**
1 Contingent liabilities				
a) contingent liabilities on rediscounted				
bills of exchange credited to borrowers		—		—
b) liabilities under guarantees and				
indemnity agreements		25,373		26,097
c) contingent liabilities on assets pledged				
as collateral for third-party debts		—		—
			25,373	26,097
2 Other commitments				
a) commitments from the sale of assets				
subject to repurchase agreements		—		—
b) placing and underwriting commitments		—		—
c) irrevocable lending commitments		55,457		52,750
			55,457	52,750

Legal basis

UniCredit Bank AG (HVB) is a universal bank with its registered office and principal place of business in Arabellastrasse 12, Munich, Germany. It is entered under HRB 42148 in the B section of the Commercial Register maintained by Munich Local Court. HVB is an affiliated company of UniCredit S.p.A., Milan, Italy (ultimate parent company).

The annual financial statements of UniCredit Bank AG for the 2019 financial year are prepared in accordance with the accounting regulations in the German Commercial Code (Handelsgesetzbuch – HGB), the German Stock Corporation Act (Aktiengesetz – AktG), the German Pfandbrief Act (Pfandbriefgesetz – PfandBG) and the Regulations Governing Disclosures in the Financial Statements of Banks and Similar Financial Institutions (Verordnung über die Rechnungslegung der Kreditinstitute und Finanzdienstleistungsinstitute – RechKredV).

HVB is active in all of the sectors served by commercial and mortgage banks.

Accounting, valuation and disclosure

1 Reporting date/period
The amounts shown in the tables and texts below relate to the reporting date of 31 December for disclosures regarding balance sheet items and totals and the period from 1 January to 31 December of the respective year for disclosures regarding the income statement.

2 Consistency
The same accounting and valuation methods have essentially been applied as last year.

As part of the optimisation of its payment transaction activities, HVB has decided to adjust the recognition of expenses for the purchase of certain payment transaction services (an external service provider carries out the activities required for the settlement of payment transactions on behalf of the Bank) and of services in connection with credit card payments or credit card management. These expenses are now reported under commission expense instead of general administrative expenses. In view of the adjustments made in recent years to the pricing scheme for accounts and payment services, it is more appropriate to set off the expenses for the purchase of the services as commission expense from commission income for these services. The change in recognition results in the financial statements providing more reliable and relevant information on the respective banking services. Consequently, €41 million is recognised as commission expense in the 2019 reporting year, whereas €41 million was shown as general administrative expenses for the purchase of these services in 2018. On account of the retroactive application, the previous year's figures have been adjusted so that commission expense has increased by €41 million while general administrative expenses have fallen by €41 million.

3 Cash and cash balances
The cash and cash balances (asset item 1) are stated at nominal amounts.

4 Treasury bills and bills of exchange
Treasury bills and other bills (asset item 2) are shown at their cash value, i.e. less any discounted amounts.

5 Loans and receivables with banks and customers
Loans and receivables with banks and customers (asset items 3 and 4) are always stated at the nominal amount plus any accrued interest. Differences between acquisition cost and nominal amount (premiums/discounts) that are attributable to interest are allocated to prepaid expenses or deferred income and taken to the income statement under net interest income in the correct period over the term of the underlying items. Any necessary write-downs and provisions compliant with Section 340f HGB are deducted.

Loans and receivables are valued at the lower of cost or market as stipulated in Section 253 (4) 1 HGB. HVB creates specific loan-loss provisions and accruals to the amount of the anticipated loss for all identifiable exposure to acute counterparty default risk. The expected flow-backs discounted at the original effective interest rate are used when determining the level of write-downs compliant with Section 253 HGB. In the process, various realistic scenarios are estimated whereby the loss in value resulting from the expected value of the credit default losses is weighted by the probability of occurrence for each scenario. Specific loan-loss provisions are reversed once the receivable is classified as irrecoverable and written off. Accruals are reversed as soon as the default risk has ceased.

Country risk is covered by specific loan-loss provisions for loans at risk of default; a distinction is no longer made between the default risk of the borrower and the transfer risk from the borrower to the Bank.

Latent lending risks are covered by global provisions. When assessing domestic latent lending risks, HVB applies the principles of the German tax regulations allowing financial institutions to deduct global provisions. When assessing foreign latent lending risks, HVB similarly applies the principles of the German tax regulations allowing financial institutions to deduct global provisions. The only exception is the calculation of latent lending risks for the Athens branch, where the global provisions are set up on the basis of Greek law (1% of the average volume of loans and receivables with customers).

Accounting, valuation and disclosure (Continued)

Like other loans and receivables, mortgage loans are shown at their nominal values. Differences between the nominal amount and the actual amount paid out are included under either prepaid expenses or deferred income, and reversed over the period to which they apply.

The purpose defined at the time of acquisition (Section 247 (1) and (2) HGB) determines the assignment of loans, receivables and securities to the held-for-trading portfolios, the liquidity reserve or investment assets.

The Bank has made use of the option permitted by Section 340f (3) HGB and has included the change in provisions compliant with Section 340f HGB to net the write-downs and impairments for receivables and certain securities as well as additions to provisions for losses on guarantees and indemnities with the write-ups on bad and doubtful debts and on certain securities as well as release of provisions for losses on guarantees and indemnities.

6 Bonds and other fixed-income securities, and equity securities and other variable-yield securities
Investment securities and securities held for liquidity purposes (securities treated neither as held for trading purposes nor as investment securities) are shown under bonds and other fixed-income securities (asset item 5) and equity securities and other variable-yield securities (asset item 6).

We measure investment securities in accordance with the modified lower of cost or market principle compliant with Section 253 (3) 5 HGB, under which impairments are only to be deducted from the acquisition cost if the loss of value is expected to be permanent. In the case of equity instruments, we recognise an impairment loss if the fair value at the reporting date is significantly lower than the carrying amount or if the fair value has fallen below the carrying amount for a long period of time. In the case of debt instruments, on the other hand, an impairment that is likely to be permanent occurs when the issuer of the securities defaults. In the event of a loss of value that is attributable to market prices, we assume that the impairment is only temporary, as these losses will be balanced out again by the due date at the latest.

Securities held for liquidity purposes are measured at amortised cost, taking account of the lower of cost or market principle (Section 253 (4) 1 HGB) and if necessary, written down to the market value or fair value at the balance sheet date, whichever is lower. Premiums and discounts are amortised over the remaining term of the securities holdings upon addition.

In observance of the lower of cost or market principle, appropriate write-downs are made to take account of the creditworthiness of the issuer and the liquidity of the financial instrument. Where the reasons for a write-down to the lower of cost or market no longer apply, the write-down is reversed compliant with Section 253 (5) HGB.

The Bank sets up portfolio valuation units documented in advance for certain interest-bearing securities, promissory notes (with a carrying amount of €33,197 million (previous year: €29,613 million)) and certain interest rate derivatives hedged against interest rate risk by equivalent hedging derivatives (notably interest rate swaps). The hedge of the dynamic portfolio within the framework of the valuation unit is of unlimited duration; the hedging period of the individual hedging derivatives is always related to the residual maturity of the respective hedged items in the portfolio. The offset changes in the value of the interest-bearing securities amount to an increase of €574 million (previous year: €367 million) for the portfolios whose hedged items encompass securities and promissory notes. The change is largely attributable to a higher volume and the lower level of interest rates. The requirements of Section 254 HGB regarding valuation units have been met. The prospective hedging efficiency is documented using the interest rate risk sensitivity analysis based on basis point values (BPV). The changes in value arising from the hedged items and hedges induced from the hedged risk are set against each other and offset within the individual valuation units. Under the net hedge presentation method, no net valuation gain is taken to the income statement; provisions are set up to cover any net loss on the ineffective portion of the changes in the value of the hedge. Any valuation loss arising from the unhedged risk is included in the respective hedged items and hedging derivatives in accordance with the imparity principle.

The Bank makes use of the option permitted by Section 340f (3) HGB to net the write-downs and impairments for receivables and certain securities as well as additions to provisions for losses on guarantees and indemnities with the write-ups on bad and doubtful debts and on certain securities as well as the release of provisions for losses on guarantees and indemnities.

7 Held-for-trading portfolio

Compliant with Section 340e (3) HGB, financial instruments held by banks for trading purposes are measured at fair value less a risk discount and recognised in the balance sheet. Any ensuing changes in value and provisions relating to trading transactions are recognised in the income statement under net income from the held-for-trading portfolio. In addition, compliant with Section 340e (4) HGB an amount is allocated to the "Fund for general banking risks" in accordance with Section 340g HGB, and shown in the balance sheet separately. HVB assigns all financial instruments (bonds, equity securities, derivatives, loans and receivables, and liabilities, including delivery obligations arising from short sales of securities) to the held-for-trading portfolio that are acquired and sold with the intention of generating a short-term gain on proprietary trading. This is done to exploit existing or anticipated differences between buying and selling prices or fluctuations in market rates, prices, values or interest rates to generate a trading gain or margin. No changes have been made compared with last year regarding the criteria for assignment to the trading portfolio (definition of the intention to trade). No financial instruments have been reclassified to or from the held-for-trading portfolio. The assets and liabilities that are held for trading are shown separately in the balance sheet (asset item 6a and liability item 3a).

We have determined the fair value of the financial instruments held for trading purposes in accordance with the valuation hierarchy specified in Section 255 (4) HGB. The fair value is normally defined as the amount at which the asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction on the balance sheet date. The market price is used for financial instruments for which there is an active market. Where there is no active market that can be used to determine the market price, the fair value is determined with the aid of generally recognised valuation methods (notably present value and option price models).

The fair values of securities and derivatives are assumed on the basis of either external price sources (such as stock exchanges or other price providers like Reuters) or determined using internal valuation models. For the most part, prices from external sources are used to calculate the fair value of securities. HVB's credit risk is included in the fair value of liabilities held for trading purposes. Derivatives are primarily measured on the basis of valuation models. The parameters for HVB's internal valuation models (such as yield curves, volatilities and spreads) are taken from external sources, and checked for their validity and correctness by the Risk Control unit.

Appropriate adjustments (referred to as fair value adjustments) are made to the fair values calculated in this way in order to take account of further influences on the fair value (such as the liquidity of the financial instrument, closing out costs or model risks when the fair value is calculated using a valuation model). Rating-related default risk in trading-book derivatives is covered by applying suitable valuation adjustments (CVAs and DVAs). Furthermore, funding valuation adjustments (FVAs) were recognised in the income statement for the measurement at fair value of not fully secured derivatives. Apart from unsecured derivatives, this also affects derivatives for which collateral has been provided in favour of the counterparty only.

The main conditions that can influence the amount, timing and certainty of future cash flows from derivatives essentially relate to the following features of derivatives:

- Where the cash flows under derivatives are linked to current market prices or rates, the respective market price or market rate at the payment date determines the amount payable (in the case of interest rate swaps, for instance, the payment of the variable interest rate on the payment date depends on the interest rate fixed on this date, such as Euribor).
- Where the derivatives allow for cash settlement at fair value on the due date, the amount payable is calculated as the difference between the price set when the derivative was entered into and the current market price (in the case of a foreign exchange forward with cash settlement, for instance, the difference between the agreed forward price and the current price is payable).
- In the case of American options, unlike European options, the option buyer has the right to exercise the option at any time during the term of the option.
- Where it is possible to terminate a derivative prior to maturity (as is the case with all exchange-traded derivatives, for instance), the derivative may be terminated by paying the current fair value.
- The counterparty's credit rating and solvency are a further important consideration. If the counterparty becomes insolvent, it can no longer be expected that it will meet its obligations arising from the derivative.

Accounting, valuation and disclosure (Continued)

These features may be included in the terms agreed for any type of derivative. Thus it is possible that foreign exchange, interest rate and equity options may be exercised at any time (American option) or only at maturity (European option). It is generally possible to determine the size of the derivative positions entered into from the respective nominal amounts.

In order to obtain the final figures disclosed in the balance sheet for the held-for-trading portfolios, the risk discount required by Section 340e (3) 1 HGB is deducted from the fair values of the financial instruments held for trading purposes determined in this way. Including the risk discount in net trading income reflects the risk of possible price losses up until the earliest possible date of realisation of unrealised valuation gains or losses. In accordance with the relevant regulatory rules, the risk discount is determined on the basis of the internal risk management system using an accounting value-at-risk approach (holding period of ten days; confidence level: 99%; 2-year observation period). We have deducted the risk discount determined for the entire held-for-trading portfolio from the assets held for trading purposes in the balance sheet (asset item 6a) and recognised it in the net income from the held-for-trading portfolio.

HVB employs derivative financial instruments both for trading purposes and to hedge balance sheet items. The vast majority are trading derivatives which are disclosed at their fair value in the held-for-trading portfolio items on the assets side and liabilities side of the balance sheet and taken to the income statement.

With interest rate swaps, the two opposing cash flows from interest are aggregated for each swap contract and disclosed net as interest income or interest expense. In the case of derivative portfolios purely held for trading, we disclose the netted interest payments in the net trading income.

Derivatives that are not associated with the held-for-trading portfolio continue to be treated in accordance with the principle of the non-recognition of pending transactions. Only cash flows that have started, such as option premiums and accrued upfront payments on unvalued banking book derivatives, are disclosed under other assets (asset item 12), other liabilities (liability item 5) and deferred income or prepaid expenses (asset item 13 and liability item 6). Irrespective of whether it results from the hedged item or the hedging derivative, any net loss arising from valuation units set up for the netting (compensation) of the change in value of the hedged item and hedging derivative associated with the hedged risk is to be taken to the income statement as a provision for valuation units. In accordance with German GAAP, any change in fair value arising from the unhedged risk in both the hedged item and the hedging instrument is recognised on a gross basis in compliance with individual valuation under the imparity principle.

The Bank takes out the credit derivatives not held for trading exclusively as a protection buyer. In this context, the credit derivatives serve to hedge the risk of default of other transactions entered into by the Bank. The credit derivatives not held for trading are therefore accounted for according to the principles relating to loan collateral.

The interest rate derivatives employed for asset/liability management of the general interest rate risk associated with receivables and liabilities in the banking book are measured as part of the aggregate interest position. Please refer to the Risk Report for a discussion of the management of the overall interest rate position.

The few remaining standalone derivatives outside the trading book are valued in accordance with the imparity principle. A provision for anticipated losses on pending transactions is set up for unrealised valuation losses; unrealised valuation gains are not recognised.

Derivatives held for trading purposes that were concluded under master agreements together with a credit support annex allowing for daily exchange of collateral are netted for each counterparty in the balance sheet. Such netting encompasses both the carrying amount of the derivatives and the collateral provided for each counterparty.

Extensive information about HVB's derivative financial instruments, complete with detailed breakdowns by product and risk type, and showing the nominal amounts, fair values and the counterparty structure, is included in the note to the annual financial statements regarding derivative financial instruments.

The Risk Report contains a detailed overview of the Bank's derivative transactions.

8 Participating interests and shares in affiliated companies

Participating interests and shares in affiliated companies (asset items 7 and 8) are shown at the lower of acquisition cost or – if there is a permanent impairment – fair value prevailing at the balance sheet date.

Where HVB holds a controlling interest, profits and losses of partnerships as well as dividends paid by limited or incorporated companies are recognised in the year in which they arise, provided the relevant legal conditions are met.

Compliant with Section 340c (2) 1 HGB, HVB nets income from write-ups on participating interests, shares in affiliated companies and investment securities with write-downs on these investments. In addition, the expense and income items which reflect the results from the disposal of financial assets are included in this netting process in accordance with the option permitted by Section 340c (2) 2 HGB.

9 Intangible assets

Goodwill and software are disclosed under intangible assets (asset item 10).

Purchased goodwill is calculated by setting the acquisition cost of a company against the value of the company's individual assets, less the liabilities at the time of acquisition. It is normally amortised over the standard useful life assumed by law. An impairment is recognised in the event of a permanent loss of value. Should the reasons for the impairment no longer apply, the lower amount recognised for derivative goodwill is retained.

Purchased intangible assets are capitalised at cost and amortised over their expected useful life of three to five years (software) or a longer contractual useful life of up to ten years (other intangible assets). Impairments are recognised where necessary. HVB has not made use of the capitalisation option for internally generated intangible assets classified as non-current.

10 Property, plant and equipment

Property, plant and equipment (asset item 11) is valued at acquisition or production cost, less – insofar as the assets are depreciable – depreciation using the straight-line method based on their expected useful life. In such cases, the useful lives are closely related to the depreciation rules specified in Section 7 of the German Income Tax Act (Einkommensteuergesetz – EStG) in conjunction with the depreciation tables for equipment. Pro rata depreciation is taken to the income statement for additions to furniture and office equipment in the year of acquisition.

Low-value assets with acquisition costs of up to €250 are fully expensed in the year of acquisition and shown as additions and disposals in the analysis of non-current assets. We set up a collective item for all items of property, plant and equipment with acquisition costs of between €250 and €1,000 (pool depreciation in accordance with Section 6 (2a) EStG, new version), one-fifth of which we reverse in the financial year of creation and each of the following four years in the income statement.

11 Liabilities

Liabilities (liability items 1 to 3, 8 and 9) are stated at the amount repayable plus accrued interest. Differences between the amount repayable and the amount disbursed (premiums/discounts) that are attributable to interest are allocated to prepaid expenses or deferred income, and reversed under net interest income in the correct accounting period. Liabilities without current interest payments (zero-coupon bonds) are stated at their present value calculated using a constant discount rate over the relevant terms.

Accounting, valuation and disclosure (Continued)

12 Provisions
In accordance with the principles of sound commercial judgement, we assess provisions for taxes, uncertain liabilities and anticipated losses on pending transactions (liability item 7) at the amount repayable, taking into account anticipated future price and cost increases. As a basic principle, provisions falling due in more than one year are discounted using the average market rate of the past seven financial years determined and published by Deutsche Bundesbank as appropriate for the respective maturities.

HVB offers its employees various types of company pension plans. To fund the company pension plans, HVB has covered its pension commitments largely with plan assets managed as external trustee assets with limited access. These plan assets are set against the liabilities arising from pension commitments or similar long-term commitments. If the plan assets of the pension funds, pension guarantee associations or retirement benefit corporations in question do not cover the amount of the equivalent pension commitments payable, HVB recognises a provision for pension funds and similar obligations in the amount of the shortfall. If the fair value of the plan assets exceeds the commitments, the difference is recognised as the excess of plan assets over pension liabilities.

We measure payment obligations arising from pension commitments at the amount payable calculated using the projected unit credit method on the basis of biometric probabilities. Anticipated future salary and pension increases are taken into account when measuring the pension commitment. Insofar as the amount of the pension commitments is determined exclusively by the fair value of securities, we recognise provisions for this at the fair value of these securities where it exceeds a guaranteed minimum amount. HVB has made use of the option to employ the average market rate determined and published by Deutsche Bundesbank as the discount rate for an assumed residual maturity of 15 years.

The German Act Implementing the Directive on Credit Agreements Relating to Residential Immovable Property and Amending Provisions of Commercial Law enacted in 2016 changed the specified discount rate used in discounting provisions for pension obligations from a seven-year average to a ten-year average. The difference occurring in every financial year between the valuation of the provision applying the corresponding average market rate from the previous ten financial years and applying the corresponding average market rate from the previous seven financial years is subject to a ban on distribution.

