Unlock your potential

2021

Annual Report

Empowering
Communities to Progress.

UniCredit

Published by:
UniCredit Bank AG
Head Office
D-81925 Munich
www.hvb.de
Registrar of companies: Munich HRB 421 48
Cover and introduction 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

Financial Highlights

Key performance indicators

	1/1–31/12/2021	1/1–31/12/2020
Net operating profit	€1,328m	€1,100m
Cost-income ratio (based on operating income)	66.1%	60.5%
Profit before tax	€545m	€1,072m
Consolidated profit	€245m	€668m
Earnings per share	€0.30	€0.83

Balance sheet figures/Key capital ratios

	31/12/2021	31/12/2020
Total assets	€312,112m	€338,124m
Shareholders' equity	€17,709m	€17,875m
Common Equity Tier 1 capital[1]	€15,167m	€15,122m
Core capital (Tier 1 capital)[1]	€16,867m	€16,822m
Risk-weighted assets (including equivalents for market risk and operational risk)	€86,928m	€80,637m
Common Equity Tier 1 capital ratio[1,2]	17.4%	18.8%
Core capital ratio (Tier 1 ratio)[1,2]	19.4%	20.9%
Leverage ratio in accordance with Commission Delegated Regulation[1,3]	5.3%	4.9%

1 31 December 2021: in accordance with approved financial statements.
2 Calculated on the basis of risk-weighted assets, including equivalents for market risk and operational risk.
3 Ratio of core capital to the sum total of the exposure values of all assets and off-balance-sheets items. Article 500b CRR II introduced through Regulation (EU) 2020/873 "Temporary exclusion of certain exposures to central banks from the total exposure measure in view of the COVID-19 pandemic" was applied to determine the leverage ratio of HVB Group at 31 December 2021. Had the aforementioned article not been applied, the leverage ratio of HVB Group as at 31 December 2021 would amount to 4.9% (31 December 2020 in accordance with approved consolidated financial statements: 4.4%).

	31/12/2021	31/12/2020
Employees (in FTEs)	11,406	12,074
Branch offices	461	480

Ratings

	LONG-TERM	SHORT-TERM	OUTLOOK		CHANGE/ CONFIRMATION
Fitch Ratings					
Bank Ratings					
Derivative Counterparty Rating	A–(dcr)	—	—		17/12/2021
Deposit Rating	A–	F2	—		17/12/2021
Issuer Default Rating	BBB+	F2	negative		17/12/2021
Stand-alone Rating	—	—	—	bbb+	17/12/2021
Issue Ratings (unsecured)					
Preferred Senior Unsecured Debt/Senior Preferred Debt Issuance Programme	A–	F2	—		17/12/2021
Non-preferred Senior Unsecured Debt	BBB+	—	—		17/12/2021
Subordinated Debt	BBB–	—	—		17/12/2021
Moody's					
Bank Ratings					
Counterparty Rating	A1	P-1	—		17/5/2021
Deposit Rating	A2	P-1	stable		17/5/2021
Issuer Rating	A2	—	stable		17/5/2021
Stand-alone Rating	—	—	—	baa2	17/5/2021
Issue Ratings (unsecured)					
Preferred Senior Unsecured Debt/Senior Unsecured	A2	—	stable		17/5/2021
Non-preferred Senior Unsecured Debt/Junior Senior Unsecured	Baa2	—	—		13/7/2021
Subordinated debt	Baa3	—	—		17/5/2021
Issue Ratings (secured)					
Public Sector Covered Bonds	Aaa	—	—		23/6/2015
Mortgage Covered Bonds	Aaa	—	—		23/6/2015
Standard & Poor's					
Bank Ratings					
Resolution Counterparty Ratings	A–	A-2	—		25/2/2022
Issuer Credit Rating	BBB+	A-2	negative		25/2/2022
Stand-alone Rating	—	—	—	bbb+	25/2/2022
Issue Ratings (unsecured)					
Preferred Senior Unsecured Debt/Senior Unsecured	BBB+	—	—		25/2/2022
Non-preferred Senior Unsecured Debt/Senior Subordinated	BBB	—	—		25/2/2022
Subordinated debt	BBB–	—	—		25/2/2022

Contents

Financial Statements (1)

Management's Discussion and Analysis

Financial Review

Corporate structure

Legal corporate 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 affiliate 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 percent 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. 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 in particular the matters reserved for the Management Board, the requirements for adopting resolutions and the required majorities.

The Supervisory Board of HVB 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.