	2019	2018
Discount rate (10-year average)	2.71%	3.21%
Discount rate (7-year average)	1.97%	2.32%
Pension trend	1.50%	1.70%
Anticipated wage and salary increases	1.50%	1.50%
Career trend	0.50%	0.50%
Reduction of the probabilities based on the		
modified Heubeck 2018 G tables to		
Mortality		
Men	80%	80%
Women	95%	95%
Probability of disability		
Men	80%	80%
Women	80%	80%

Income and expenses arising from the compounding and discounting of provisions for pensions are included in other operating income less other operating expenses. However, the current service cost accruing during the period and the effects arising from changed assumptions regarding the wage, salary and pension trend and biometric probabilities are disclosed under payroll costs. The same principles apply for the impact on earnings arising from the change in the group of beneficiaries and the change in provisions for pensions in connection with company restructuring activities. Similarly, the impact on earnings of the change in the discount rate is allocated to payroll costs.

Furthermore, the revised version of IDW RS BFA 3 requires the Bank to check whether it has incurred a loss on the aggregate holding of interest-bearing transactions in the banking book. The Bank applies the net present value approach to ascertain whether there are any circumstances beyond the individual valuation that had already occurred in economic terms at the reporting date that would lead to losses in the future. In this instance, it would be necessary to set up a provision for anticipated losses on pending transactions to ensure loss-free valuation in the banking book. To do this, the cash flows from the interest-bearing transactions in the banking book are discounted on the basis of the market interest rates at the reporting date and set against their carrying amounts using the net present value approach. All on- and off-balance-sheet, interest-bearing financial instruments outside of the held-for-trading portfolio are included in this process. All costs to be incurred in connection with the interest-bearing transactions such as risk costs, administration costs for handling the transactions through to their maturity, funding costs and so on are taken into account for discounting. The contractual cash flows are normally used as the basis; appropriate assumptions regarding the anticipated utilisation are only made and hence an economic maturity used as the basis for financial instruments with no fixed maturity (such as demand and savings deposits) in compliance with the internal risk management rules. The present values calculated in this way are set against the carrying amounts; derivatives concluded to hedge interest rate risk in the banking book are recognised at their fair value and generally set against a carrying amount of zero as they are not carried as general hedging derivatives individually in the banking book. A provision for anticipated losses on pending transactions needs to be set up to cover any shortfall between the present value determined in this way and the carrying amount. In this context, positive differences on interest-bearing transactions may not be offset against negative differences unless the transactions concerned are controlled together in internal interest rate risk management.

13 Plan assets

Assets serving exclusively to settle pension commitments or similar long-term commitments, and to which all other creditors do not have recourse (plan assets), are measured at fair value and offset against the underlying commitment.

If the offsetting results in an excess of commitments over plan assets, we recognise a provision for pensions and similar commitments (liability item 7) to this amount. If the value of the assets exceeds the commitments, the amount is recognised under excess of plan assets over pension liabilities (asset item 15).

The plan assets consist mainly of investment fund shares that are recognised at the current redemption price (fair value). Income and expenses arising from plan assets to be offset are shown in other operating income less other operating expenses.

Compliant with Section 8a of the German Semi-Retirement Act (Altersteilzeitgesetz – AltTZG), employee credits for semi-retirement are secured by pledging securities to the trustee.

Accounting, valuation and disclosure (Continued)

14 Deferred tax assets and liabilities
Compliant with Section 274 HGB, deferred tax items are determined for temporary differences between the carrying amount of an asset, liability or deferred item shown in the commercial balance sheet and the corresponding amount disclosed for tax reporting purposes as well as for tax loss carryforwards and tax credits. German corporations are normally charged a corporate income tax rate of 15%, irrespective of any dividend distribution. Deferred taxes are measured using the uniform corporate income tax rate of 15.8%, including the solidarity surcharge, and the municipal trade tax dependent upon the applicable municipal trade tax multiplier. At HVB, this results in an overall valuation rate for the domestic portion of deferred taxes of 31.4%. The respective local tax rates are applied analogously for the foreign establishments. Compliant with Section 274 (1) 2 HGB, the deferred tax assets involved have not been recognised on account of an aggregate future reduction in tax. This results mainly from tax valuation reservations regarding general provisions and held-for-trading portfolios as well as tax loss carryforwards.

15 Foreign currencies
Amounts in foreign currency are translated in accordance with the principles set forth in Section 340h and Section 256a HGB. As a result, assets and liabilities denominated in foreign currency and spot transactions outstanding at the balance sheet date are always converted into euros using the mean spot rate applicable at the balance sheet date. The foreign currency positions in the portfolio not held for trading that are concluded in each currency are transferred to the held-for-trading portfolio on a daily basis under a standard system of currency risk management that is applicable across the Bank as a whole. The translation gains on the foreign currency positions managed in the held-for-trading portfolio are recognised at fair value in the income statement in accordance with the valuation methods applicable to the held-for-trading portfolio (Section 340e (3) 1 HGB). Consequently, the entire net income from FX trading is disclosed under net income from the held-for-trading portfolio in the income statement. On the other hand, investment securities denominated in foreign currency that are not specifically covered in the same currency and are not transferred to the held-for-trading portfolio as part of currency risk management applicable throughout the Bank are carried at their historical cost. Outstanding forward transactions are translated using the forward rate effective at the balance sheet date.

Notes to the Income Statement

The condensed income statement is shown with the Management Report.

16 Breakdown of income by region

The following table shows a breakdown by region of:
– interest income
– current income from equity securities and other variable-yield securities, participating interests and shares in affiliated companies
– fees and commissions receivable
– net income from the held-for-trading portfolio and
– other operating income

(€ millions)

	2019	2018
Total income	**6,318**	**5,720**
Germany	5,011	4,580
Italy	303	170
United Kingdom	372	397
Rest of Europe	247	184
Americas	285	288
Asia	100	101

17 Net interest income

(€ millions)

	2019	2018
Net interest income	**3,223**	**2,757**
Interest income from		
lending and money market transactions	3,224	3,103
including: netted positive interest from borrowings	150	154
fixed-income securities and government-inscribed debt	324	234
Current income from equity securities and other variable-yield securities, participating		
interests and shares in affiliated companies	368	425
Income from profit-pooling and profit-and-loss-transfer agreements	522	138
Interest expenses	1,215	1,143
including: netted positive interest from borrowings	241	263

Negative interest mainly relates to securities repurchase agreements, overnight deposits and forward transactions with banks and institutional investors.

The interest expense arising from the compounding of provisions amounts to €3 million (previous year: €3 million).

Notes to the Income Statement (Continued)

18 Services performed for third parties
HVB performed significant services for third parties notably in portfolio, asset and trust-loan management, in the brokerage of insurance, savings and loan contracts and investment funds, in investment and securities commission activities, and in the handling of payments.

19 Net income from the held-for-trading portfolio
Net income from the held-for-trading portfolio (net trading income) of €478 million (previous year: €345 million) includes the netted income and expenses arising from transactions involving financial instruments held for trading purposes, complete with the full net income from FX operations. Also carried here are certain fees and commissions in connection with transactions involving financial instruments held for proprietary trading purposes and trading with precious metals. We carry the current interest income/expense resulting from held-for-trading portfolios (referred to as trading-induced interest) as well as dividend income in net interest income and in current income rather than in net trading income in accordance with our internal management.

20 Breakdown of other operating income and expenses
Other operating income primarily includes the following:
– income from the reversal of provisions other than provisions for lending and securities operations (€499 million, previous year: €162 million),
– cross-charged payroll costs and cost of materials (€83 million, previous year: €66 million) and
– the recognition of income from services performed in earlier years (€16 million, previous year: €16 million).

Other operating expenses primarily include the following:
– additions to provisions other than provisions for lending and securities operations (€51 million, previous year: €929 million),
– compensation and ex gratia payments (€9 million, previous year: €6 million),
– expenses of €5 million (previous year: €7 million) arising from the compounding and discounting of other provisions in the non-lending business and
– expenses of €5 million (previous year: €6 million) related to other periods.

21 Expenses from absorbed losses
In the 2019 financial year, there was no expense (previous year: €6 million) from an absorbed loss in other accounting periods.

22 Extraordinary income/expenses
In the reporting year, this item amounts to €1 million. In the previous-year period, it included a gain of €496 million on the merger of UniCredit Luxembourg S.A. into UniCredit Bank AG in July 2018.

23 Taxes on income
The expense from current taxes on income of €394 million includes a net tax expense of €52 million from earlier years.

24 Net income
The profit available for distribution amounts to €3,288 million. This is made up of profit before tax of €1,051 million generated in the reporting year less transfers to other retained earnings of €263 million and withdrawals from other retained earnings of €2,500 million. We will propose to the Shareholders' Meeting that a dividend of €3,288 million be paid to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €4.10 per share after around €0.65 in the 2018 financial year. In accordance with a resolution adopted by the Shareholders' Meeting on 3 June 2019, the profit available for distribution of €520 million reported in the previous year was distributed to UniCredit.

Notes to the Balance Sheet

25 Breakdown by maturity of selected asset items

(€ millions)

		2019	2018
A 3 b)	Other loans and receivables with banks		
	with residual maturity of less than 3 months	11,421	14,465
	at least 3 months but less than 1 year	5,861	7,151
	at least 1 year but less than 5 years	3,149	1,821
	5 years or more	198	217
A 4	Loans and receivables with customers		
	with residual maturity of less than 3 months	16,664	15,994
	at least 3 months but less than 1 year	9,888	8,503
	at least 1 year but less than 5 years	41,058	41,018
	5 years or more	41,896	40,810
	No fixed maturity	9,732	9,054
A 5	Bonds and other fixed-income securities, amounts due in the following year	5,794	9,157

26 Breakdown by maturity of selected liability items

(€ millions)

		2019	2018
L 1	Deposits from banks		
L 1b)	with agreed maturity dates or periods of notice		
	with residual maturity of less than 3 months	31,208	23,410
	at least 3 months but less than 1 year	11,284	4,384
	at least 1 year but less than 5 years	11,252	18,446
	5 years or more	5,447	5,300
L 2	Deposits from customers		
L 2 ab)	savings deposits with agreed maturity dates or periods of notice		
	with residual maturity of less than 3 months	1	2
	at least 3 months but less than 1 year	31	4
	at least 1 year but less than 5 years	58	76
	5 years or more	—	—
L 2 b)	registered Mortgage Pfandbriefe in issue		
L 2 c)	registered Public Pfandbriefe in issue		
L 2 db)	other debts with agreed maturity dates or periods of notice		
	with residual maturity of less than 3 months	12,840	13,794
	at least 3 months but less than 1 year	9,764	7,289
	at least 1 year but less than 5 years	6,632	9,443
	5 years or more	7,146	7,255
L 3	Debt securities in issue		
L 3 a)	Bonds, amounts due in following year	5,070	3,693
L 3 b)	other debt securities in issue		
	with residual maturity of less than 3 months	—	—
	at least 3 months but less than 1 year	—	—
	at least 1 year but less than 5 years	—	—
	5 years or more	—	—

Notes to the Balance Sheet (Continued)

27 Amounts receivable from and payable to affiliates and companies in which participating interests are held

(€ millions)

	2019		2018	
	AFFILIATES	PARTICIPATING INTERESTS	AFFILIATES	PARTICIPATING INTERESTS
Loans and receivables with banks	2,628	49	4,216	142
of which: UniCredit S.p.A.	1,515	—	2,871	—
Loans and receivables with customers	2,195	1,443	2,256	1,618
Bonds and other fixed-income securities	3	6,771	3	6,674
of which: UniCredit S.p.A.	—	—	—	—
Deposits from banks	2,649	63	3,005	86
of which: UniCredit S.p.A.	1,947	—	822	—
Deposits from customers	1,242	3,288	760	2,655
Debt securities in issue	1,000	—	1,000	—
of which: UniCredit S.p.A.	1,000	—	1,000	—
Subordinated liabilities	473	—	469	—

There have been a number of transactions involving UniCredit S.p.A. and other UniCredit group companies since the integration of HVB into the UniCredit group of companies.

In its role as centre of competence for markets and investment banking for the entire UniCredit group, HVB acts as counterparty for derivative transactions conducted by UniCredit companies. This involves hedge derivatives of UniCredit group companies that are externalised on the market by HVB.

28 Trust business

(€ millions)

	2019	2018
Trust assets	**4**	**4**
Loans and receivables with banks	—	—
Loans and receivables with customers	4	4
Equity securities and other variable-yield securities	—	—
Participating interests	—	—
Other assets	—	—
Trust liabilities	**4**	**4**
Deposits from banks	4	4
Deposits from customers	—	—
Debt securities in issue	—	—
Other liabilities	—	—

There were no significant changes in trustee activities compared with last year.

29 Foreign-currency assets and liabilities

(€ millions)

	2019	2018
Assets	**48,797**	**46,714**
Cash and cash balances	3,924	4,171
Treasury bills and other bills eligible for refinancing with central banks	—	—
Loans and receivables with banks	3,571	4,193
Loans and receivables with customers	18,784	17,878
Bonds and other fixed-income securities	8,546	5,780
Equity securities and other variable-yield securities	—	—
Held-for-trading portfolio (assets held for trading purposes)[1]	13,751	14,507
Participating interests	10	8
Shares in affiliated companies	80	79
Trust assets	—	—
Intangible assets	—	—
Property, plant and equipment	3	3
Other assets	124	91
Prepaid expenses	4	4
Liabilities	**32,378**	**33,360**
Deposits from banks	9,874	10,104
Deposits from customers	10,540	10,065
Debt securities in issue	1,163	338
Held-for-trading portfolio (liabilities held for trading purposes)[1]	10,335	11,174
Trust liabilities	—	—
Other liabilities	175	132
Deferred income	67	75
Provisions	65	1,317
Subordinated liabilities	159	155

1 Derivative values before balance sheet netting.

The amounts shown represent the euro equivalents of all currencies.

30 Subordinated asset items

(€ millions)

	2019	2018
Subordinated asset items	**2,341**	**2,629**
Loans and receivables with banks	—	—
Loans and receivables with customers	136	33
Bonds and other fixed-income securities	2,070	2,449
Equity securities and other variable-yield securities	—	—
Held-for-trading portfolio	135	147

Notes to the Balance Sheet (Continued)

31 Marketable debt and investments

The listed and unlisted marketable securities included in the respective balance sheet items break down as follows:

(€ millions)

	2019			2018		
	TOTAL MARKETABLE SECURITIES	OF WHICH: LISTED	OF WHICH: UNLISTED	TOTAL MARKETABLE SECURITIES	OF WHICH: LISTED	OF WHICH: UNLISTED
Bonds and other fixed-income securities	56,733	45,070	11,663	51,966	39,078	12,888
Equity securities and other						
variable-yield securities	26	—	26	26	—	26
Held-for-trading portfolio	19,734	16,272	3,462	21,646	18,463	3,183
Participating interests	—	—	—	—	—	—
Shares in affiliated companies	—	—	—	—	—	—

Non-current marketable securities contain financial instruments carried at an amount higher than their fair value:

(€ millions)

	2019		2018	
	CARRYING AMOUNT	FAIR VALUE	CARRYING AMOUNT	FAIR VALUE
Non-current securities	**4,483**	**4,451**	**5,818**	**5,762**
Bonds and other fixed-income securities	4,483	4,451	5,818	5,762
Equity securities and other variable-yield securities	—	—	—	—

Given the development of interest and rating risks, we do not believe that these securities are permanently impaired.

32 Held-for-trading portfolio

The following table shows the breakdown of assets held for trading purposes (asset item 6a) by financial instruments:

(€ millions)

	2019	2018
Assets held for trading	**42,615**	**42,304**
Derivative financial instruments (positive fair values)	13,557	10,864
Loans and receivables	2,049	2,778
Bonds and other fixed-income securities	12,325	13,266
Equity securities and other variable-yield securities	9,371	10,060
Other assets	5,335	5,354
Less risk discount (for entire portfolio of assets held for trading purposes)	(22)	(18)

The following table shows the breakdown of liabilities held for trading purposes (liability item 3a) by financial instruments:

(€ millions)

	2019	2018
Liabilities held for trading	**21,376**	**24,707**
Derivative financial instruments (negative fair values)	9,165	7,006
Liabilities (including delivery obligations arising from short sales of securities)	12,211	17,701

Derivatives held for trading purposes that were concluded under master agreements together with a credit support annex allowing for daily exchange of collateral were netted for each counterparty in the balance sheet. The netting for each counterparty encompasses both the carrying amount of the derivatives and the collateral provided. This involved netting positive fair values of €58.2 billion (previous year: €32.9 billion) with negative fair values of €59.8 billion (previous year: €33.5 billion) on derivatives held for trading with the associated receivables (€11.6 billion, previous year: €7.9 billion) and liabilities (€10 billion, previous year: €8.2 billion) from collateral provided.

33 Investment funds

The following table contains information regarding shares in investment funds compliant with Section 285 No. 26 HGB for which the Bank's holding exceeds 10% of the total number of shares:

(€ millions)

	2019				2018			
	CARRYING AMOUNT	FAIR VALUE	DIFFERENCE CARRYING AMOUNT/ FAIR VALUE	DIVIDEND PAYMENTS	CARRYING AMOUNT	FAIR VALUE	DIFFERENCE CARRYING AMOUNT/ FAIR VALUE	DIVIDEND PAYMENTS
Total investment funds	**1,107**	**1,112**	**5**	**2.8**	**717**	**720**	**3**	**5.6**
Equity funds	241	241	—	—	176	176	—	—
Money market funds and								
near-money market funds	—	—	—	—	—	—	—	—
Mixed funds	358	363	5	1.4	183	186	3	2.9
Index funds	288	288	—	0.5	109	109	—	0.5
Bond funds	33	33	—	—	171	171	—	0.4
Funds of funds	187	187	—	0.9	78	78	—	1.8

In addition, the Bank holds all the shares in the "European-Office-Fonds" property special purpose entity, which is fully consolidated in the Bank's consolidated financial statements in accordance with IFRS 10.

Under Section 246 (2) HGB, assets to which all other creditors do not have access and which serve exclusively to settle liabilities arising from pension commitments or similar long-term commitments must be offset against these liabilities. Where these assets represent shares in investment funds, they are not shown in this table.

The shares listed in this table are held in either the Bank's held-for-trading portfolio or its liquidity reserve. Where necessary, the holdings in the liquidity reserve are always written down to the lower fair value.

In the case of the information regarding the dividend payments, it should be noted that the positions included in the table frequently represent investment funds that reinvest dividends in themselves. Consequently, the dividend payments shown in the table serve only as a limited indicator for the performance of the investment funds.

There are no indications of a restriction on daily return for the shares listed here.

Notes to the Balance Sheet (Continued)

34 Analysis of non-current assets

(€ millions)

	INTANGIBLE ASSETS				PROPERTY, PLANT AND EQUIPMENT			OTHER NON-CURRENT ASSETS
	SOFTWARE	DOWN-PAYMENTS	OTHER INTANGIBLE ASSETS	TOTAL	LAND AND BUILDINGS	FURNITURE AND OFFICE EQUIPMENT	TOTAL	
Acquisition/Production costs								
Balance at 1/1	517	—	—	517	289	227	516	21
Additions from merger	—	—	—	—	—	—	—	—
Additions	1	1	—	2	1	6	7	—
Disposals	3	—	—	3	60	11	71	—
Reclassifications[1]	—	—	—	—	—	1	1	—
Post-capitalization	—	—	—	—	—	—	—	—
Balance at 31/12	515	1	—	516	230	223	453	21
Depreciation/Amortisation								
Balance at 1/1	511	—	—	511	160	175	335	—
Additions from merger	—	—	—	—	—	—	—	—
Additions	3	—	—	3	7	11	18	—
thereof non-scheduled	—	—	—	—	1	1	2	—
Disposals	3	—	—	3	37	10	47	—
Reclassifications[1]	—	—	—	—	—	1	1	—
Write-ups	—	—	—	—	2	—	2	—
Balance at 31/12	511	—	—	511	128	177	305	—
Net book value								
Balance at 1/1	6	—	—	6	129	52	181	21
Balance at 31/12	4	1	—	5	102	46	148	21

1 Including changes in value due to currency translation.

The carrying amount of the land and buildings used for the Bank's own purposes amounts to €102 million (previous year: €108 million) at 31 December 2019.