The following changes occurred in the reporting period:

Supervisory Board

Mr Olivier Khayat and Ms Finja Kütz resigned from the Supervisory Board as shareholder representatives with effect from the end of 13 July 2021. At the Extraordinary Shareholders' Meeting of HVB on 14 July 2021, Mr Andrea Orcel and Ms Fiona Melrose were elected as members of the Supervisory Board in their place with effect from the end of that Extraordinary Shareholders' Meeting. Mr Andrea Orcel was also elected as the new Chairman of the Supervisory Board and Mr Gianpaolo Alessandro as a further Deputy Chairman by resolution of the Supervisory Board.

Management Board

Mr Jörg Frischholz resigned from the Management Board with effect from the end of 2 August 2021, Mr Simone Marcucci with effect from the end of 31 August 2021 and Mr Markus Beumer with effect from the end of 31 October 2021. The Supervisory Board appointed Ms Marion Höllinger (Commercial Banking – Private Clients Bank) with effect from 3 August 2021, Mr Ljubisa Tesić (CFO) with effect from 1 September 2021 and Mr Christian Reusch (Corporate & Investment Banking) with effect from 1 November 2021 as members of the Management Board. Mr Jan Kupfer took over the area of Commercial Banking – Corporates with effect from 1 November 2021.

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 "Members of the Supervisory Board" and the Note "Members of the Management Board" in the notes to the consolidated financial statements.

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 group 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 subgroup of the UniCredit corporate group, HVB Group abstains from publishing its own non-financial statement in accordance with Section 315b (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 under "A Sustainable Bank" (www.unicreditgroup.eu/en/a-sustainable-bank.html).

Overall bank management

HVB Group's objective is to generate a sustainable increase in corporate value. To take account of the need for value-based management, the principle of overall bank management is based on earnings, risk, liquidity and capital aspects. This principle 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" in the Risk Report). The key performance indicators (KPIs) applied within the framework of HVB Group's overall bank management are stated at the relevant places in Management's Discussion and Analysis.

Business model, main products, sales markets, competitive position and locations in the 2021 financial year

HVB Group 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. Its integration into UniCredit enables HVB Group to exploit its international network and economies of scale. UniCredit has a divisionally and regionally diversified business model. It provides its customers access to commercial banks in 13 countries and other offices worldwide.

As a universal bank, HVB with its subsidiaries is a provider of banking and financial services and focuses on 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. Digitalisation and our commitment to ESG standards are key factors of our service. HVB Group has 461 offices around the world – 325 of which are HVB offices in Germany which have been adapted to changing customer behaviour in recent years. In addition to its branch network, customers are served irrespective of their location through its remote channels. For detailed information on the offices, please refer to the Note "Offices" in the notes to the 2020 consolidated financial statements.

The operating segments

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

A detailed description of the individual operating segments, particularly regarding the customers allocated to them, the products and services offered, the organisational focus as well as the competitive situation and the locations is contained in the Note "Method of segment reporting by operating segment" and the Note "Components of segment reporting by operating segment" in the notes to the 2021 consolidated financial statements.

Financial Review (Continued)

Team 23 and UniCredit Unlocked 2022–24

We successfully implemented the Team 23 group-wide strategic plan in 2021, although the headwind coming from the repercussions of the COVID-19 pandemic and persistently low interest rates was stronger than we had anticipated.

Our new three-year UniCredit Unlocked 2022–24 strategic plan, which is embedded in the group-wide strategic plan, is based on three cornerstones: simplifying the operating model with comprehensive process optimisation and digitalisation, growth in selected business areas and increasing capital efficiency.

In this context, the new position of Chief Digital & Information Officer was created in the second half of the year. At the same time, we will be investing more in the next three years in further digitalisation, automation and process optimisation. This will involve extending the existing Team 23 measures to adjust our staffing levels. Further staff reductions affecting all areas of the Bank are therefore planned by 2024. As in the past, we will also do this in the future through socially compatible measures, i.e. via natural fluctuation as well as 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.

Corporate acquisitions and sales, and other major changes in the group of companies included in consolidation

With effect from 31 December 2021, external limited partners of GEMMA Verwaltungsgesellschaft mbH & Co. Vermietungs KG (real estate fund company) exercised their tender right according to the contractual agreement of 26 April 1999 and tendered their shares totalling 92.55 percent to Orestos Immobilien-Verwaltungs GmbH, an indirect wholly-owned subsidiary of UniCredit Bank AG. GEMMA Verwaltungsgesellschaft mbH & Co. Vermietungs KG was previously fully consolidated as a structured company and has become a subsidiary since the tender right was exercised. After completion of the transaction, Orestos Immobilien-Verwaltungs GmbH increased its shareholding in the company from the previous 6.14 percent to now 98.69 percent.