(€ millions)

	ACQUISITION COST	CHANGES +/–[1]	NET BOOK VALUE 31/12/2019	NET BOOK VALUE 31/12/2018
Participating interests	200	(91)	109	95
Shares in affiliated companies	1,770	(268)	1,502	1,597
Investment securities	11,382	(707)	10,675	11,382

1 Use has been made of the possibility of combining amounts allowed by Section 34 (3) RechKredV.

35 Other assets

The following table shows the main items included in other assets:

(€ millions)

	2019	2018
Claims to dividends from affiliated companies	559	191
Claims to tax reimbursements	148	173
thereof:		
claims from income tax	130	156
claims from non-income tax	18	17
Proportion of income from commission/interest not yet received	110	121
Collateralisation of listed derivatives	90	53
Trade debtors	51	36
Capital investments with life insurers	28	26
Works of art	21	21
Proportion of income from portfolio fees	10	37

36 Prepaid expenses

The prepaid expenses arising from issuing and lending operations include the following:

(€ millions)

	2019	2018
Discounts on funds borrowed	44	32
Premiums on amounts receivable	—	1

37 Excess of plan assets over pension liabilities

An amount payable of €1,738 million arising from liabilities due to pension and similar commitments was set against offsetting plan assets with a fair value of €1,741 million. The excess of assets over commitments is disclosed in the balance sheet as the excess of plan assets over pension liabilities (€3 million). The acquisition cost of the offsetting plan assets totalled €1,495 million. The assets involved are essentially fund shares, subordinated bonds, investments, and cash and cash equivalents.

(€ millions)

	2019	2018
Amount payable for offset pension and similar commitments (average interest rate 7 years)	2,031	1,837
Amount payable for offset pension commitments (average interest rate 10 years)	1,738	1,534
Fair value of the offsetting plan assets	1,741	1,657
Omitted transitional allocation	—	—
Excess of plan assets over the commitments, including the shortfall	3	120
Acquisition cost of the offsetting plan assets	1,495	1,462

The following table shows the excess of pension commitments contained in other operating income/expenses:

(€ millions)

	2019	2018
Surplus from pension commitments	**15**	**(31)**
Income from plan assets used to offset pension and similar commitments	69	35
Expense component of the change in provisions for pensions and similar commitments	51	39
Expenses from plan assets used to offset pension and similar commitments	3	27

Notes to the Balance Sheet (Continued)

38 Assets assigned or pledged as security for own liabilities

Assets were assigned or pledged as security for the following liabilities:

(€ millions)

	2019	2018
Assets assigned or pledged as security for own liabilities	**40,497**	**40,105**
Deposits from banks	37,501	32,383
Deposits from customers	2,996	7,722

In addition, collateral is pledged to the ECB, irrespective of whether this is actually used to borrow funds or not. At the reporting date, the volume of pledged collateral amounted to €15.7 billion (previous year: €15.2 billion).

Examples of own liabilities for which HVB provides collateral are special credit facilities provided by KfW and similar institutions, which the Bank has passed on as loans in compliance with their conditions.

As a seller under repurchase agreements, HVB has transferred assets with a book value of €27.3 billion (previous year: €27.2 billion) to its funding partners. The total includes €8.3 billion (previous year: €7.8 billion) relating to own securities holdings. These securities continue to be disclosed as HVB's assets. The consideration received in return is stated under liabilities. They comprise mainly international money market transactions.

At the same time, further assets totalling €13.7 billion (previous year: €13.1 billion) were pledged as security for securities lending transactions and exchange-traded derivatives. In setting up a contractual trust arrangement (CTA), HVB transferred collateral to the asset administrator to secure pension and semi-retirement obligations. Pursuant to Section 8a AltTZG, employers are required to secure credit exceeding three times the amount of normal earnings, including the associated employer's contribution to the total social security charge, against the risk of insolvency. Recognised provisions and obligations to cover the costs of other group companies are not considered suitable means of security.

39 Other liabilities

The following table shows the main items included in other liabilities:

(€ millions)

	2019	2018
Amounts owed to special purpose entities	6,640	6,640
Obligations arising from debts assumed	179	175
Other amounts owed to employees	58	76
Taxes payable	43	39
Liabilities from losses absorbed from subsidiaries	21	2
Trading book valuation reserves	11	11
Amounts yet to be distributed from outplacements, etc.	2	1

The true sale transactions included under amounts owed to special purpose entities were carried out with a view to using the securities generated as collateral for repurchase agreements with the ECB. The underlying receivables are still recognised by HVB. All tranches are retained by the Bank, meaning that there is no corresponding reduction in risk-weighted assets.

The obligations arising from debts assumed contain obligations arising from the liquidation of media funds.

The taxes payable include liabilities from other taxes of €42 million (previous year: €39 million).

40 Deferred income

Discounts on amounts receivable shown at nominal value totalled €10 million (previous year: €12 million). Furthermore, other deferred income includes accrued commissions of €12 million (previous year: €12 million), processing fees of €91 million (previous year: €91 million) and interest of €64 million (previous year: €130 million) collected in advance.

Notes to the Balance Sheet (Continued)

41 Provisions

Other provisions include the following items:

(€ millions)

	2019	2018
Total other provisions	**1,866**	**3,051**
Provisions for losses on guarantees and indemnities	186	178
Anticipated losses on pending transactions	—	—
Provisions for uncertain liabilities	1,680	2,873
thereof:		
Legal risks	213	1,512
Payments to employees	332	344
Restructuring	350	263
Valuation units	196	185
Payments for early retirement, semi-retirement, etc.	163	182
Anniversary bonus payments	26	30
Bonuses on saving plans	3	4
Other	397	353

The provisions for legal risks shown under provisions for uncertain liabilities also contain provisions for litigation fees and damages payments. Other provisions include provisions for dismantling obligations, among other things.

42 Subordinated liabilities

This item includes accrued interest of €1 million (previous year: €3 million). At the reporting date, interest expenses on subordinated liabilities amounted to €20 million (previous year: €25 million).

The borrower cannot be obliged to make early repayment in the case of subordinated liabilities. In the event of insolvency or liquidation, subordinated loans are only repaid after the claims of all primary creditors have been settled. For the purposes of a bank's liable funds as defined under banking supervisory regulations, subordinated liabilities are regarded as supplementary (Tier 2) capital.

On 25 January 2001, HVB issued a subordinated promissory note with a volume of €96 million. This subordinated promissory note matures on 27 January 2031 and bears interest at the 6-month Euribor rate, taking account of a surcharge of 0.65% p.a. for the entire term.

On 28 December 2001, HypoVereinsFinance N.V. (merged into HVB in July 2017) issued a subordinated promissory note with a volume of €60 million. This subordinated promissory note matures on 28 December 2031 and bears interest at the 3-month Euribor rate, taking account of a surcharge of 0.75% p.a. for the entire term.

Shareholders’ Equity

43 Analysis of shareholders’ equity shown in the balance sheet

(€ millions)

a) Called-up capital		
Subscribed capital		
Balance at 1/1/2019	2,407	
Balance at 31/12/2019		2,407
b) Additional paid-in capital		
Balance at 1/1/2019	9,791	
Balance at 31/12/2019		9,791
c) Retained earnings		
ca) Legal reserve		
Balance at 1/1/2019	—	
Balance at 31/12/2019		—
cb) Reserve for shares in a controlling or majority interest-holding company		
Balance at 1/1/2019	10	
Transfer to the reserve for shares in a controlling or		
majority interest-holding company	1	
Balance at 31/12/2019		11
cc) Reserve set up under the Articles of Association		
Balance at 1/1/2019	—	
Balance at 31/12/2019		—
cd) Other retained earnings		
Balance at 1/1/2019	3,145	
Withdrawal for the transfer to the reserve for shares in a controlling or		
majority interest-holding company	1	
Withdrawal from other retained earnings	2,500	
Transfer to other retained earnings	263	
Balance at 31/12/2019		907
d) Profit available for distribution		
Balance at 1/1/2019	520	
Dividend payout of HVB for 2018	(520)	
Net profit 2019	1,051	
Withdrawal from other retained earnings	2,500	
Transfer to other retained earnings	263	
Balance at 31/12/2019		3,288
Shareholders’ equity		
Balance at 31/12/2019		16,404

Shareholders' Equity (Continued)

44 Holdings of HVB stock in excess of 5%

(in %)

	2019	2018
UniCredit S.p.A.	100.0	100.0

Compliant with Section 271 (2) HGB, HVB is an affiliated company of UniCredit S.p.A., Milan, Italy, and is included in the consolidated financial statements of UniCredit, which can be obtained from the Trade and Companies Register in Milan, Italy.

45 Amounts not available for distribution

The measurement at fair value of offsetting plan assets in connection with pension commitments and semi-retirement agreements gives rise to an amount of €246 million (previous year: €195 million). The amount not available for distribution arising from the difference between the valuation of the provisions for pension commitments based on the respective average market rate of the past ten financial years and their valuation based on the respective average market rate of the past seven financial years totalled €294 million as at the reporting date (previous year: €300 million). Freely disposable provisions have been set up to cover the amount not available for distribution.

46 List of shareholdings pursuant to Section 285 No. 11, 11a HGB, Section 340a (4) HGB

A complete list of shareholdings as a constituent part of the notes to the financial statements is given in the section entitled "List of Holdings" in this Annual Report.

Other Information

47 Report on subsequent events (events after the end of the reporting period)
There were no significant events at HVB after 31 December 2019 to report.

48 Contingent liabilities and other financial commitments
The following table shows the breakdown of contingent liabilities arising from guarantees and indemnity agreements totalling €25,373 million:

(€ millions)

	2019	2018
Guarantees and indemnities	20,438	21,388
Loan guarantees	942	1,151
Documentary credits	3,993	3,558
Total	**25,373**	**26,097**
of which to:		
affiliated companies	2,643	2,041
associated companies	—	1

Irrevocable lending commitments totalling €55,457 million break down as follows:

(€ millions)

	2019	2018
Book credits	49,720	46,849
Mortgage and municipal loans	2,830	2,836
Guarantees	2,907	3,065
Bills of exchange	—	—
Total	**55,457**	**52,750**
of which to:		
affiliated companies	331	324
associated companies	—	—

Utilisation by the Bank on account of the contingent liabilities and other commitments that it has entered into is possible as part of its banking activities. Thus, every loan is fundamentally granted by utilising a previously made lending commitment that is shown under other commitments. Although utilisation by the Bank under contingent liabilities is not very probable in the case of guarantees it has issued, the possibility cannot be excluded. Utilisation is also the general case with regard to the documentary credits also shown here, as these are employed in the handling of foreign trade payments.

The key factor in this regard is that utilisation by the Bank under its contingent liabilities and other commitments does not generally lead to a loss. Instead, it results in the loan granted being recognised as is the case when a lending commitment is utilised. Provisions for anticipated losses on pending transactions that are required due to commitments to make payouts to defaulting borrowers are set up and deducted from the disclosed contingent liabilities and other commitments.

As a member of the deposit guarantee scheme in Germany, UniCredit Bank AG is liable in accordance with the current provisions.

HVB has made use of the option to provide up to 15% (previous year: 15%) of the annual contribution to the bank restructuring fund in the form of fully secured payment claims (irrevocable payment commitments) in accordance with Section 12 of the German Bank Restructuring Fund Act (Restrukturierungsfondsgesetz – RStruktFG). The cash collateral provided in this regard amounted to €82 million in the reporting period (previous year: €64 million).

HVB has made use of the option to provide up to 30% of the annual contribution to the compensation scheme of German banks in the form of fully secured payment claims (irrevocable payment commitments) in accordance with Section 19 of the Regulation on the Financing of the Compensation Scheme of German Banks (Entschädigungseinrichtungs-Finanzierungsverordnung – EntschFinV). The financial security provided in this regard amounted to €30 million in the reporting year (previous year: €22 million).

Legal risks can give rise to losses for HVB, the occurrence of which is greater than improbable but less than probable, and for which no provisions have been set aside. Such legal risks may result from negative developments in proceedings under civil law and the tendency for rulings to be made in favour of consumers or customers. The assessment of the risk of loss may prove to be too low or too high, depending on the outcome of the proceedings. HVB assumes that it will not be necessary to utilise the vast majority of the contingent liabilities arising from legal risks, meaning that the amounts are not representative of actual future losses. Such contingent liabilities arising from significant legal risks for which an estimate is possible amounted to €91 million at year-end 2019 after €63 million at year-end 2018.

Other Information (Continued)

Euro-denominated bonds issued by EU countries

On 31 January 2019, UniCredit S.p.A. and HVB received a Statement of Objections from the European Commission referring to the investigation by the European Commission of a suspected violation of antitrust rules in relation to European government bonds. The subject matter of the investigation extends to certain periods from 2007 to 2012, and includes alleged activities by HVB in a part of this period. The Statement of Objections does not prejudge the outcome of the proceeding; should the Commission conclude that there is sufficient evidence of an infringement, a decision prohibiting the conduct and imposing a fine could be adopted, with any fine subject to a statutory maximum of 10% of company's annual worldwide turnover.

HVB had access to the entirety of the European Commission's file on the investigation from 15 February 2019 onwards. As a result of the assessment of the files, the Bank regards it no longer remote but possible, even though not likely, that a cash outflow might be required to fulfil a potential fine arising from the outcome of the investigation. On the basis of the current information, it is not possible to reliably estimate the amount of any potential fine at the present date.

UniCredit S.p.A. and HVB have responded to the raised objections on 29 April 2019 and participated in a hearing before the European Commission on 22 – 24 October 2019. Proceedings are ongoing. There is no legal deadline for the Commission to complete antitrust inquiries.

On 11 June 2019, HVB and UniCredit Capital Markets LLC were named, among other financial institutions, as defendants in a putative class action already pending in the United States District Court for the Southern District of New York. The third amended class action complaint, filed 3 December 2019, alleges a conspiracy among dealers of Euro-denominated bonds issued by European central banks to fix and manipulate the prices of those bonds, among other things by widening the bid-ask spreads they quoted to customers. The putative class consists of those who purchased or sold Euro-denominated bonds issued by European central banks in the US between 2007 and 2012. The third amended class action complaint does not include a quantification of damages claimed. The proceedings are in their inception. Motions to dismiss – a procedural device contemplated by the United States Federal Rules of Civil Procedure which provides defendants with an opportunity to challenge the legal sufficiency of a complaint and present arguments that the complaint should be dismissed – will likely be fully briefed before the end of the second quarter of 2020 and will likely include the argument that the complaint fails to state a claim.

Other financial commitments arising in particular from real estate and IT operations total €714 million (previous year: €773 million). A large part of the total relates to contracts with subsidiaries (€564 million (previous year: €568 million)). The contracts run for standard market periods, and no charges have been put off to future years.

At the reporting date, HVB had pledged securities worth €1,990 million (previous year: €1,195 million) as collateral for transactions with Eurex Frankfurt AG, Frankfurt am Main.

As part of real estate financing and development operations, HVB has assumed rental obligations and pre-emptive rights or issued rental guarantees to make fund constructions more marketable – in particular for lease funds and (closed-end) KG real estate funds. Provisions have been set aside to cover identifiable risks arising from such guarantees.

Commitments for uncalled payments on shares not fully paid up amounted to €24 million in the reporting year (previous year: €29 million), and similar obligations for shares in cooperatives totalled €1 thousand (previous year: €1 thousand). HVB was not liable for any defaults on such calls under Section 22 (3) and Section 24 Limited Liability Companies Act (Gesetz betreffend Gesellschaften mit beschränkter Haftung – GmbHG).

Where employees are granted a bonus that is disbursed over a period of several years under their variable compensation arrangements, the expense is to be taken to the income statement over the period on a pro rata basis accordingly. Hence, an expense accrued for the bonus commitments for the years 2014 to 2019 in the reporting period. Especially in the case of the group of employees identified as "risk-takers", the German regulations governing institutions' remuneration systems (Instituts-Vergütungsverordnung) requires the bonus in a financial year to be disbursed over a period of several years. The bonus is granted subject to the proviso that the beneficiaries satisfy specific criteria (in the case of bonuses granted in the form of shares, stock options or deferred cash payments) that comply with both the regulatory requirements and the Bank's own rules. In addition, the bonus is linked to further conditions such as a malus arrangement that ensures that negative contributions to earnings and any compliance violations are taken into account when determining the deferred variable compensation components or when determining the bonus. Provisions totalling €158 million were set aside in the income statement at 31 December 2019 (previous year: €162 million) in connection with bonus commitments. The final amount disbursed may be higher, should the plan conditions be met.

In its function as personally liable partner, HVB had unlimited liability arising from shares in the partnership Bayerischer BankenFonds GbR, Munich, at the reporting date, as was the case in the previous year.

With a Statement of Responsibility dated 21 December 1993, HVB issued an undertaking to the State of Baden-Wuerttemberg (Ministry of Finance) to assume a liquidity provision obligation in the event of the sale, liquidation or bankruptcy of HVB Projekt GmbH.

49 Statement of Responsibility

HVB ensures that, to the extent of its shareholding, the company set forth below is in a position to meet its contractual obligations except in the event of political risks:

Financial companies
UniCredit Leasing GmbH, Hamburg

HVB's commitment arising from the above Statement of Responsibility declines to the extent as HVB's shareholding decreases in the future with regard to those contractual obligations of the company that arose only after HVB's shareholding decreased. In case HVB is no longer a shareholder in the company listed above, our commitment arising from the above Statement of Responsibility with regard to such liabilities of the company that arose only after our shareholding ceased ends on the date on which our shareholding ceased.

HVB no longer provides a Statement of Responsibility for companies for which a Statement of Responsibility had been provided in earlier annual reports but which no longer appear in the above list. Liabilities of these companies arising before the reduction or cessation of the shareholding are only covered by such Statements of Responsibility that were provided before the reduction or cessation of the shareholding in each case.

50 Auditor's fees

We have exercised the option provided by Section 285 No. 17 HGB and refer to the disclosures regarding the fees paid to the independent auditor made in the section of the consolidated financial statements at 31 December 2019 entitled "Other Information".

51 Off-balance-sheet transactions

Special purpose entities

HVB maintains business relations with a number of special purpose entities that pursue varying business models and hold various different types of assets. HVB's business relations with the special purpose entities are recognised in the financial statements either on or off the balance sheet.

The Bank uses special purpose entities to securitise both the Bank's own receivables and customer receivables. The latter involve commercial paper conduits for which the Bank provides guarantees and liquidity facilities.

In the case of the Bank's own receivables, the special purpose entities mainly serve to procure liquidity. These do not, however, result in the securitised receivables being taken off the books as they involve securitisation transactions with all risks retained to create securities as collateral with central banks. The securitisation of customer receivables is generally accompanied by an improvement in the customer's liquidity situation and a broadening of the funding base, whereby the Bank generates income from the structuring service and the facilities provided. HVB may face economic disadvantages, in particular, should the facilities provided be drawn down.

In addition, there are special purpose entities for which HVB acts solely as an investor, for instance to purchase securities or grant loans. The ensuing risks may lead to write-downs being recognised on the positions involved.

In some instances, HVB controls a special purpose entity from an economic point of view, which entails full consolidation of the special purpose entity in the consolidated financial statements of HVB.

Other Information (Continued)

Revocable credit commitments
HVB has granted its customers credit and liquidity facilities that are callable at any time and are not shown either on or off the balance sheet. The advantage for HVB from this customary, standardised product lies in the possibility of generating additional interest and commission income. This is set against the risk of a deterioration in the financial situation of those customers to whom these credit commitments were made.

Outsourcing of activities
Like other affiliated companies, HVB has outsourced IT activities and activities relating to the settlement of transactions to UniCredit Services S.C.p.A., Milan. The goal is to exploit synergies and make it possible to provide fast, high-quality IT services and to make settlement services available in line with a standard business and operating model.

HVB has outsourced activities in the fields of payments, document management and archiving in Germany and the settlement of securities transactions in Germany and at its Milan branch to external service providers. The purpose of this for HVB is to permanently reduce its operating costs.

52 Regulatory disclosure requirements (Disclosure Report)
HVB has been classified as a significant subsidiary of UniCredit S.p.A. within the meaning of Article 13 (1) of the Capital Requirements Regulation (CRR), making it subject to the scope of the CRR (Article 13 (1) and Part 8 CRR) and certain extended regulatory disclosure requirements in accordance with Section 26a KWG (disclosure under Pillar III).

HVB discloses this information on a standalone basis in the form of a separate disclosure report. This report is produced on an annual basis as at 31 December and in addition at each quarter-end during the year and published on the Bank's website under About us > Investor Relations > Reports. The publication for the reporting date of 31 December is scheduled for shortly after the publication of the Annual Report. The interim reports should be published shortly after submission of the regulatory COREP report to the supervisory authorities responsible.

The disclosure of the remuneration policy and practices for those categories of staff whose professional activities have a material impact on the Bank's risk profile (known as "risk takers") required by Article 450 CRR in conjunction with Section 16 (1) of the German Regulation on the Requirements for the Remuneration Systems of Institutions under Regulatory Law (Institutsvergütungsverordnung – InstitutsVergV) takes the form of a separate report for HVB. This is drawn up once a year as at 31 December and published on the Bank's website under About us > Investor Relations > Corporate Governance in the second quarter of the following year.

53 Own funds
Pursuant to Article 72 CRR II, for regulatory purposes own funds consists of Tier 1 capital and Tier 2 capital; they amounted to €13,838 million at year-end 2019 (previous year: €16,253 million) based on annual financial statements approved by the Supervisory Board. We have not allocated any unrealised reserves to Tier 2 capital compliant with Section 10 (2b) KWG as applicable until 31 December 2013.

The eligible capital calculated in accordance with Article 4 (1) 71b in conjunction with Article 494 CRR II is used primarily to determine thresholds for large exposures and loans to executive board members and for investment limits. It amounted to €13,838 million at year-end 2019 (previous year: €16,253 million).

54 Derivative financial instruments

The following table provides detailed information about the nominal amount and fair values of all derivative transactions and credit derivative transactions of HVB:

(€ millions)

	NOMINAL AMOUNT					FAIR VALUE			
	RESIDUAL MATURITY			TOTAL		POSITIVE		NEGATIVE	
	UP TO 1 YEAR	MORE THAN 1 YEAR UP TO 5 YEARS	MORE THAN 5 YEARS	2019	2018	2019	2018	2019	2018
Interest rate derivatives	**1,177,333**	**1,097,930**	**1,016,811**	**3,292,074**	**2,515,950**	**63,822**	**46,710**	**59,267**	**42,568**
OTC products									
Forward rate agreements	248,732	—	—	248,732	243,160	29	5	34	4
Interest rate swaps	826,130	982,393	903,736	2,712,259	2,002,836	58,166	42,593	54,027	38,262
Interest rate options									
– purchased	14,685	46,250	52,851	113,786	96,057	5,178	3,532	404	471
– written	12,833	59,878	60,225	132,936	98,672	407	576	4,779	3,830
Other interest									
rate derivatives	36,575	4	—	36,579	11,405	41	4	23	1
Exchange-traded products									
Interest rate futures	38,117	9,405	—	47,522	57,018	—	—	—	—
Interest rate options	261	—	—	261	6,802	1	—	—	—
Foreign exchange derivatives	**228,965**	**38,185**	**3,445**	**270,595**	**266,920**	**2,698**	**3,237**	**2,743**	**3,625**
OTC products									
Foreign exchange forwards	177,651	21,048	3,253	201,952	204,131	2,169	2,680	2,196	3,009
Foreign exchange options									
– purchased	25,363	9,045	128	34,536	30,814	221	356	269	205
– written	25,815	8,093	63	33,970	31,755	262	175	278	411
Other foreign									
exchange derivatives	86	—	—	86	220	46	26	—	—
Exchange-traded products									
Foreign exchange futures	50	—	—	50	—	—	—	—	—
Foreign exchange options	—	—	—	—	—	—	—	—	—
Cross-currency swaps	**44,066**	**105,117**	**51,168**	**200,351**	**200,278**	**4,262**	**5,665**	**4,082**	**5,520**
Equity/index derivatives	**62,537**	**57,540**	**10,669**	**130,746**	**79,944**	**4,428**	**3,274**	**3,748**	**3,119**
OTC products									
Equity/index swaps	5,535	3,844	298	9,677	11,296	280	530	285	452
Equity/index options									
– purchased	3,737	2,780	1,170	7,687	5,240	191	268	49	48
– written	13,434	9,464	6,641	29,539	20,767	140	384	828	562
Other equity/index									
derivatives	14,369	705	1	15,074	855	1,519	55	—	2
Exchange-traded products									
Equity/index futures	10,403	8,205	52	18,661	6,781	—	—	—	—
Equity/index options	14,630	31,514	2,457	48,601	33,779	2,298	2,037	2,586	2,055
Equity swaps	429	1,029	50	1,507	1,226	—	—	—	—
Credit derivatives	**7,281**	**4,366**	**827**	**12,474**	**28,584**	**101**	**223**	**235**	**341**
Other transactions	**7,524**	**6,831**	**854**	**15,209**	**12,340**	**736**	**1,568**	**853**	**807**
HVB	**1,527,706**	**1,309,970**	**1,083,775**	**3,921,450**	**3,104,016**	**76,047**	**60,677**	**70,928**	**55,980**

Most of the derivatives are held for trading purposes.

The banking book contains derivatives with positive fair values of €0.9 billion (previous year: €1.5 billion) and negative fair values of €0.3 billion (previous year: €0.7 billion).

Other Information (Continued)

55 Employees

The average number of staff employed was as follows:

	2019	2018
Staff (excluding trainees)	12,007	12,268
of whom:		
full-time	8,734	8,513
part-time	3,273	3,755
Trainees	274	318

The staff's length of service was as follows: (in %)

	WOMEN	MEN	2019	2018
STAFF'S LENGTH OF SERVICE	(EXCLUDING TRAINEES)		TOTAL	TOTAL
25 years or more	36.2	25.3	30.9	29.6
15 to 25 years	22.1	18.6	20.4	22.2
10 to 15 years	19.5	20.1	19.8	22.1
5 to 10 years	10.8	15.6	13.1	12.5
less than 5 years	11.4	20.4	15.7	13.6

56 Emoluments

(€ thousands)

	2019						
	SHORT-TERM COMPONENTS		LONG-TERM INCENTIVES				
	FIXED SALARY	SHORT-TERM PERFORMANCE-RELATED CASH REMUNERATION	LONG-TERM PERFORMANCE-RELATED CASH REMUNERATION	SHARE-BASED REMUNERATION	POST-EMPLOYMENT BENEFITS	TERMINATION BENEFITS	TOTAL
Members of the Management Board of UniCredit Bank AG	4,336	924	101	109	1,243	—	6,713
Members of the Supervisory Board of UniCredit Bank AG for Supervisory Board activities	800	—	—	—	—	—	800
Members of the Supervisory Board of UniCredit Bank AG for activities as employee representatives	459	35	—	—	30	—	524
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	626	190	235	1,740	11,688	1,228	15,707

(€ thousands)

	2018						
	SHORT-TERM COMPONENTS		LONG-TERM INCENTIVES				
	FIXED SALARY	SHORT-TERM PERFORMANCE-RELATED CASH REMUNERATION	LONG-TERM PERFORMANCE-RELATED CASH REMUNERATION	SHARE-BASED REMUNERATION	POST-EMPLOYMENT BENEFITS	TERMINATION BENEFITS	TOTAL
Members of the Management Board of UniCredit Bank AG	4,377	267	85	318	1,071	—	6,118
Members of the Supervisory Board of UniCredit Bank AG for Supervisory Board activities	787	—	—	—	—	—	787
Members of the Supervisory Board of UniCredit Bank AG for activities as employee representatives	468	37	—	—	41	—	546
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	723	404	219	2165	8,740	—	12,251

It is the task of the Bank's full Supervisory Board to decide on the total remuneration paid to the individual members of the Management Board and to review the structure of the remuneration systems for the Management Board. The full Supervisory Board receives assistance in this regard from the Remuneration Control Committee, which submits appropriate proposals to the full Supervisory Board. Appropriateness and sustainability are key criteria for the form and structure of the remuneration paid to the members of the Management Board. The structure of remuneration is derived from the service agreements with the members of the Management Board. It has two components: a fixed salary and a variable element. The variable remuneration is normally granted in deferred tranches over several years in the form of cash and in shares, with disbursement dependent upon defined corporate targets being achieved in the subsequent years.

Pension commitments for seven members of the Management Board are shown in the table alongside the direct emoluments. Five members of the Management Board took part in the employer-financed, fund-linked pension scheme for executives (known as AgFA) in 2019. The Bank will provide/has provided 35% of the fixed salary contributions (2019: €980 thousand; 2018: €978 thousand).

Other Information (Continued)

Non-monetary compensation and other fringe benefits are granted to members of the Management Board to the usual extent. The amounts involved are included in the totals for fixed remuneration shown.

Compensation paid to members of the Management Board for positions on supervisory boards of any UniCredit group companies is surrendered to HVB.

At 31 December 2019, there were provisions of €30 million (previous year: €26 million) for pensions payable to former members of the Management Board and retired members of the Management Board of HVB and their surviving dependents, as calculated in accordance with actuarial principles using the projected unit credit method, taking into account anticipated future rises in pensions.

Share-based remuneration was granted to the members of the Management Board under the Group Incentive Scheme in the reporting period as follows:

SHARES GRANTED TO MEMBERS OF THE MANAGEMENT BOARD OF UNICREDIT BANK AG	2019	2018
Number of shares granted	7,948	14,415
Number of shares committed after capital measures in 2017	—	—
Fair value on grant date (€)	11.838	17.088

57 Loans to executive board members

Loans and advances made to, and contingent liabilities and liabilities assumed for, related parties at the reporting date were as follows: (€ thousands)

	2019			2018		
	LOANS AND ADVANCES	CONTINGENT LIABILITIES	LIABILITIES	LOANS AND ADVANCES	CONTINGENT LIABILITIES	LIABILITIES
Members of the Management Board						
and their related parties	2,314	593	4,148	2,235	10	3,166
Members of the Supervisory Board						
and their related parties	—	—	2,735	—	—	4,804

Members of the Supervisory Board and Management Board at HVB and their respective immediate family members are considered related parties.

Mortgage loans with interest rates of between 0.6% and 1.74% were granted to members of the Management Board and their immediate family members falling due in the period from 2020 to 2049.

All banking transactions involving the group of people listed were conducted at customary market terms with the usual collateral.

58 Supervisory Board

Chairman

Gianpaolo Alessandro
since 3 June 2019

Gianni Franco Papa
until 2 June 2019

Deputy Chairmen

Florian Schwarz

Dr Wolfgang Sprissler

Members

Paolo Cornetta

Beate Dura-Kempf
until 31 January 2019

Francesco Giordano
until 27 November 2019

Olivier Khayat
since 28 November 2019

Prof Dr Annette G. Köhler

Dr Marita Kraemer

Klaus-Peter Prinz

Claudia Richter
since 8 February 2019

Oliver Skrbot

Christian Staack

Gregor Völkl

59 Management Board

Sandra Betocchi Drwenski	Chief Operating Officer (COO)
Markus Beumer	Commercial Banking – Unternehmer Bank
Dr Emanuele Buttà	Commercial Banking – Private Clients Bank
Ljiljana Čortan	Chief Risk Officer (CRO)
Dr Michael Diederich	Spokesman of the Management Board Human Capital/ Arbeit und Soziales
Jan Kupfer	Corporate & Investment Banking
Guglielmo Zadra	Chief Financial Officer (CFO)

List of Executives and Outside Directorships

60 Supervisory Board

NAME, OCCUPATION, PLACE OF RESIDENCE	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER GERMAN COMPANIES[1]	POSITIONS ON COMPARABLE BOARDS OF GERMAN AND FOREIGN COMPANIES[1]
Gianpaolo Alessandro since 3 June 2019 Group General Counsel, Head of Group Legal and Secretary of the Board of Directors of UniCredit S.p.A., Milan Chairman		Compagnia Aerea Italiana S.p.A., Rome MidCo S.p.A., Rome
Gianni Franco Papa until 2 June 2019 Advisor to the CEO of UniCredit S.p.A., Vienna Chairman		UniCredit Bank Austria AG, Vienna (Chairman) Amundi S.A., Paris
Florian Schwarz Employee of UniCredit Bank AG, Munich Deputy Chairman		
Dr Wolfgang Sprißler Former Board Spokesman of UniCredit Bank AG, Sauerlach Deputy Chairman		Dr. Pfleger Arzneimittel, Bamberg (Deputy Chairman)
Paolo Cornetta Head of Group Human Capital of UniCredit S.p.A., Milan		
Beate Dura-Kempf until 31 January 2019 Employee of UniCredit Bank AG, Litzendorf		
Francesco Giordano until 27 November 2019 Co-CEO Commercial Banking Western Europe of UniCredit S.p.A., Milan		UniCredit Services S.C.p.A., Milan, until 15 April 2019 YAPI ve KREDİ BANKASI A.Ş., Istanbul, until 1 June 2019

1 As at 31 December 2019.

NAME, OCCUPATION, PLACE OF RESIDENCE	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER GERMAN COMPANIES[1]	POSITIONS ON COMPARABLE BOARDS OF GERMAN AND FOREIGN COMPANIES[1]
Olivier Khayat since 28 November 2019 Co-CEO Commercial Banking Western Europe der UniCredit S.p.A., Milan		UniCredit Bank Austria AG, Vienna UniCredit International Bank (Luxembourg) S.A., Luxemburg (Deputy Chairman) Kepler Cheuvreux S.A., Paris
Prof Dr Annette G. Köhler University professor and Chair of Accounting, Auditing and Controlling, University of Duisburg-Essen, Faculty of Business Administration – Mercator School of Management, Düsseldorf	DMG MORI AKTIENGESELLSCHAFT, Bielefeld, Villeroy & Boch Aktiengesellschaft, Mettlach	DKSH Holding AG, Zurich
Dr Marita Kraemer Former member of the Management Board of Zurich GI Management Aktiengesellschaft (Deutschland), and former member of the Management Board of Zurich Service GmbH, Frankfurt am Main	Allianz Deutschland AG, Munich	Allianz France S.A., Paris
Klaus-Peter Prinz Employee of UniCredit Bank AG Luxembourg Branch, Trier		
Claudia Richter since 8 February 2019 Employee of UniCredit Bank AG, Fürth		
Oliver Skrbot Employee of UniCredit Bank AG, Buttenwiesen		
Christian Staack Employee of UniCredit Bank AG, Hamburg		
Gregor Völkl District secretary of Vereinte Dienstleistungs-gewerkschaft ver.di Division 1 – Financial Services Munich district, Munich		

1 As at 31 December 2019.

List of Executives and Outside Directorships (Continued)

61 Management Board

NAME	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER GERMAN COMPANIES[1]	POSITIONS ON COMPARABLE BOARDS OF GERMAN AND FOREIGN COMPANIES[1]
Sandra Betocchi Drwenski born 1958 Chief Operating Officer (COO)	HVB Immobilien AG, Munich (Chairwoman)[2]	UniCredit Services S.C.p.A., Milan
Markus Beumer born 1964 Commercial Banking – Unternehmer Bank	DAW SE, Ober-Ramstadt	UniCredit Leasing GmbH, Hamburg (Chairman)[2] UniCredit Leasing Finance GmbH, Hamburg (Chairman)[2]
Dr Emanuele Buttà born 1966 Commercial Banking – Private Clients Bank	WealthCap Kapitalverwaltungsgesellschaft mbH, Munich (Deputy Chairman)[2]	Wealth Management Capital Holding GmbH, Munich (Deputy Chairman)[2]
Ljiljana Čortan born 1971 Chief Risk Officer (CRO)	HVB Immobilien AG, Munich[2] WealthCap Kapitalverwaltungsgesellschaft mbH, Munich[2]	Wealth Management Capital Holding GmbH, Munich[2]
Dr Michael Diederich born 1965 Spokesman of the Management Board Human Capital/Arbeit und Soziales		ESMT European School of Management and Technology GmbH, Berlin FC Bayern München AG, Munich
Jan Kupfer born 1964 Corporate & Investment Banking	Bayerische Börse Aktiengesellschaft, Munich	
Guglielmo Zadra born 1972 Chief Financial Officer (CFO)		

1 As at 31 December 2019.
2 Group directorship.

62 List of employees and outside directorships

NAME	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER COMPANIES[1]
Aurich, Peter	CAM AG, Munich
Biebl, Matthias	Wacker Chemie AG, Munich
Dr Fischer, Jochen	HVB Trust Pensionsfonds AG, Munich
Glückert, Matthias	OECHSLER AG, Ansbach
Höllinger, Marion	UniCredit Direct Services GmbH, Munich[2]
Dr Jungemann, Lars	HVB Trust Pensionsfonds AG, Munich
Schmitt, Patrick	SCHUFA Holding AG
Rohleder, Georg	HVB Trust Pensionsfonds AG, Munich
Dr Wegener, Richard	UniCredit Direct Services GmbH, Munich[2]

1 As at 31 December 2019.
2 Group directorship.

List of Holdings

63 List of Holdings

Compliant with Section 313 (2) German Commercial Code (Handelsgesetzbuch – HGB) for the consolidated financial statements and Section 285 No. 11, 11a HGB and Section 340a (4) HGB for the annual financial statements of UniCredit Bank AG.