Detailed information on changes in the group of companies included in consolidation can be found in the Note "Companies included in consolidation" in the notes to the consolidated financial statements.

Economic report

Underlying economic conditions

After the deep recession in 2020 brought about by the spread of the COVID-19 pandemic, the global economy staged a strong recovery in 2021 despite the COVID-19 pandemic continuing. According to the International Monetary Fund (IMF), global economic growth grew by 5.9 percent in 2021 compared with the previous year. This was the strongest growth in more than 40 years, although there were considerable differences in the economic development between regions and sectors. While the USA and the eurozone posted similarly dynamic growth, there was far stronger growth in real GDP in China. The global economic recovery was driven primarily by lively demand for goods, while the service sector continued to suffer as a result of the COVID-19 pandemic in many countries. The strong global demand for goods visibly led to supply bottlenecks over the course of 2021 and, combined with higher energy costs, to significantly higher inflation rates.

In 2021, real GDP growth in the USA increased by 5.7 percent following a slump of 3.4 percent in the previous year (according to the US Bureau of Economic Analysis (BEA)). The growth in 2021 was prompted primarily by a strong increase in private consumer spending in the wake of the significant creation of jobs in the labour market. However, at the end of 2021 employment was still around 3.3 million below the pre-crisis level in February 2020 (according to the US Bureau of Labor Statistics (BLS)). Private investments as well as government spending played rather a minor role in the cyclical recovery in 2021.

GDP also rose sharply in the eurozone by 5.2 percent in 2021 (according to Eurostat). The recovery was particularly dynamic in France and Italy but comparatively weak in Germany. There were two reasons for this. Firstly, the economic slump in 2020 turned out to be far stronger in France and Italy, resulting in greater pent-up demand with regard to consumer spending and investments the following year. Secondly, the German economy was harder hit by the global supply bottlenecks as German industry accounts for a greater share of national economic output than in many other European countries. In addition, the comparatively complex value chains made German industry more susceptible to supply interruptions. In the wake of the fourth wave of infection in the COVID-19 pandemic, further government containment measures as well as the spending restraint exercised by companies and private households dampened growth in the eurozone in the fourth quarter of 2021. This again impacted the service sector in particular. However, more differentiated measures and the vaccination campaigns implemented meant that the negative effects were far less pronounced than when the COVID-19 pandemic started in spring 2020.

In December 2021, the ECB announced the end of the COVID-19 pandemic emergency purchase programme (PEPP) for March 2022. The conventional asset purchase programme (APP), by contrast, was to be continued for as long as appears necessary to the ECB in order to strengthen the expansionary impetus of the low interest rate policy. The inflation rate in the eurozone rose to 2.6 percent for the whole of 2021 (according to Eurostat) and was thus above the ECB's symmetric medium-term target of 2.0 percent for the first time since 2012.

At country level (data according to national statistical offices), real GDP in Germany rose by 2.8 percent in 2021 (2020: down 4.6 percent). In France, overall economic activity increased by 7.0 percent in 2021 (2020: down 8.0 percent); Italy's economy grew by 6.5 percent in 2021 (2020: down 9.0 percent) and real GDP in Spain expanded by 5.0 percent (2020: down 10.8 percent).

The growth in German economic output in 2021 was primarily due to stronger export activity, higher capital investment as well as increased government spending in the wake of the COVID-19 pandemic. By contrast, construction spending increased only marginally due to labour and material shortages, having previously shown comparatively strong growth for five years in succession. Private consumer spending stagnated in 2021 after declining by around 6 percent the previous year.

Sector-specific developments

While the focus was on the repercussions of the COVID-19 pandemic in 2020, 2021 was characterised by economic recovery and less volatile markets. Banks, regarded in the pandemic as part of the solution, helped to stabilise economic development by granting loans. In contrast to previous crises, there was no highly pro-cyclical tightening of banks' lending policies during the COVID-19 pandemic, mainly due to an expansionary monetary policy and government support measures. The results from the ECB Bank Lending Survey in October 2021 revealed no more tightening of lending to companies in the second and third quarter of 2021.