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	SHARE OF CAPITAL IN % OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
1 Controlled companies						
1.1 Controlled by voting rights						
1.1.1 Consolidated subsidiaries						
1.1.1.1 Banks and financial institutions						
UniCredit Leasing Finance GmbH	Hamburg	100.0	100.0	EUR	160,013	[2]
1.1.1.2 Other consolidated subsidiaries						
Acis Immobilien- und Projektentwicklungs GmbH & Co. Oberbaum City KG[3]	Grünwald	100.0	100.0	EUR	98	140,951
Acis Immobilien- und Projektentwicklungs GmbH & Co. Parkkolonnaden KG[3]	Grünwald	100.0	100.0	EUR	34	—
Acis Immobilien- und Projektentwicklungs GmbH & Co. Stuttgart Kronprinzstraße KG[3]	Grünwald	100.0	100.0	EUR	43	220
Argentaurus Immobilien-Vermietungs- und Verwaltungs GmbH[3]	Munich	100.0	100.0	EUR	793	[2]
Atlanterra Immobilienverwaltungs GmbH	Munich	90.0	90.0	EUR	(35,412)	950
A&T-Projektentwicklungs GmbH & Co. Potsdamer Platz Berlin KG[3]	Munich	100.0	100.0	EUR	(37,237)	—
Bayerische Wohnungsgesellschaft für Handel und Industrie, Gesellschaft mit beschränkter Haftung	Munich	100.0	100.0	EUR	51	[2]
Bertram Projekt Unodecima Technikzentrum GmbH & Co. KG	Munich	94.0	94.0	EUR	43	2,221
BIL Leasing-Fonds GmbH & Co VELUM KG (share of voting rights: 66.7%, of which 33.3% held indirectly)	Grünwald	100.0		EUR	(2)	—
BIL Leasing-Fonds Verwaltungs-GmbH	Grünwald	100.0	100.0	EUR	28	—
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Alpha Management KG[3]	Munich	100.0	100.0	EUR	(22,880)	—
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Gamma Management KG[3]	Munich	100.0	100.0	EUR	(59,493)	—
Food & more GmbH[3]	Munich	100.0		EUR	235	[1.1]
Grundstücksaktiengesellschaft am Potsdamer Platz (Haus Vaterland)	Munich	98.2	98.2	EUR	4,495	[2]
Grundstücksgesellschaft Simon beschränkt haftende Kommanditgesellschaft[3]	Munich	100.0	100.0	EUR	52	1,286
HAWA Grundstücks GmbH & Co. oHG Hotelverwaltung[3]	Munich	100.0	100.0	EUR	276	1,158
HAWA Grundstücks GmbH & Co. oHG Immobilienverwaltung[3]	Munich	100.0	100.0	EUR	54	454
H.F.S. Immobilienfonds GmbH	Munich	100.0	100.0	EUR	26	6,339
H.F.S. Leasingfonds GmbH	Ebersberg	100.0	100.0	EUR	(4)	(7)
H.F.S. Leasingfonds Deutschland 1 GmbH & Co. KG (Immobilienleasing)[3]	Munich	100.0	100.0	EUR	22,519	161,453
H.F.S. Leasingfonds Deutschland 7 GmbH & Co. KG	Munich	99.4	99.4	EUR	7,006	2,403
HJS 12 Beteiligungsgesellschaft mbH[3]	Munich	100.0		EUR	278	[1.2]
HVB Capital LLC	Wilmington	100.0		USD	1,128	87
HVB Capital LLC II	Wilmington	100.0		GBP	3	—
HVB Capital LLC III	Wilmington	100.0		USD	1,107	90
HVB Funding Trust II	Wilmington	100.0		GBP	2	—
HVB Gesellschaft für Gebäude mbH & Co. KG[3]	Munich	100.0		EUR	871,401	77,742
HVB Hong Kong Limited	Hong Kong	100.0		USD	3,529	751
HVB Immobilien AG[3]	Munich	100.0		EUR	86,644	[1.3]
HVB Projekt GmbH[3]	Munich	100.0	94.0	EUR	72,151	[2]
HVB Secur GmbH[3]	Munich	100.0		EUR	126	[1.4]

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN %		CURRENCY	EQUITY CAPITAL	NET PROFIT
		TOTAL	OF WHICH HELD INDIRECTLY		in thousands of currency units	in thousands of currency units
HVB Tecta GmbH[3]	Munich	100.0	94.0	EUR	1,751	[2]
HVB Verwa 4 GmbH[3]	Munich	100.0		EUR	10,132	[1.5]
HVB Verwa 4.4 GmbH[3]	Munich	100.0	100.0	EUR	10,025	[2]
HVZ GmbH & Co. Objekt KG[3]	Munich	100.0	100.0	EUR	148,091	(1,210)
Hypo-Bank Verwaltungszentrum GmbH & Co. KG Objekt Arabellastraße[3]	Munich	100.0	100.0	EUR	26	(1,570)
Interra Gesellschaft für Immobilienverwaltung mbH[3]	Munich	100.0	93.9	EUR	51	[2]
MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung[3]	Munich	100.0		EUR	16,692	[1.6]
NF Objekt FFM GmbH[3]	Munich	100.0	100.0	EUR	125	[2]
NF Objekte Berlin GmbH[3]	Munich	100.0	100.0	EUR	15,725	[2]
Omnia Grundstücks-GmbH & Co. Objekt Haidenauplatz KG[3]	Munich	100.0	94.0	EUR	26	(18)
Omnia Grundstücks-GmbH & Co. Objekt Perlach KG[3]	Munich	100.0	100.0	EUR	3,956	722
Orestos Immobilien-Verwaltungs GmbH[3]	Munich	100.0	100.0	EUR	56,674	[2]
Othmarschen Park Hamburg GmbH & Co. Centerpark KG[3]	Munich	100.0	100.0	EUR	(18,942)	—
Othmarschen Park Hamburg GmbH & Co. Gewerbepark KG[3]	Munich	100.0	100.0	EUR	(44,083)	—
Portia Grundstücks-Verwaltungs-gesellschaft mbH & Co. Objekt KG[3]	Munich	100.0	100.0	EUR	500,014	17,202
Rolin Grundstücksplanungs- und -verwaltungsgesellschaft mbH	Munich	100.0	100.0	EUR	79	19
Salvatorplatz-Grundstücksgesellschaft mbH & Co. oHG Saarland[3]	Munich	100.0	100.0	EUR	1,534	2,156
Salvatorplatz-Grundstücksgesellschaft mbH & Co. OHG Verwaltungszentrum[3]	Munich	100.0	100.0	EUR	2,301	10,846
Selfoss Beteiligungsgesellschaft mbH[3]	Grünwald	100.0	100.0	EUR	25	[2]
Simon Verwaltungs-Aktiengesellschaft i.L.	Munich	100.0		EUR	2,976	(19)
Sirius Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0	EUR	(143,835)	[2]
Solos Immobilien- und Projektentwicklungs GmbH & Co. Sirius Beteiligungs KG[3]	Munich	100.0	100.0	EUR	(62,731)	950
Spree Galerie Hotelbetriebsgesellschaft mbH[3]	Munich	100.0	100.0	EUR	249	[2]
Structured Invest Société Anonyme	Luxembourg	100.0		EUR	7,557	274
T & P Frankfurt Development B.V.	Amsterdam	100.0	100.0	EUR	(7,271)	3
T & P Vastgoed Stuttgart B.V.	Amsterdam	87.5	87.5	EUR	(14,485)	11
TERRENO Grundstücksverwaltung GmbH & Co. Entwicklungs- und Finanzierungsvermittlungs-KG[3]	Munich	75.0	75.0	EUR	(268,579)	—
TIVOLI Grundstücks-Aktiengesellschaft	Munich	100.0	100.0	EUR	15,728	8,212
TRICASA Grundbesitz Gesellschaft mbH & Co. 1. Vermietungs KG[3]	Munich	100.0	100.0	EUR	12,282	1,108
TRICASA Grundbesitzgesellschaft des bürgerlichen Rechts Nr. 1	Munich	100.0	100.0	EUR	25,989	2,352
UniCredit Beteiligungs GmbH	Munich	100.0		EUR	1,175	[1.7]
UniCredit Capital Markets LLC	New York	100.0	100.0	USD	145,064	8,832
UniCredit Direct Services GmbH[3]	Munich	100.0		EUR	933	[1.8]
UniCredit Leasing Aviation GmbH	Hamburg	100.0	100.0	EUR	28,309	820
UniCredit Leasing GmbH[7]	Hamburg	100.0		EUR	452,026	[1.9]
UniCredit U.S. Finance LLC	Wilmington	100.0		USD	116,175	529
Vermietungsgesellschaft mbH & Co. Objekt MOC KG[3]	Munich	89.3	89.3	EUR	(94,870)	1,823
Verwaltungsgesellschaft Katharinenhof mbH[3]	Munich	100.0		EUR	708	[1.10]
V.M.G. Vermietungsgesellschaft mbH	Munich	100.0	100.0	EUR	204	[2]
Wealth Management Capital Holding GmbH	Munich	100.0		EUR	20,557	[1.11]

List of Holdings (Continued)

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands of currency units	in thousands of currency units
WealthCap Entity Service GmbH	Munich	100.0	100.0	EUR	1,245	681
WealthCap Equity GmbH	Munich	100.0	100.0	EUR	1,944	1,607
WealthCap Equity Management GmbH	Munich	100.0	100.0	EUR	1,354	1,329
WealthCap Fonds GmbH	Munich	100.0	100.0	EUR	824	312
WealthCap Immobilien 1 GmbH & Co. KG	Munich	100.0	100.0	EUR	(309)	(153)
WealthCap Immobilien 2 GmbH & Co. KG	Munich	100.0	100.0	EUR	1,295	136
Wealthcap Immobilienankauf Komplementär GmbH	Munich	100.0	100.0	EUR	27	2
WealthCap Immobilienfonds Deutschland 36 Komplementär GmbH	Munich	100.0	100.0	EUR	(176)	109
WealthCap Immobilienfonds Deutschland 38 Komplementär GmbH	Munich	100.0	100.0	EUR	95	172
WealthCap Initiatoren GmbH	Munich	100.0	100.0	EUR	1,344	(239)
WealthCap Investment Services GmbH	Munich	100.0	90.0	EUR	9,937	[2]
WealthCap Investments, Inc.	Wilmington	100.0	100.0	USD	2,682	818
WealthCap Investorenbetreuung GmbH	Munich	100.0	100.0	EUR	155	[2]
WealthCap Kapitalverwaltungsgesellschaft mbH	Grünwald	100.0	100.0	EUR	10,000	[2]
WealthCap Leasing GmbH	Grünwald	100.0	100.0	EUR	(80)	11
WealthCap Management Services GmbH	Munich	100.0	100.0	EUR	51	1,763
Wealthcap Objekt Dresden GmbH & Co. KG	Munich	100.0	100.0	EUR	(819)	(743)
Wealthcap Objekt Essen II GmbH & Co. KG	Munich	100.0	100.0	EUR	(257)	(267)
Wealthcap Objekt-Vorrat 25 GmbH & Co. KG	Munich	100.0	100.0	EUR	(459)	(468)
Wealthcap Objekt-Vorrat 32 GmbH & Co. KG	Munich	100.0	100.0	EUR	(144)	(144)
WealthCap PEIA Komplementär GmbH	Grünwald	100.0	100.0	EUR	56	29
WealthCap PEIA Management GmbH	Munich	100.0	94.0	EUR	2,679	1,424
WealthCap Real Estate Management GmbH	Munich	100.0	100.0	EUR	108	[2]
WealthCap Vorrats-2 GmbH	Munich	100.0	100.0	EUR	15	(11)
WealthCap Wohnen 1 GmbH & Co. KG	Munich	100.0	100.0	EUR	(1,004)	(738)
Wealthcap Wohnen 1a GmbH & Co. KG	Munich	100.0	100.0	EUR	(433)	(436)
Weicker S. à r.l.	Luxembourg	100.0		EUR	20,828	170
1.1.2 Non-consolidated subsidiaries[5]						
Acis Immobilien- und Projektentwicklungs GmbH	Grünwald	100.0	100.0	EUR	25	[2]
AGRUND Grundstücks-GmbH	Munich	90.0	90.0			
Altea Verwaltungsgesellschaft mbH & Co. Objekt I KG	Munich	100.0	100.0			
AMMS Ersatz-Komplementär GmbH	Munich	100.0	100.0			
AMMS Komplementär GmbH i.L.	Ebersberg	98.8	98.8			
Antus Immobilien- und Projektentwicklungs GmbH	Munich	90.0	90.0	EUR	(15,922)	950
ANWA Gesellschaft für Anlagenverwaltung mbH	Munich	95.0	93.9			
Arena Stadion Beteiligungsverwaltungs-GmbH	Munich	100.0				
ARRONDA Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(39,626)	975
A&T-Projektentwicklungs-Verwaltungs GmbH	Munich	100.0	100.0			
Aufbau Dresden GmbH	Munich	100.0	100.0	EUR	(22,994)	950
B.I. International Limited	George Town	100.0	100.0			
BIL Aircraftleasing GmbH	Grünwald	100.0	100.0			
BIL Immobilien Fonds GmbH	Munich	100.0	100.0			
Blue Capital Metro Amerika Inc.	Wilmington	100.0	100.0	USD	(113)	217
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Beta Management KG	Munich	100.0	100.0	EUR	(53,477)	—
Erste Onshore Windkraft Beteiligungsgesellschaft mbH & Co. Windpark Grefrath KG (share of voting rights: 68.3%)	Oldenburg	68.5	68.5	EUR	151	(358)
Erste Onshore Windkraft Beteiligungsgesellschaft mbH & Co. Windpark Krähenberg KG (share of voting rights: 68.3%)	Oldenburg	68.5	68.5			
Erste Onshore Windkraft Beteiligungsgesellschaft mbH & Co. Windpark Mose KG (share of voting rights: 68.3%)	Oldenburg	68.5	68.5			
Golf- und Country Club Seddiner See Immobilien GmbH	Munich	100.0	100.0	EUR	(15,507)	—

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
Großkugel Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0	EUR	(3,354)	2
H.F.S. Immobilienfonds Deutschland 1 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 3 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 4 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 6 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 7 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 8 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 9 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 10 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 11 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 12 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 15 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 16 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 18 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Deutschland 19 GmbH & Co. KG	Munich	100.0	100.0			
H.F.S. Immobilienfonds Europa 2 Beteiligungs GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds Europa 3 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Immobilienfonds GmbH & Co. Europa 4 KG	Munich	100.0	100.0			
H.F.S. Leasingfonds Deutschland 1 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Leasingfonds Deutschland 7 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Value Management GmbH	Munich	100.0	100.0			
H.F.S. Zweitmarktfonds Deutschland 1 Komplementär GmbH	Grünwald	100.0	100.0			
H.F.S. Zweitmarktfonds Deutschland 2 Komplementär GmbH	Grünwald	100.0	100.0			
Hofgarten Real Estate B.V. (share of voting rights: 50.5%)	Amsterdam	47.2	47.2	EUR	(49,339)	11
HVB Export Leasing GmbH	Munich	100.0				
HVB Gesellschaft für Gebäude Beteiligungs GmbH	Munich	100.0				
HVB London Investments (AVON) Limited	London	100.0				
HVBFF International Greece GmbH	Munich	100.0	100.0			
HVBFF Internationale Leasing GmbH	Munich	100.0	100.0			
HVBFF Kapitalvermittlungs GmbH	Munich	100.0	100.0	EUR	19	2
HVBFF Leasing Objekt GmbH	Grünwald	100.0	100.0			
HVBFF Leasing-Fonds Verwaltungs GmbH	Munich	100.0	100.0			
HVBFF Objekt Beteiligungs GmbH	Munich	100.0	100.0			
HVBFF Produktionshalle GmbH i.L.	Munich	100.0	100.0			
Hypo-Bank Verwaltungszentrum GmbH	Munich	100.0	100.0			
HYPO-REAL Haus- und Grundbesitz Gesellschaft mbH	Munich	100.0	100.0	EUR	128	2
HYPO-REAL Haus- und Grundbesitz Gesellschaft mbH & Co. Immobilien-Vermietungs KG	Munich	80.0	80.0			
Landos Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0			
Life Britannia GP Limited	Edgware	100.0	100.0			
Life Britannia Management GmbH	Grünwald	100.0	100.0			
Life Management Erste GmbH	Munich	100.0	100.0	EUR	24	2
Life Management Zweite GmbH	Grünwald	100.0	100.0	EUR	26	2
Life Verwaltungs Erste GmbH	Munich	100.0	100.0			
Life Verwaltungs Zweite GmbH	Grünwald	100.0	100.0			
Motion Picture Production GmbH	Grünwald	51.2	51.2			
Movie Market Beteiligungs GmbH i. L.	Munich	100.0	100.0			
Omnia Grundstücks-GmbH	Munich	100.0	100.0	EUR	26	2
Omnia Grundstücks-GmbH & Co. Betriebs KG	Munich	100.0	94.0			
Othmarschen Park Hamburg Wohn- und Gewerbepark GmbH	Munich	100.0	100.0	EUR	102	2
"Portia" Grundstücksverwaltungs-Gesellschaft mit beschränkter Haftung	Munich	100.0	100.0			
Projekt-GbR Kronstadter Straße München	Munich	75.0	75.0	EUR	(5,690)	—
Quinterra Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	100.0	EUR	26	2
Redstone Mortgages Limited	London	100.0				

List of Holdings (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
RHOTERRA Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	93.9	EUR	26	[2]
Roncasa Immobilien-Verwaltungs GmbH	Munich	100.0	100.0	EUR	(35,220)	950
Salvatorplatz-Grundstücksgesellschaft						
mit beschränkter Haftung	Munich	100.0	100.0	EUR	711	[2]
TERRENO Grundstücksverwaltung GmbH	Munich	75.0	75.0			
TERRENO Grundstücksverwaltung GmbH & Co.						
Objektgesellschaft Grillparzerstraße KG	Munich	75.0		EUR	(3,002)	(3)
Terronda Development B.V.	Amsterdam	100.0	100.0	EUR	(15,006)	(2)
Tishman Speyer Berlin Friedrichstraße KG i.L.						
(share of voting rights: 96.6%, of which 7.1% held indirectly)	Munich	97.1	5.9			
Trinitrade Vermögensverwaltungs-						
Gesellschaft mit beschränkter Haftung	Munich	100.0				
VCI Volta Center Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(20,147)	950
WealthCap Aircraft 27 GmbH & Co. KG	Grünwald	100.0	100.0			
WealthCap Aircraft 27 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Canadian Management Inc.	Toronto	100.0	100.0			
WealthCap Dritte Europa Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
WealthCap Equity Sekundär GmbH	Munich	100.0	100.0			
WealthCap Erste Kanada Immobilien Verwaltung GmbH	Munich	100.0	100.0			
WealthCap Europa Erste Immobilien –						
Objekt Niederlande – Verwaltungs GmbH	Munich	100.0	100.0			
WealthCap Europa Immobilien Fünfte Objekte						
Österreich Komplementär GmbH	Munich	100.0	100.0			
WealthCap Europa Immobilien Siebte Objekte						
Österreich Komplementär GmbH	Munich	100.0	100.0	EUR	15	307
WealthCap Europa Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
WealthCap Immobilien Deutschland 39 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Immobilien Nordamerika 16 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Immobilien Nordamerika 17 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Immobilien Services GmbH	Munich	100.0	100.0			
WealthCap Immobilien und Verwaltung Sekundär GmbH	Munich	100.0	100.0			
WealthCap Immobilien 40 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Immobilien 41 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien 42 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien 43 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien 44 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Immobilienfonds Deutschland 36 GmbH & Co. KG	Munich	100.0	100.0			
WealthCap Immobilienfonds Deutschland 37						
Komplementär GmbH	Munich	100.0	100.0			
WealthCap Los Gatos 121 Albright Way GP, Inc.	Wilmington	100.0	100.0			
WealthCap Management, Inc.	Wilmington	100.0	100.0			
WealthCap Mountain View GP, Inc.	Atlanta	100.0	100.0			
Wealthcap Objekt Freiburg GmbH & Co. KG	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 13 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 17 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 20 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 21 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 25 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 26 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 28 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 30 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 20 GmbH & Co. KG	Munich	100.0	100.0	EUR	353	8,532
Wealthcap Objekt-Vorrat 33 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 34 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 35 GmbH & Co. KG	Munich	100.0	100.0			

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
Wealthcap Objekt-Vorrat 36 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 37 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 38 GmbH & Co. KG	Munich	100.0	100.0			
WealthCap Portfolio 3 Komplementär GmbH	Grünwald	100.0	100.0			
Wealthcap Portfolio 4 Komplementär GmbH	Grünwald	100.0	100.0			
Wealthcap Portfolio 5 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Private Equity GmbH	Munich	100.0	100.0			
WealthCap Private Equity Sekundär GmbH	Munich	100.0	100.0			
WealthCap Private Equity 19 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Private Equity 20 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Private Equity 21 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Private Equity 22 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Real Estate GmbH	Munich	100.0	100.0			
WealthCap Real Estate Komplementär GmbH	Munich	100.0	100.0			
WealthCap Real Estate Sekundär GmbH	Munich	100.0	100.0			
WealthCap SachWerte Portfolio 2 Komplementär GmbH	Grünwald	100.0	100.0			
Wealthcap Spezial Büro 6 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial Büro 7 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial Portfolio Immobilien 1 Komplementär SARL	Luxembourg-Findel	100.0	100.0			
Wealthcap Spezial Portfolio Private Equity 1 Komplementär SARL	Luxembourg-Findel	100.0	100.0			
Wealthcap Spezial Wohnen 1 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 3 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 4 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 5 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial-AIF Büro 7 GmbH & Co. geschlossene Investment KG	Munich	100.0	100.0			
WealthCap Spezial-AIF 1 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Stiftungstreuhand GmbH	Munich	100.0	100.0			
WealthCap USA Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
Wealthcap Wohnen Spezial-AIF 1 GmbH & Co. geschlossene Investment KG	Munich	100.0	100.0			
Wealthcap Wohnen 1b GmbH & Co. KG	Munich	100.0	100.0			
WealthCap Zweite Europa Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
WealthCap Zweite USA Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
WealthCap ZweitmarktWerte Immobilien 4 Komplementär GmbH	Munich	100.0	100.0			
WealthCap ZweitmarktWerte 5 GP S.à r.l.	Senningerberg	100.0	100.0			
WealthCap 39 Komplementär GmbH	Munich	100.0	100.0			

List of Holdings (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN %	CURRENCY	SUBSCRIBED CAPITAL in thousands of currency units
1.2 Fully consolidated structured entities with or without shareholding				
Altus Alpha Plc	Dublin	0	EUR	40
Arabella Finance DAC	Dublin	0	EUR	<1
BARD Engineering GmbH	Emden	0	EUR	100
BARD Holding GmbH	Emden	0	EUR	25
Buitengaats Holding B.V.	Eemshaven	0	EUR	18
Elektra Purchase No. 28 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 31 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 32 S.A. – Compartment 1	Luxembourg	0	EUR	31
Elektra Purchase No. 33 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 34 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 36 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 37 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 38 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 39 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 41 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 43 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 44 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 46 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 54 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 55 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 56 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 57 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 63 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 64 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 71 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 718 DAC	Dublin	0	EUR	<1
Elektra Purchase No. 911 Ltd.	St. Helier	0	EUR	<1
European-Office-Fonds	Munich	0	EUR	0
GELDILUX-TS-2015 S.A.	Luxembourg	0	EUR	31
GEMMA Verwaltungsgesellschaft mbH & Co. Vermietungs KG (held indirectly)[4, 6.1]	Pullach	6.1	EUR	68,272
HVB Funding Trust	Wilmington	0	EUR	0
HVB Funding Trust III	Wilmington	0	EUR	0
Ice Creek Pool No. 1 DAC	Dublin	0	EUR	<1
MOC Verwaltungs GmbH & Co. Immobilien KG (held indirectly)[4, 6.2]	Munich	23.0	EUR	5,113
Rosenkavalier 2008 GmbH	Frankfurt am Main	0	EUR	25
Rosenkavalier 2015 UG	Frankfurt am Main	0	EUR	8

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands of currency units	in thousands of currency units
2 Joint ventures						
Minor joint ventures[5]						
Heizkraftwerke-Pool Verwaltungs-GmbH	Munich	33.3		EUR	138	1,137
WealthCap Portfolio Finanzierungs GmbH & Co. KG						
(share of voting rights: 50.0%)	Grünwald	—		EUR	71,922	2,236
3 Associates						
3.1 Associates valued at equity						
Adler Funding LLC[4]	Dover	32.8		USD	(1)	16,128
Comtrade Group B.V.[4,7]	Rotterdam	21.1		EUR	52,271	2,438
3.2 Minor associates						
MOC Verwaltungs GmbH	Munich	23.0	23.0	EUR		
paydirekt Beteiligungsgesellschaft privater Banken mbH	Berlin	24.0		EUR		
4 Further holdings according to						
Section 271 (1) HGB[5]						
4.1 Banks and financial institutions						
AKA Ausfuhrkredit-Gesellschaft mbH	Frankfurt am Main	15.4		EUR	246,672	12,040
BBB Bürgschaftsbank zu Berlin-Brandenburg GmbH	Berlin	4.3		EUR	11,893	366
BGG Bayerische Garantiegesellschaft						
mbH für mittelständische Beteiligungen	Munich	10.5		EUR	53,351	1,962
Bürgschaftsbank Brandenburg GmbH	Potsdam	7.8		EUR	29,836	748
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	9.1		EUR	16,637	75
Bürgschaftsbank Nordrhein-Westfalen GmbH –						
Kreditgarantiegemeinschaft –	Düsseldorf	0.6		EUR	36,759	1,320
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	1.4		EUR	16,826	221
Bürgschaftsbank Saarland Gesellschaft mit beschränkter						
Haftung, Kreditgarantiegemeinschaft für den Handel,						
Handwerk und Gewerbe	Saarbrücken	1.3		EUR	4,335	21
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	8.9		EUR	15,999	387
Bürgschaftsbank Sachsen GmbH (share of voting rights: 5.4%)	Dresden	4.7		EUR	43,596	1,581
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	5.4		EUR	41,174	992
Bürgschaftsbank Thüringen GmbH	Erfurt	8.7		EUR	26,582	636
Bürgschaftsgemeinschaft Hamburg GmbH	Hamburg	10.5		EUR	26,278	1,034
MCB Bank Limited	Lahore	>0		PKR	149,277,729	14,672,352
Niedersächsische Bürgschaftsbank GmbH	Hanover	3.0		EUR	28,283	1,886
Saarländische Investitionskreditbank AG	Saarbrücken	3.3		EUR	65,285	186
4.2 Other companies						
ABE Clearing S.A.S.	Paris	1.9		EUR	27,915	3,194
Acton GmbH & Co. Heureka II KG	Munich	8.9		EUR	70,341	13,647
Amstar Liquidating Trust (share of voting rights: 0.0%)	New York	>0	>0			
Babcock & Brown Limited	Sydney	3.2				
Bavaria Servicos de Representacao Comercial Ltda.	Sao Paulo	>0		BRL	7,316	816
BayBG Bayerische Beteiligungsgesellschaft mbH[8]	Munich	22.5		EUR	237,213	4,370
Bayerischer BankenFonds GbR[8]	Munich	25.6				
BIL Leasing-Fonds GmbH & Co. Altstadtsanierung Freiberg KG						
(share of voting rights: 0.3%)	Grünwald	—	—	EUR	1,057	935

List of Holdings (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
Bil Leasing-Fonds GmbH & Co Objekt Verwaltungssitz						
Bankenverband KG (share of voting rights: 0.2%)	Grünwald	—	—			
BIL Leasing GmbH & Co Objekt Verwaltungsgebäude Halle KG						
(share of voting rights: 0.1%)	Grünwald	—	—			
BioM Aktiengesellschaft Munich Bio Tech Development	Planegg	8.5		EUR	3,509	1,352
Blue Capital Equity I GmbH & Co.KG i.L.	Munich	>0	>0			
Blue Capital Equity II GmbH & Co. KG i.L.	Munich	>0	>0	EUR	1,664	13
Blue Capital Equity III GmbH & Co. KG						
(share of voting rights: >0.0%)	Munich	0.8	0.8	EUR	5,098	(589)
Blue Capital Equity IV GmbH & Co. KG	Munich	>0	>0	EUR	11,490	2,052
Blue Capital Equity V GmbH & Co. KG						
(share of voting rights: >0.0%)	Munich	0.1	0.1			
Blue Capital Equity VI GmbH & Co. KG	Munich	>0	>0	EUR	11,412	4,144
Blue Capital Equity VII GmbH & Co. KG	Munich	>0	>0	EUR	5,416	1,762
Blue Capital Equity VIII GmbH & Co. KG						
(share of voting rights: 0.0%)	Munich	0.7	0.7	EUR	7,119	118
Blue Capital Equity IX GmbH & Co. KG						
(share of voting rights: 0.6%)	Munich	0.7	0.7	EUR	3,166	162
Blue Capital Europa Immobilien GmbH & Co.						
Fünfte Objekte Österreich KG	Munich	>0	>0	EUR	5,162	10,881
Blue Capital Europa Immobilien GmbH & Co.						
Siebte Objekte Österreich KG	Munich	0.1	0.1	EUR	6,613	26,935
Blue Capital Metro Amerika Fund, L.P.	Wilmington	0.1	0.1	EUR	111,955	(36,681)
Blue Capital Metropolitan Amerika GmbH & Co. KG	Munich	>0	>0	EUR	100,541	13,174
Boston Capital Partners V, L.L.C.	Wilmington	10.0	10.0			
Boston Capital Ventures V, L.P. (share of voting rights: 0.0%)	Wilmington	20.0		USD	3,514	1,776
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	13.6		EUR	4,646	324
BV Capital GmbH & Co. Beteiligungs KG Nr. 1	Hamburg	16.8	16.8	EUR	2,094	237
Carlyle Partners V, L.P. (share of voting rights: 0.0%)	Wilmington	>0		EUR	2,615,490	365,328
Carlyle U.S. Equity Opportunity Fund, L.P.						
(share of voting rights: 0.0%)	Wilmington	0.9	0.9	EUR	845,151	143,045
Charme II (share of voting rights: 0.0%)	Milan	7.7		EUR	1,796	(568)
CHARME INVESTMENTS S.C.A. (share of voting rights: 12.1%)	Luxembourg	13.4		EUR	14,714	(7,964)
China International Packaging Leasing Co., Ltd.	Peking	17.5		CNY	(101,056)	553
China Investment Incorporations (BVI) Ltd.	Tortola	10.8	10.8	HKD	107,609	24,527
CLS Group Holdings AG	Zurich	1.2		GBP	376,009	(18,504)
CMC-Hertz Partners, L.P. (share of voting rights: 0.0%)	Wilmington	7.1				
CME Group Inc.	Wilmington	>0		USD	25,918,500	1,962,200
Earlybird GmbH & Co. Beteiligungskommanditgesellschaft III i.L.	Munich	9.7	9.7	USD	7,589	205
Easdaq NV	Leuven	>0		EUR	713	(896)
EDD AG (share of voting rights: 3.1%)	Düsseldorf	3.0		EUR	22,491	(5,301)
Einkaufsgalerie Roter Turm Beteiligungs GmbH & Co. KG	Munich	>0	>0	EUR	5,720	291
Einkaufsgalerie Roter Turm Chemnitz GmbH & Co. KG	Munich	>0	>0	EUR	47,520	2,629
EURO Kartensysteme GmbH	Frankfurt am Main	6.0		EUR	12,036	202
Film & Entertainment VIP Medienfonds 4 GmbH & Co. KG	Grünwald	9.9	9.9	EUR	22,402	(1,260)
H.F.S. Immobilienfonds Bahnhofspassagen						
Potsdam GmbH & Co. KG	Munich	6.0	6.0	EUR	21,279	2,688
H.F.S. Immobilienfonds "Das Schloss"						
Berlin-Steglitz GmbH & Co. KG	Munich	6.0	6.0	EUR	132,536	119,759
H.F.S. Immobilienfonds Deutschland 4 GmbH & Co. KG	Munich	0.2	0.2	EUR	(894)	(276)
H.F.S. Immobilienfonds Deutschland 8 GmbH & Co. KG	Munich	0.1	0.1	EUR	13,427	2,417
H.F.S. Immobilienfonds Deutschland 9 GmbH & Co. KG	Munich	0.1	0.1	EUR	2,250	(327)
H.F.S. Immobilienfonds Deutschland 10 GmbH & Co. KG	Munich	1.4	1.4	EUR	88,822	257,288
H.F.S. Immobilienfonds Deutschland 12 GmbH & Co. KG	Munich	3.9	3.9	EUR	80,875	2,776
H.F.S. Immobilienfonds Deutschland 15 GmbH & Co. KG	Munich	>0	>0	EUR	14,195	1,648

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H.F.S. Immobilienfonds Deutschland 16 GmbH & Co. KG	Munich	>0	>0	EUR	18,905	37,332
H.F.S. Immobilienfonds GmbH & Co. Europa 3 KG	Munich	>0	>0	EUR	3,138	254
H.F.S. Immobilienfonds Köln GmbH & Co. KG	Munich	>0	>0	EUR	6,548	(55)
H.F.S. Immobilienfonds Köln Supplier-Park GmbH & Co. KG	Munich	>0	>0	EUR	3,005	35,515
H.F.S. Immobilienfonds Schweinfurt GmbH & Co. KG	Munich	>0	>0			
H.F.S. Zweitmarktfonds Deutschland 1 GmbH & Co. KG	Ebersberg	0.1	0.1	EUR	17,440	4,557
H.F.S. Zweitmarktfonds Deutschland 2 GmbH & Co. KG	Ebersberg	>0	>0	EUR	79,713	15,143
HVBFF Life Britannia GmbH & Co Erste KG	Grünwald	>0	>0	EUR	5,383	799
HVB Trust Pensionsfonds AG (share of voting rights: 0.0%)[9]	Munich	100.0	—	EUR	4,276	11
IGEPA Gewerbepark GmbH & Co Vermietungs KG	Fürstenfeldbruck	2.0	2.0	EUR	(6,962)	11,408
Industriepalast in Leipzig Verwaltungs-GmbH & Co. KG i.L.						
(share of voting rights: 6.3%)	Berlin	6.2				
Innovation Group Holdings Limited	Fareham	13.1	13.1			
Interbanking Systems S.A. (Dias S.A.)	Maroussi	0.9		EUR	26,734	0
IPE Tank and Rail Investment 1 S.C.A.	Luxembourg	7.8				
JBG/BC Investor, L.P.	Chevy Chase	0.5	0.5	EUR	70,944	15,598
Kepler Cheuvreux S.A. (share of voting rights: 8.3%)	Paris	10.0		EUR	87,042	21,880
Kreditgarantiegemeinschaft der freien Berufe						
Baden-Württemberg Verwaltungs-GmbH	Stuttgart	1.3				
Kreditgarantiegemeinschaft der Industrie,						
des Verkehrsgewerbes und des Gastgewerbes						
Baden-Württemberg Verwaltungs-GmbH	Stuttgart	2.6				
Kreditgarantiegemeinschaft des						
bayerischen Gartenbaues GmbH	Munich	8.1				
Kreditgarantiegemeinschaft des						
bayerischen Handwerks GmbH	Munich	7.2		EUR	4,846	0
Kreditgarantiegemeinschaft des						
Handels Baden-Württemberg Verwaltungs-GmbH	Stuttgart	2.3				
Kreditgarantiegemeinschaft des Handwerks						
Baden-Württemberg Verwaltungsgesellschaft mbH	Stuttgart	2.5				
Kreditgarantiegemeinschaft des Hotel- und						
Gaststättengewerbes in Bayern GmbH	Munich	9.7		EUR	4,359	0
Kreditgarantiegemeinschaft für den Handel in Bayern GmbH	Munich	2.2		EUR	6,317	0
Kreditgarantiegemeinschaft in						
Baden-Württemberg Verwaltungs-GmbH	Stuttgart	5.1				
Life Britannia First LP (share of voting rights: 1.0%)	Uxbridge	—	—	EUR	3,679	716
Life Britannia Second LP (share of voting rights: 1.0%)	Uxbridge	—	—	EUR	7,038	984
Life GmbH & Co Erste KG	Munich	>0	>0	EUR	95,594	23,043
Life GmbH & Co. Zweite KG	Grünwald	>0	>0	EUR	53,514	(4,916)
Lion Capital Fund I, L.P. (share of voting rights: 0.0%)	London	0.9		EUR	2,429	(410)
LME Holdings Limited	London	>0		USD	57,773	125,004
Martin Schmälzle Grundstücksgesellschaft						
Objekt Wolfsburg GmbH & Co. KG	Munich	>0	>0	EUR	15,711	0
MBG Mittelständische Beteiligungsgesellschaft						
Baden-Württemberg GmbH	Stuttgart	5.0		EUR	76,993	4,504
MBG Mittelständische Beteiligungsgesellschaft						
Rheinland-Pfalz mbH (share of voting rights: 11.1%)	Mainz	9.8		EUR	15,328	445
MBG Mittelständische Beteiligungsgesellschaft						
Schleswig-Holstein mbH	Kiel	3.6		EUR	41,293	2,272
MFP Munich Film Partners GmbH & Co. AZL Productions KG	Grünwald	>0		EUR	3,256	265,647
MFP Munich Film Partners GmbH & Co.						
MI 2 Productions KG i.L.	Grünwald	>0				
Mittelständische Beteiligungsgesellschaft						
Berlin-Brandenburg GmbH	Potsdam	11.6		EUR	21,836	1,774

List of Holdings (Continued)

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Mittelständische Beteiligungsgesellschaft						
Mecklenburg-Vorpommern mbH	Schwerin	15.4		EUR	15,950	1,521
Mittelständische Beteiligungsgesellschaft						
Niedersachsen (MBG) mbH	Hanover	8.2		EUR	14,309	671
Mittelständische Beteiligungsgesellschaft						
Sachsen-Anhalt mit beschränkter Haftung	Magdeburg	12.7		EUR	24,033	729
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	11.8		EUR	47,602	908
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	13.4		EUR	25,914	970
Motion Picture Production GmbH & Co. Erste KG	Grünwald	>0		EUR	(27,970)	1,458
Mühoga Münchner Hochgaragen Gesellschaft						
mit beschränkter Haftung[8]	Munich	25.0	25.0	EUR	4,342	2,150
PICIC Insurance Ltd.	Karachi	>0				
PRINCIPIA FUND (share of voting rights: 0.0%)	Milan	10.0				
ProAreal GmbH i. I.	Wiesbaden	10.0		EUR	(93,513)	(26)
REF IV Associates (Caymans) L.P. Acqua CIV S.C.S.						
(share of voting rights: 0.0%)	Luxembourg	38.3				
Rocket Internet Capital Partners (Euro) SCS						
(share of voting rights: 0.0%)	Luxembourg	4.4		EUR	255,330	70,530
Saarländische Kapitalbeteiligungsgesellschaft						
mit beschränkter Haftung (share of voting rights: 8.8%)	Saarbrücken	8.7		EUR	7,593	191
Social Venture Fund GmbH & Co. KG						
(share of voting rights: 0.0%)	Munich	9.6		EUR	2,524	(903)
Social Venture Fund II GmbH & Co. KG						
(share of voting rights: 0.0%)	Munich	4.5		EUR	13,102	(1,108)
Stahl Group S.A.	Luxembourg	0.4	0.4	EUR	651,494	914,893
SwanCap FLP II SCSp (share of voting rights: 37.5%)[10]	Senningerberg	—		EUR	831	18,308
SwanCap FLP SCS (share of voting rights: 37.5%)[10]	Senningerberg	—		EUR	474	229
SwanCap TB II SCSp (share of voting rights: 0.0%)[11]	Senningerberg	>0		EUR	416	192
S.W.I.F.T., (Co-operative 'Society for Worldwide						
Interbank Financial Telecommunication')	La Hulpe	0.3		EUR	407,529	33,513
True Sale International GmbH	Frankfurt am Main	7.7		EUR	4,616	(163)
UniCredit Services Società Consortile per Azioni	Milan	>0		EUR	366,695	17,272
VISA Inc. (share of voting rights: 0.0%)	Wilmington	>0		USD	34,684,000	12,080,000
WealthCap Aircraft 1 GmbH & Co. KG	Munich	>0	>0	EUR	16,729	(5,612)
WealthCap Aircraft 25 GmbH & Co. KG	Grünwald	>0	>0	EUR	32,295	342
WealthCap Aircraft 26 GmbH & Co. KG	Grünwald	>0	>0	USD	43,850	(150)
Wealthcap Büro Spezial-AIF 6 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0			
WealthCap Fondsportfolio Private Equity 21 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	6,174	(3,103)
WealthCap Fondsportfolio Private Equity 22 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	859	(470)
WealthCap Immobilien Deutschland 38 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	117,848	20,714
WealthCap Immobilien Deutschland 39 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	155,271	21,638
WealthCap Immobilien Deutschland 40 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	80,933	7,386
WealthCap Immobilien Deutschland 41 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	40,073	5,752
Wealthcap Immobilien Deutschland 42 GmbH & Co.						
geschlossene Investment KG	Munich	0.9	0.9			
Wealthcap Immobilien Deutschland 43 GmbH & Co.						
geschlossene Investment KG	Munich	0.2	0.2			