In December 2020, the ECB yet again improved the conditions for Targeted Longer Term Refinancing Operations (TLTRO conditions) for banks. The ECB increased the maximum TLTRO borrowing allowance and extended the term of the very favourable pricing by twelve months from June 2021 to June 2022. This resulted in a renewed high uptake of the TLTRO programme by banks in 2021 with a further drawdown of €589 billion. To date, banks have borrowed €2.2 trillion in TLTRO III funds from the ECB, which reflects the very attractive terms. However, the ECB decided in its meeting in December 2021 to no longer extend the favourable TLTRO III conditions beyond June 2022, which is likely to lead to a strong wave of early repayment of TLTRO funds from mid-2022. Moreover, this removes the strong price incentive to lend to companies in order to achieve the credit growth required to take advantage of the very favourable refinancing conditions.

In 2020, the ECB also adopted another, temporary programme (PEPP) in addition to the existing asset purchase programme (APP). The programme contains government and private assets and its upper limit has been raised several times, the last time to a total volume of €1.85 trillion. By mid-January 2022, the ECB had already purchased assets totalling €1.61 trillion under the PEPP. In December 2021, the ECB decided to discontinue net asset purchases at the end of March 2022. However, the ECB will now reinvest all maturities in the PEPP until at least the end of 2024.

The temporary relaxation of the criteria for collateral relating to the refinancing of commercial banks with the ECB was extended from September 2021 to June 2022. This package of measures serves to cushion the stricter lending conditions in the eurozone and is leading to a temporary increase in risk tolerance within the euro system to support lending to the economy. Specifically, the following collateral was relaxed for ECB refinancing: loan receivables can be used as collateral, valuation discounts for collateral were reduced and the effects of credit rating downgrades on the availability of collateral were temporarily mitigated.

Financial Review (Continued)

In 2021, the risk premiums on the European credit market remained on a low level, with the ECB's bond purchases and the positive economic growth both having a supportive effect. The credit spreads of companies with good credit ratings declined in 2021 by 16 basis points to a level of 45 basis points. Risk premiums for senior bank bonds followed a similar trend and declined in 2021 by 10 basis points to 42 basis points. This was supported by significantly lower risk costs, an extremely solid liquidity position and capital base, and a strong recovery in profitability in the European banking sector. The spread between risk premiums for ten-year Italian sovereign bonds and ten-year German sovereign bonds, for example, widened slightly from 111 basis points to 135 basis points in 2021. However, this is a far lower level than in the first half of 2020 when the spread was over 250 basis points. The significant increase in the ECB's purchases as well as the EU Recovery Fund have been a major supportive factor for risk premiums.

At the same time, the yield curve became considerably steeper in 2021. The three-month Overnight Index Swap (OIS) rate remained unchanged in 2021 at approximately negative 48 basis points but the 10-year Overnight Index Swap (OIS) rate rose from negative 34 basis points at the beginning of 2021 to positive 18 basis points by the end of December 2021. A steeper yield curve is generally positive for the profitability of maturity transformation for banks. Furthermore, the market is currently pricing in an initial interest rate increase by the ECB for as early as the end of 2022 on account of the high inflation.

On the regulatory side, there were also comprehensive measures to support bank lending in 2020. Easing measures were extended for the most part into 2021. The ECB relaxed the minimum requirements for shareholders' equity of banks. Banks can now temporarily allow their capital ratios to fall below Pillar 2 Guidance (P2G) and reduce their capital conservation buffer until at least the end of 2022. The Pillar 2 Requirements and Pillar 2 Guidance for banks for 2021 remain largely unchanged compared to 2020, reflecting the ECB supervision's pragmatic approach in the SREP process in 2020. There has been a shift in the timing of a number of planned changes in the CRR II, such as the option for banks to fulfil their Pillar 2 Requirements (P2R) with subordinated bonds instead of with Common Equity Tier 1 (CET1) capital. As regards the calculation of the leverage ratio, banks are allowed to exclude exposures vis-à-vis central banks from their leverage ratio. This exception was extended until the end of March 2022. In addition, several national regulators reduced countercyclical capital buffers in 2020. However, several regulators have recently announced that they are reintroducing a countercyclical capital buffer. In January 2022, the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – BaFin) announced an increase in the countercyclical capital buffer to 0.75 percent of risk-weighted assets on domestic exposures which must be applied with effect from 1 February 2023 from 0.0 percent at present, and a supplemental sectoral systemic risk buffer of 2.0 percent of risk-weighted assets on loans collateralised by residential real estate.