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Wealthcap Immobilien Deutschland 44 GmbH & Co.						
geschlossene Investment KG	Munich	4.8	4.8			
WealthCap Immobilienfonds Deutschland 30 GmbH & Co. KG	Munich	>0	>0	EUR	46,680	4,773
WealthCap Immobilienfonds Deutschland 31 GmbH & Co. KG	Munich	>0	>0	EUR	37,435	2,284
WealthCap Immobilienfonds Deutschland 32 GmbH & Co. KG	Munich	>0	>0	EUR	51,219	3,024
WealthCap Immobilienfonds Deutschland 33 GmbH & Co. KG	Munich	>0	>0	EUR	58,597	2,614
WealthCap Immobilienfonds Deutschland 34 GmbH & Co. KG	Munich	>0	>0	EUR	40,809	2,619
WealthCap Immobilienfonds Deutschland 35 GmbH & Co. KG	Munich	>0	>0	EUR	125,892	5,456
WealthCap Immobilienfonds Deutschland 37 GmbH & Co. KG	Munich	>0	>0	EUR	62,921	2,429
WealthCap Immobilienfonds Donauwörth 1 GmbH & Co. KG	Munich	>0	>0	EUR	18,846	1,594
WealthCap Immobilienfonds Donauwörth 2 GmbH & Co. KG	Munich	>0	>0	EUR	4,664	591
WealthCap Immobilien Nordamerika 16 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	USD	49,886	6,950
WealthCap Immobilien Nordamerika 17 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	49,715	(3,348)
WealthCap Infrastructure Fund I GmbH & Co. KG	Munich	>0	>0	EUR	1,879	(218)
WealthCap Infrastruktur Amerika GmbH & Co. KG						
(share of voting rights: 0.1%)	Grünwald	>0	>0	USD	1,361	(227)
WealthCap Leasing 1 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	30,005	1,641
WealthCap Leasing 2 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	29,298	1,437
WealthCap Leasing 3 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	28,687	1,516
WealthCap Leasing 4 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	27,482	1,312
WealthCap LebensWert 1 GmbH & Co. KG	Grünwald	>0	>0	EUR	(1,139)	545
WealthCap LebensWert 2. GmbH & Co. KG	Grünwald	>0	>0	USD	3,520	1,820
WealthCap Life Britannia 2. GmbH & Co KG	Munich	>0	>0	EUR	1,641	743
WealthCap Life USA 4. GmbH & Co. KG	Grünwald	>0	>0	USD	60,903	1,924
WealthCap Los Gatos 121 Albright Way L.P.	Wilmington	>0	>0	USD	64,590	1,261
WealthCap Mountain View I L.P. (share of voting rights: 0.1%)	Atlanta	—	—	EUR	48,845	7,347
WealthCap Objekt Berg-am-Laim GmbH & Co. KG	Munich	5.2	5.2	EUR	121,259	6,018
Wealthcap Objekt Berg-am-Laim II GmbH & Co. KG	Munich	10.1	10.1	EUR	84,576	910
Wealthcap Objekt Berlin I GmbH & Co. KG	Munich	10.1	10.1			
WealthCap Objekt Berlin II GmbH & Co. KG	Munich	14.6	14.6	EUR	(540)	(774)
WealthCap Objekt Bogenhausen GmbH & Co. KG	Munich	>0	>0	EUR	132,593	2,566
Wealthcap Objekte Grasbrunn und Ismaning GmbH & Co. KG	Munich	10.1	10.1			
WealthCap Objekt Essen GmbH & Co. KG	Munich	5.2	5.2	EUR	(305)	1,548
WealthCap Objekte Südwest GmbH & Co. KG	Munich	5.1	5.1	EUR	64,877	2,832
WealthCap Objekt Frankfurt GmbH & Co. KG	Munich	5.2	5.2	EUR	46,984	1,036
Wealthcap Objekt Fürstenfeldbruck GmbH & Co. KG	Munich	10.1	10.1			
WealthCap Objekt Hackerbrücke GmbH & Co. KG	Munich	5.2	5.2	EUR	33,358	1,683
WealthCap Objekt Hamburg GmbH & Co. KG	Munich	10.1	10.1	EUR	21,172	97
WealthCap Objekt Hannover Ia GmbH & Co. KG	Munich	5.2	5.2	EUR	16,100	959
WealthCap Objekt Hannover Ib GmbH & Co. KG	Munich	5.2	5.2	EUR	3,781	513
WealthCap Objekt Hannover II GmbH & Co. KG	Munich	5.2	5.2	EUR	17,022	451
WealthCap Objekt Hufelandstraße GmbH & Co. KG	Munich	5.2	5.2	EUR	11,748	582
Wealthcap Objekt Nürnberg GmbH & Co. KG	Munich	10.1	10.1			
Wealthcap Objekt Ottobrunn GmbH & Co. KG	Munich	10.1	10.1			
WealthCap Objekt Riem GmbH & Co. KG	Munich	5.2	5.2	EUR	30,298	1,519
WealthCap Objekt Riem II GmbH & Co. KG	Munich	5.2	5.2	EUR	44,970	1,103
WealthCap Objekt Schwabing GmbH & Co. KG	Munich	5.2	5.2	EUR	30,572	981
WealthCap Objekt Sendling GmbH & Co. KG	Munich	5.2	5.2	EUR	59,044	2,405
WealthCap Objekt Stuttgart Ia GmbH & Co. KG	Munich	>0	>0	EUR	18,051	(167)
WealthCap Objekt Stuttgart Ib GmbH & Co. KG	Munich	>0	>0	EUR	19,733	1,194
WealthCap Objekt Stuttgart II GmbH & Co. KG	Munich	5.2	5.2	EUR	24,939	962
Wealthcap Objekt Stuttgart III GmbH & Co. KG	Munich	10.1	10.1			

List of Holdings (Continued)

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WealthCap Objekt Theresienhöhe GmbH & Co. KG	Munich	5.2	5.2	EUR	64,248	2,714
WealthCap Photovoltaik 1 GmbH & Co. KG	Grünwald	>0	>0	EUR	28,633	2,984
WealthCap Portfolio 3 GmbH & Co. geschlossene Investment KG	Grünwald	>0	>0	EUR	31,114	7,270
Wealthcap Portfolio 4 GmbH & Co. geschlossene Investment KG	Grünwald	>0	>0			
Wealthcap Portfolio 5 GmbH & Co. geschlossene Investment KG	Grünwald	0.3	0.3			
Wealthcap Portfolio 4/5 GmbH & Co. KG	Grünwald	0.1	0.1			
WealthCap Private Equity 10 GmbH & Co. KG	Munich	>0	>0	EUR	4,451	353
WealthCap Private Equity 11 GmbH & Co. KG	Munich	>0	>0	EUR	1,643	325
WealthCap Private Equity 12 GmbH & Co. KG	Grünwald	>0	>0	EUR	56,802	2,854
WealthCap Private Equity 13 GmbH & Co. KG	Grünwald	>0	>0	EUR	45,549	1,785
WealthCap Private Equity 14 GmbH & Co. KG	Grünwald	>0	>0	EUR	26,438	1,198
WealthCap Private Equity 15 GmbH & Co. KG	Grünwald	>0	>0	EUR	10,844	1,161
WealthCap Private Equity 16 GmbH & Co. KG						
(share of voting rights: 0.3%)	Grünwald	>0	>0	EUR	2,353	273
WealthCap Private Equity 17 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	13,316	795
WealthCap Private Equity 18 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	9,513	580
WealthCap Private Equity 19 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	31,856	(310)
WealthCap Private Equity 20 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	9,155	(98)
WealthCap SachWerte Portfolio 1 GmbH & Co. KG	Grünwald	>0	>0	EUR	26,767	1,499
WealthCap SachWerte Portfolio 2 GmbH & Co.						
geschlossene Investment KG	Grünwald	>0	>0	EUR	92,608	3,933
WealthCap Spezial-AIF 1 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	169,805	23,317
WealthCap Spezial-AIF 2 GmbH & Co.						
geschlossene Investment KG	Munich	5.2	5.2	EUR	79,250	5,739
WealthCap Spezial-AIF 3 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	257,916	29,752
WealthCap Spezial-AIF 4 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0	EUR	151,895	(76)
WealthCap Spezial-AIF 5 GmbH & Co.						
geschlossene Investment KG	Munich	10.1	10.1	EUR	165,733	1,382
Wealthcap Spezial Portfolio Immobilien 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0			
Wealthcap Spezial Portfolio Private Equity 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0	EUR	4,330	(170)
WealthCap US Life Dritte GmbH & Co. KG	Grünwald	0.1	0.1	USD	3,940	(6,861)
WealthCap Zweitmarkt 3 BASIS GmbH & Co. KG	Grünwald	>0	>0	EUR	30,813	(130)
WealthCap Zweitmarkt 3 PLUS GmbH & Co. KG	Grünwald	>0	>0	EUR	14,550	5,241
WealthCap ZweitmarktWerte Immobilien 4 GmbH & Co. KG	Munich	>0	>0	EUR	8,458	(39)
WH – Erste Grundstücks GmbH & Co. KG	Munich	6.0		EUR	102,433	627
Wohnungsbaugesellschaft der Stadt						
Röthenbach a.d.Pegnitz mit beschränkter Haftung	Röthenbach a.d. Pegnitz	5.2		EUR	3,698	340

Exchange rates for 1 euro at the reporting date

Currency abbreviation according to the International Organisation for Standardisation (ISO) code.

Brazil	1 EUR =	4.5157	BRL
China	1 EUR =	7.8205	CNY
UK	1 EUR =	0.8508	GBP
Pakistan	1 EUR =	173.67123	PKR
USA	1 EUR =	1.1234	USD

Notes and comments to the list of holdings

Percentages marked < or > are rounded up or down to one decimal place, e.g. < 100.0% = 99.99% or > 0.0% = 0.01%.

1 UniCredit Bank AG has concluded profit and loss agreements with the following companies:

	COMPANY	PROFIT/(LOSS) TRANSFERRED € thousands
1.1	Food & more GmbH, Munich	—
1.2	HJS 12 Beteiligungsgesellschaft mbH, Munich	39,183
1.3	HVB Immobilien AG, Munich	458,606
	of which relating to 2019	417,688
1.4	HVB Secur GmbH, Munich	52
1.5	HVB Verwa 4 GmbH, Munich	(91)
1.6	MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung, Munich	6,699
1.7	UniCredit Beteiligungs GmbH, Munich	(15)
1.8	UniCredit Direct Services GmbH, Munich	(10,972)
1.9	UniCredit Leasing GmbH, Hamburg	(9,543)
1.10	Verwaltungsgesellschaft Katharinenhof mbH, Munich	78
1.11	Wealth Management Capital Holding GmbH, Munich	17,438

2 Profit and loss transfer to shareholders and partners.

3 The exemption under Section 264b HGB and under Section 264 (3) HGB applies to the company.

4 Figures from the 2018 annual accounts are indicated for this consolidated company.

5 Where equity capital and net profit are not stated, the information is omitted due to minor importance compliant with Section 286 (3) 1 No. 1 HGB.

6.1 Equity capital amounts to €15,053 thousand and the net profit €4,245 thousand.

6.2 Equity capital amounts to €127 thousand and the net profit €–.

7 Pursuant to Section 340a (4) No. 2 HGB, all holdings in large corporations with a share of voting rights greater than 5 percent.

8 Despite a holding of more than 20%, UniCredit Bank AG has no significant influence over the company on account of the ownership structure and the voting patterns to date.

9 The company is held by a trustee on behalf of UniCredit Bank AG.

10 UniCredit Bank AG holds the position of a limited partner under company law and participates in the profit of the company.

11 UniCredit Bank AG holds the position of a limited partner under company law but does not participate in the profit of the company.

Mortgage Banking

64 Coverage

The statement of coverage for Mortgage Pfandbriefe and Public Pfandbriefe is as follows:

(€ millions)

	2019	2018
A. Mortgage Pfandbriefe		
Standard coverage		
1. Loans and receivables with banks	—	—
Mortgage loans	—	—
2. Loans and receivables with customers	27,847	26,514
Mortgage loans	27,847	26,514
Other eligible cover[1]		
1. Other lending to banks	—	—
2. Bonds and other fixed-income securities	713	533
3. Equalisation claims on government authorities	—	—
Subtotal	**28,560**	**27,047**
Total Mortgage Pfandbriefe requiring cover	22,182	19,005
Excess coverage	**6,378**	**8,042**
B. Public Pfandbriefe		
Standard coverage		
1. Loans and receivables with banks	9	12
Mortgage loans	—	—
Municipal loans	9	12
2. Loans and receivables with customers	5,193	5,017
Mortgage loans	1	2
Municipal loans	5,192	5,015
3. Bonds and other fixed-income securities	415	269
Other eligible cover[2]		
Other lending to banks	—	—
Subtotal	**5,617**	**5,298**
Total Public Pfandbriefe requiring cover	3,758	3,713
Excess coverage	**1,859**	**1,585**

1 Compliant with Section 19 (1) of the German Pfandbrief Act.
2 Compliant with Section 20 (2) of the German Pfandbrief Act.

65 Pfandbriefe outstanding and cover assets committed

The following table shows Pfandbriefe outstanding and cover assets, broken down by Mortgage Pfandbriefe and Public Pfandbriefe: (€ millions)

	2019			2018		
	NOMINAL	PRESENT VALUE	RISK PRESENT VALUE[1]	NOMINAL	PRESENT VALUE	RISK PRESENT VALUE[1]
1. Mortgage Pfandbriefe						
Mortgage Pfandbriefe	22,182	23,653	22,508	19,005	20,076	19,362
of which: derivatives	—	—	—	—	—	—
Cover assets[2]	28,560	31,291	29,731	27,047	29,164	27,804
of which: derivatives	—	—	—	—	—	—
Excess coverage	**6,378**	**7,638**	**7,223**	**8,042**	**9,088**	**8,442**
2. Public Pfandbriefe						
Public Pfandbriefe	3,758	4,150	4,053	3,713	4,113	3,932
of which: derivatives	—	—	—	—	—	—
Cover assets[3]	5,617	6,376	6,119	5,298	5,959	5,675
of which: derivatives	—	—	—	—	—	—
Excess coverage	**1,859**	**2,226**	**2,066**	**1,585**	**1,846**	**1,743**

1 Dynamic procedure compliant with Section 5 (1) No.2 of the German Pfandbrief Net Present Value Regulation.
2 Including further cover assets compliant with Section 19 (1) of the German Pfandbrief Act with a nominal amount of €713 million as at 31 December 2019 and €533 million as at 31 December 2018.
3 Including no further cover assets compliant with Section 20 (2) of the German Pfandbrief Act as at 31 December 2019 and as at 31 December 2018.

66 Maturity structure of Pfandbriefe outstanding and fixed-interest periods of respective cover assets

The following table shows the maturity structure for outstanding Pfandbriefe and fixed-interest periods of cover assets for Mortgage Pfandbriefe and Public Pfandbriefe: (€ millions)

	2019		2018	
	PFANDBRIEFE	COVER ASSETS	PFANDBRIEFE	COVER ASSETS
1. Mortgage Pfandbriefe[1]	**22,182**	**28,560**	**19,005**	**27,047**
up to 0.5 years	790	1,873	484	1,923
at least 0.5 years but less than 1 year	2,108	1,400	2,033	1,354
at least 1 year but less than 1.5 years	1,521	1,389	1,282	1,200
at least 1.5 years but less than 2 years	965	1,254	2,108	1,415
at least 2 years but less than 3 years	1,992	2,419	2,326	2,469
at least 3 years but less than 4 years	2,033	2,598	1,982	2,396
at least 4 years but less than 5 years	2,421	2,495	2,042	2,334
at least 5 years but less than 10 years	6,841	9,853	4,922	9,758
10 years or more	3,511	5,279	1,826	4,198
2. Public Pfandbriefe[2]	**3,758**	**5,617**	**3,713**	**5,298**
up to 0.5 years	134	475	297	267
at least 0.5 years but less than 1 year	637	597	133	525
at least 1 year but less than 1.5 years	305	356	130	388
at least 1.5 years but less than 2 years	384	294	636	561
at least 2 years but less than 3 years	865	686	689	528
at least 3 years but less than 4 years	539	461	419	449
at least 4 years but less than 5 years	127	405	289	384
at least 5 years but less than 10 years	360	1,317	483	1,233
10 years or more	407	1,026	637	963

1 Including further cover assets in accordance with Section 19 (1) of the German Pfandbrief Act; broken down by fixed-interest period and maturity of Pfandbriefe respectively.
2 Including further cover assets in accordance with Section 20 (2) of the German Pfandbrief Act; broken down by fixed-interest period and maturity of Pfandbriefe respectively.

Mortgage Banking (Continued)

67 Volume of claims used as cover for Pfandbriefe, broken down by size class

The following table shows the volume of claims used as cover for Pfandbriefe:

(€ millions)

	2019	2018
Mortgage cover assets	**27,847**	**26,514**
up to and including €300,000	10,337	10,346
over €300,000 up to and including €1 million	4,467	4,241
over €1 million up to and including €10 million	6,415	6,272
more than €10 million	6,628	5,655
Public Pfandbriefe[1]	**5,617**	**5,298**
up to and including €10 million	1,276	1,353
over €10 million up to and including €100 million	1,472	1,550
more than €100 million	2,869	2,395

1 Volume of claims used as cover for Public Pfandbriefe according to size classes, in each case with respect to a debtor or a guaranteeing entity.

68 Volume of claims used as cover for Mortgage Pfandbriefe, broken down by state in which the real property collateral is located and property type

The following table shows the volume of claims used as cover for Mortgage Pfandbriefe, broken down by state in which the real property collateral is located and property type:

(€ millions)

	2019		2018	
	RESIDENTIAL PROPERTY	COMMERCIAL PROPERTY	RESIDENTIAL PROPERTY	COMMERCIAL PROPERTY
1. Germany	**19,091**	**8,756**	**18,249**	**8,264**
Condominiums	4,417	—	4,346	—
Single-family and two-family houses	7,543	—	7,165	—
Multiple-family houses	6,951	—	6,598	—
Office buildings	—	4,618	—	4,400
Retail buildings	—	2,571	—	2,494
Industrial buildings	—	329	—	368
Other commercially used buildings	—	829	—	801
New buildings under construction, not yet profitable	80	268	82	142
Building land	100	141	58	59
2. France	**—**	**—**	**1**	**—**
Single-family and two-family houses	—	—	1	—
3. Italy	**—**	**—**	**—**	**—**
Single-family and two-family houses	—	—	—	—
Total	**19,091**	**8,756**	**18,250**	**8,264**

69 Volume of claims used as cover for Public Pfandbriefe, broken down by type of debtor or guaranteeing entity and its home country

The following table shows the volume of claims used as cover for Public Pfandbriefe broken down by type of borrower or guaranteeing entity and head office (state) as well as by whether or not the guarantee was granted for reasons of promoting exports:

(€ millions)

	2019	2018
Germany		
Central government	954	673
of which owed	—	—
of which guaranteed	954	673
Regional authorities	1,432	1,757
of which owed	1,010	1,292
of which guaranteed	422	465
Local authorities	2,594	2,603
of which owed	2,219	2,134
of which guaranteed	375	469
Other	21	25
of which owed	21	25
of which guaranteed	—	—
Total Germany	**5,001**	**5,058**
of which owed	3,250	3,451
of which guaranteed	1,751	1,607
Guarantees for reasons of promoting exports	954	673
Denmark	**18**	**20**
Central government	18	20
of which owed	—	—
of which guaranteed	18	20
Guarantees for reasons of promoting exports	18	20
France	**262**	**—**
Central government	262	—
of which owed	—	—
of which guaranteed	262	—
Guarantees for reasons of promoting exports	262	—
UK / Northern Ireland	**116**	**—**
Central government	116	—
of which owed	—	—
of which guaranteed	116	—
Guarantees for reasons of promoting exports	116	—
Austria	**220**	**220**
Central government	220	220
of which owed	200	200
of which guaranteed	20	20
Guarantees for reasons of promoting exports	—	—
Total	**5,617**	**5,298**
of which owed	3,450	3,651
of which guaranteed	2,167	1,647
Guarantees for reasons of promoting exports	1,350	693

Mortgage Banking (Continued)

70 Other eligible cover

The following table shows the breakdown of other eligible cover for Mortgage Pfandbriefe and Public Pfandbriefe:

(€ millions)

	2019	2018
1. Mortgage Pfandbriefe	**713**	**533**
Equalisation claims according to Section 19 (1) No. 1 PfandBG	—	—
All states	—	—
Money claims according to Section 19 (1) No. 2 PfandBG[1]	—	—
Germany	—	—
of which: covered bonds according to Article 129 of Regulation (EU) No. 575/2013	—	—
Other states	—	—
Bonds according to Section 19 (1) No. 3 PfandBG[2]	713	533
Germany	713	533
Other states	—	—
2. Public Pfandbriefe	**—**	**—**
Equalisation claims according to Section 20 (2) No. 1 PfandBG	—	—
All states	—	—
Money claims according to Section 20 (2) No. 2 PfandBG	—	—
All states	—	—
of which: covered bonds according to Article 129 of Regulation (EU) No. 575/2013	—	—

1 Without cover assets according to Section 4 (1) sentence 2 No. 1 and 2 German Pfandbrief Act.
2 Including cover assets according to Section 19 (1) No. 2 German Pfandbrief Act in conjunction with Section 4 (1) sentence 2 No. 1 and 2 German Pfandbrief Act.

71 Key figures for Pfandbriefe outstanding and associated cover assets

The following table shows the breakdown of key figures for Mortgage Pfandbriefe and Public Pfandbriefe outstanding:

		2019	2018
1. Mortgage Pfandbriefe			
Mortgage Pfandbriefe outstanding	€ millions	22,182	19,005
of which: share of fixed-interest Pfandbriefe			
(Section 28 (1) No. 9 PfandBG)	%	90.71	81.94
Eligible cover[1]	€ millions	28,560	27,047
of which: total amount of loans and receivables exceeding the thresholds			
according to Section 13 (1) PfandBG			
(Section 28 (1) No. 7 PfandBG)	€ millions	—	—
of which: total amount of loans and receivables exceeding the thresholds			
stated in Section 19 (1) No. 2 PfandBG			
(Section 28 (1) No. 8 PfandBG)	€ millions	—	—
of which: total amount of loans and receivables exceeding the thresholds			
stated in Section 19 (1) No. 3 PfandBG			
(Section 28 (1) No.8 PfandBG)	€ millions	—	—
of which: share of fixed-interest cover			
(Section 28 (1) No. 9 PfandBG)	%	79.76	80.06
Net present value according to Section 6 Pfandbrief			
Net Present Value Regulation for each foreign currency, in euros			
(Section 28 (1) No. 10 PfandBG – balance of asset/liability sides)	€ millions	—	—
Volume-weighted average age of the loans and receivables			
(period passed since loan granting – seasoning)			
(Section 28 (1) No. 11 PfandBG)	years	7.1	7.3
Average weighted loan-to-value ratio			
(Section 28 (2) No. 3 PfandBG)	%	41.74	41.68
2. Public Pfandbriefe			
Public Pfandbriefe outstanding	€ millions	3,758	3,713
of which: share of fixed-income Pfandbriefe			
(Section 28 (1) No. 9 PfandBG)	%	92.68	89.23
Eligible cover[2]	€ millions	5,617	5,298
of which: total amount of loans and receivables exceeding the thresholds			
stated in Section 20 (2) No. 2 PfandBG			
(Section 28 (1) No. 8 PfandBG)	€ millions	—	—
of which: share of fixed-income cover			
(Section 28 (1) No. 9 PfandBG)	%	66.21	76.14
Net present value according to Section 6 Pfandbrief			
Net Present Value Regulation for each foreign currency in € millions			
(Section 28 (1) No. 10 PfandBG – balance of asset/liability sides)	USD	(37)	7

1 Including further cover assets according to Section 19 (1) German Pfandbrief Act.
2 Including further cover assets according to Section 20 (2) German Pfandbrief Act.

Mortgage Banking (Continued)

72 Payments in arrears

Total amount of payments in arrears for at least 90 days in respect of the claims used as cover for Pfandbriefe and breakdown by states in which the real property collateral is located:

(€ millions)

	2019	2018
1. Mortgage Pfandbriefe		
Payments in arrears of at least 90 days	—	(1)
Germany	—	(1)
Payments in arrears of at least 90 days, arrears equal at least 5% of the loan	—	(1)
Germany	—	(1)
2. Public Pfandbriefe		
Payments in arrears of at least 90 days	—	—
All states	—	—
Payments in arrears of at least 90 days, arrears equal at least 5% of the loan	—	—
All states	—	—

73 Foreclosures and sequestrations

The following table shows the breakdown of foreclosures for mortgage cover assets carried out in 2018:

		OF WHICH IN 2019	
	NUMBER OF PROCEEDINGS	COMMERCIAL PROPERTY	RESIDENTIAL PROPERTY
1. Foreclosures and sequestrations			
a) Pending at 31 December 2019			
Foreclosure proceedings	289	46	243
Sequestration proceedings	13	3	10
Foreclosure and sequestration proceedings	222	44	178
	524	**93**	**431**
(comparative figures from 2018	541	95	446)
b) Foreclosures finalised in 2019	**12**	**—**	**12**
(comparative figures from 2018	21	3	18)
2. Properties repossessed			
As in the previous year the Pfandbrief bank did not have to repossess any properties during the reporting year to prevent losses on mortgage loans.			

74 Interest in arrears

Interest in arrears on mortgage cover assets due between 1 October 2018 and 30 September 2019 breaks down as follows:

(€ millions)

	2019	2018
Interest in arrears	—	—
Commercial property	—	—
Residential property	—	—

The present annual financial statements were prepared on 12 March 2020.

UniCredit Bank AG
The Management Board

Betocchi Drwenski | Beumer | Dr Buttà | Čortan

Dr Diederich | Kupfer | Zadra

Declaration by the Management

To the best of our knowledge, and in accordance with the applicable reporting principles, the annual financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of HVB, and the Management Report includes a fair review of the development and performance of the business and the position of HVB, together with a description of the principal opportunities and risks associated with the expected development of HVB.

Munich, 12 March 2020

UniCredit Bank AG
The Management Board

Betocchi Drwenski Beumer Dr Buttà Čortan

Dr Diederich Kupfer Zadra

Auditor's Report

INDEPENDENT AUDITOR'S REPORT

To UniCredit Bank AG, Munich

REPORT ON THE AUDIT OF THE ANNUAL FINANCIAL STATEMENTS AND OF THE MANAGEMENT REPORT

Audit Opinions

We have audited the annual financial statements of UniCredit Bank AG, Munich, which comprise the balance sheet as at 31 December 2019, the income statement for the financial year from 1 January to 31 December 2019 and the notes to the financial statements, including the presentation of the accounting and measurement methods. In addition, we have audited the management report of UniCredit Bank AG, Munich, for the financial year from 1 January to 31 December 2019. In accordance with the German legal requirements, we have not audited the content of the statement on business management pursuant to § 289f (4) German Commercial Code (HGB) (gender quota disclosures) included in section "Corporate structure of UniCredit Bank AG" of the management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying annual financial statements comply, in all material respects, with the requirements of German commercial law and give a true and fair view of the assets, liabilities and financial position of the Company as at 31 December 2019 and of its financial performance for the financial year from 1 January to 31 December 2019 in compliance with German Legally Required Accounting Principles, and
- the accompanying management report as a whole provides an appropriate view of the Company's position. In all material respects, this management report is consistent with the annual financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the management report does not cover the content of the above-mentioned statement on business management pursuant to § 289f (4) German Commercial Code (HGB) (gender quota disclosures).

Pursuant to § 322 (3) sentence 1 German Commercial Code (HGB), we declare that our audit has not led to any reservations relating to the legal compliance of the annual financial statements and of the management report.

Basis for the Audit Opinions

We conducted our audit of the annual financial statements and of the management report in accordance with § 317 German Commercial Code (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 Annual Financial Statements and of the Management Report" section of our auditor's report. We are independent of the Company 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 Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 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 audit opinions on the annual financial statements and on the management report.

Key Audit Matters in the Audit of the Annual Financial Statements
Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the annual financial statements for the financial year from 1 January to 31 December 2019. These matters were addressed in the context of our audit of the annual financial statements as a whole and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In the following we present the key audit matters we have determined in the course of our audit:

1. Loan loss provisions in the credit business

2. Determination of the fair value of financial instruments held for trading

3. IT controls related to financial reporting

Our presentation of these key audit matters has been structured as follows:

a) Description (including reference to corresponding information in the annual financial statements)

b) Auditor’s response

c) Key observations

1. Loan loss provisions in the credit business

a) UniCredit Bank AG provides loans to customers. In the bank’s annual financial statements, loan loss provisions are offset against the balance sheet item “Loans and receivables with customers”. Furthermore, provisions for credit risks are disclosed under other provisions. The valuation parameters used for the measurement of the loan loss provisions have a significant impact on the recognition respectively the amount of the required provisions for credit risk. In this respect, the determination of the provisions are subject to uncertainty and margin of discretion and therefore this issue was identified as a key audit matter. The disclosures regarding the loan loss provisions are enclosed in section 5 of the notes.

b) As part of the audit of the annual financial statements, we have initially audited the adequacy and operating effectiveness of the internal controls regarding the recording, processing and valuation of loans as well as the related financial reporting. In doing so, we also took into account the relevant business organization, including the significant IT systems and valuation models. The audit of the valuation included the assessment of the implemented processes and controls for identifying impaired loans. We have used specialists from our Risk Advisory division specialized in credit risk management and IT audit for our audit. For the audit of the valuation of loans and contingent liabilities, as well as other financial commitments related to the credit business, our focus was on the significantly impaired loans, since there are areas of judgement and these have a material impact on the valuation of loans and the recognition of loan loss provisions. We have evaluated the valuation on a sample of loans based on bank-internal forecasts of the future income and liquidity position of borrowers and assessed the appropriateness of the information basis used for planning purposes. In doing so, we have critically challenged and assessed the underlying assumptions of the legal representatives, with regard to the various expected cash flows of the audited loans, respectively the recovery of collaterals. Similarly, we assessed for the loans in our sample the probabilities of occurrence of the used scenarios with regard to their comprehensibility.

c) We challenged significant assumptions and estimates made by the legal representatives. Overall, the risk provisions are within acceptable ranges.

2. Determination of the fair value of financial instruments held for trading

a) Financial instruments assets, which are valued at fair value, are disclosed net of a risk discount under the balance sheet item "Held-for-trading portfolio" in accordance with § 340e (3) German Commercial Code (HGB) in the annual financial statements. Similarly, financial instruments liabilities at fair value are disclosed under the balance sheet item "Held-for-trading portfolio" in the annual financial statements. The valuation of financial instruments held for trading was identified as a key audit matter as it is subject to complex accounting principles, valuation procedures and -methods and is partially based on estimates and assumptions made by the legal representatives. The disclosures made by the legal representatives regarding the valuation of financial instruments are enclosed in section 7 and 32 of the notes.

b) We have audited the organizational structure and related processes with regards to the determination of the fair value of trading financial instruments by examination of the adequacy and operating effectiveness of the implemented key controls. In particular, our audit included the independent verification process for pricing, the validation of valuation methods and assumptions, the approval process for new financial instruments, the audit of controls for recording contractual and valuation inputs, the flow of market data, the governance and the reporting processes. The calculated fair values are adjusted for the Bank's creditworthiness, counterparty credit risk, model risk, bid-ask spread, refinancing costs and expected costs in connection with the liquidation of less actively traded instruments. With respect to these adjustments, we examined whether the Bank's assumptions, procedures and models are in line with standard industry practice and we audited whether the valuations are correct and comprehensible. In addition, we have conducted our own independent valuation on a sample of financial instruments and compared our results with the valuation performed by the Bank. We have used valuation specialists from our Risk Advisory division for our audit. Noteworthy issues from disputes with counterparties and extraordinary gains or losses from the sale of financial instruments were investigated.

c) The valuation methods selected by the legal representatives of the Bank for the determination of the fair value of financial instruments are in line with industry standards.

3. IT controls related to financial reporting

a) For the preparation of the annual financial statements, the Bank uses a large number of IT applications that have numerous interfaces. In order to maintain the integrity of the data used for the preparation of the annual financial statements, the Bank has taken various precautionary measurements and implemented controls. The Bank has outsourced its IT services, to a large extent, to UniCredit Services S.C.p.A., Milan (Italy), which has further outsourced a part of these services to other service providers. The IT controls related to financial reporting has been selected as a key audit matter, as the security of information affects many aspects of the accounting and financial reporting process, results in a large audit effort and is characterised by a high level of complexity. We refer to the disclosure of the legal representatives in section 4 Operational Risk in the risk report of the management report with regards to the outsourcing of IT services.

b) Based on our risk assessment, we have audited the design, implementation and operating effectiveness of the controls related to user rights and change management processes for the significant accounting-relevant IT applications by using IT specialists from our Risk Advisory division. In doing so, we agreed the scope of the ISAE 3402 audit with the ISAE 3402 auditor at UniCredit Services S.C.p.A. and the group auditors of UniCredit S.p.A. and used the audit results of those. We have informed ourselves of the professional competence, independence and regulatory governance of these auditors. When using these reports, we have inter alia critically assessed the reporting related to these audit procedures and audit results.

c) IT controls related to financial reporting implemented by the Bank were enhanced over the past years.

Other Information
The executive directors are responsible for the other information. The other information comprises:
– the statement on business management included in section “Corporate structure of UniCredit Bank AG” of the management report pursuant to § 289f (4) German Commercial Code (HGB) (gender quota disclosures),
– the executive directors’ confirmation regarding the annual financial statements and to the management report pursuant to § 264 (2) sentence 3 and § 289 (1) sentence 5 German Commercial Code (HGB) respectively, and
– all the remaining parts of the annual report, with the exception of the audited annual financial statements and management report and our auditor’s report.

Our audit opinions on the annual financial statements and on the management report do not cover the other information, and consequently we do not express an audit 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 annual financial statements, with the management report or our knowledge obtained in the audit, or
– otherwise appears to be materially misstated.

Responsibilities of the Executive Directors and the Supervisory Board for the Annual Financial Statements and the Management Report
The executive directors are responsible for the preparation of the annual financial statements, that comply, in all material respects, with the requirements of German commercial law, and that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles. In addition, the executive directors are responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of annual financial statements that are free from material misstatement, whether intentional or unintentional.

In preparing the annual financial statements, the executive directors are responsible for assessing the Company’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, provided no actual or legal circumstances conflict therewith.

Furthermore, the executive directors are responsible for the preparation of the management report that, as a whole provides an appropriate view of the Company’s position and is, in all material respects, consistent with the annual 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 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 management report.

The supervisory board is responsible for overseeing the Company’s financial reporting process for the preparation of the annual financial statements and of the management report.

Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report
Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the management report as a whole provides an appropriate view of the Company's position and, in all material respects, is consistent with the annual 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 audit opinions on the annual financial statements and on the management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 German Commercial Code (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 annual financial statements and this management report.

We exercise professional judgment and maintain professional scepticism throughout the audit. We also
– identify and assess the risks of material misstatement of the annual financial statements and of the 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 audit 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 controls.
– obtain an understanding of internal control relevant to the audit of the annual financial statements and of arrangements and measures relevant to the audit of the management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems of the Company.
– 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 Company'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 annual financial statements and in the management report, or, if such disclosures are inadequate, to modify our respective audit 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 Company to cease to be able to continue as a going concern.
– evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures and whether the annual financial statements present the underlying transactions and events in a manner that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles.
– evaluate the consistency of the management report with the annual financial statements, its conformity with German law, and the view of the Company's position it provides.
– perform audit procedures on the prospective information presented by the executive directors in the 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 audit 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.

Auditor’s Report (Continued)

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 annual 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 Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on June 3, 2019. We were engaged by the supervisory board on July 15, 2019. We have been the auditor of UniCredit Bank AG, Munich, without interruption since the financial year 2013.

We declare that the audit opinions expressed in this auditor’s report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

In addition to the financial statement audit, we have provided to the Company, respectively to entities controlled by the company, the following services that are not disclosed in the annual financial statements or in the management report:
– Audits and reviews of reporting packages
– Audits pursuant to § 89 of the Securities Trading Act
– Audit of the internal control system of a service organization
– Performing agreed upon procedures
– Audits of financial information or their components
– Review of an assignment of findings to process areas
– Review of archived documents

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Martin Kopatschek.

Munich, March 13, 2020

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

(Prof Dr Carl-Friedrich Leuschner)	(Martin Kopatschek)
Wirtschaftsprüfer	Wirtschaftsprüfer
German Public Auditor	German Public Auditor

The translation of the Independent Auditor’s Report is for convenience only; the German version prevails.

Contacts
Should you have any questions about the annual report, or our half-yearly financial report, please contact Media Relations by
calling +49 (0)89 378-25801,
faxing +49 (0)89 378-3325263
You can call up important company announcements as soon as they have been published by visiting our website at www.hvb.de

Internet
You can call up interactive versions of our annual and half-yearly financial reports on our website: www.hvb.de

Publications
Annual Report (English/German)
Half-yearly Financial Report (English/German)
You can obtain PDF files of all reports on our website: www.hvb.de

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