As a support measure, borrowers were given the opportunity in 2020 – based on legal regulations or by the banks – to temporarily postpone the payment of loan instalments (known as COVID-19 loan moratoria). The medium-term perspective with regard to IFRS 9 enabled banks to continue classifying most of the loans affected as performing loans. According to the European Banking Authority (EBA), there was a sharp drop in the volume of loans in moratorium from €811 billion at the end of June 2020 to only €50 billion at the end of September 2021.

At the end of March 2020, the Basel Committee on Banking Supervision had already postponed the introduction of the finalised Basel III standard (also widely known as Basel IV standard) from 2022 to 2023 on account of the pandemic. In October 2021, the EU Commission presented its draft for implementing the finalised Basel III standard, according to which it is not to be introduced until 2025. Furthermore, there are special regulations with long transitional periods for risk positions vis-à-vis companies without an external credit rating and housing loans collateralised by real estate. Nevertheless, the risk weights will increase significantly step by step from 2025.

The ECB stress test for European banks was carried out in 2021. Despite the very strict assumptions for the stress scenario, the European banking sector proved to be extremely robust. The banks' very good capital base, benefiting from the regulatory restrictions regarding distributions in 2020 and 2021 as well as an only moderate increase in risk-weighted assets, played a supportive role here.

In the area of state aid law, the framework conditions for possible government support measures for the banking sector were relaxed in 2020 and this exception has been extended several times, currently to the end of June 2022. With regard to MREL, the Single Resolution Board (SRB) is adhering to its original MREL timetable despite the COVID-19 pandemic. Banks must meet the interim target for the beginning of 2022 and the final requirements for the beginning of 2024.

Equity markets recovered significantly in 2021, with the Euro STOXX 50 advancing by 21 percent. While bank shares lagged way behind the overall market in 2020, the STOXX Europe 600 Banks index increased by an above-average rate of 35 percent in 2021, driven primarily by the more favourable economic outlook, better development in terms of credit quality and a steeper yield curve. Moreover, the indicated withdrawal of restrictions on dividend payments from 1 October 2021 by the ECB has had a positive impact on valuations. In March 2020, the ECB had recommended that banks refrain from making dividend payments to external investors and share buybacks at top group level. In December 2020, the ECB changed its recommendation. Dividend payments and share buybacks were again possible within certain limits in the first three quarters of 2021. Dividend payments should not account for more than 15 percent of the accumulated profit for 2019 and 2020 and should not exceed 20 basis points of the CET1 ratio. Restrictions on dividends and share buybacks were ended by the ECB from October 2021. In addition, the ECB clearly stated that the distribution restrictions are generally not applicable to dividend payments within the banking groups under the supervision of the ECB.

In the USA, the yield on ten-year US treasury bonds rose significantly from 0.9 percent at the end of 2020 to more than 1.7 percent in March 2021 but then fell again to 1.5 percent at the end of the year. The US Federal Reserve Bank announced an interest rate turnaround for 2022 and the yield increased to over 1.8 percent in January 2022. The yield on ten-year bonds of the Federal Republic of Germany rose in 2021 from negative 0.5 percent at the beginning of 2021 to negative 0.2 percent at the end of 2021. In contrast to the US Federal Reserve Bank, the ECB did not announce any interest rate increases. In 2021, the 3-month Euribor remained almost constant in the range of negative 55 basis points to begin with, but then declined further towards the end of 2021 to negative 57 basis points. In 2021, the euro depreciated by 7 percent against the US dollar, caused among other things by the faster economic recovery of the US economy.

The topic of sustainability continued to gain importance for the banking sector in 2021. On the one hand, there was a significant increase in the share of ESG-compliant issues in the banking sector. Around one quarter of the bonds issued in the banking sector in 2021 were already aligned with ESG standards. On the other hand, there were several new regulations relating to sustainability. In April 2021, the European Commission adopted an extensive package of sustainability measures, including the first two delegated acts on the EU taxonomy to mitigate climate change and adapt to existing climate change. These technical criteria determine which economic activities make a significant contribution to climate protection or to adapting to climate change. Compared with the draft published in November 2020, the legal acts contain substantial changes to the criteria for buildings and thus the admissibility of energy-efficient mortgages as sustainable economic activities and green assets. The European Banking Authority (EBA) has also proposed a new ratio – the green asset ratio. This is intended to increase transparency for investors, and banks are required to publish this new ratio in 2024 for the first time, although several banks will already report it on a voluntary basis from 2022. In addition, risks entailed in climate change are increasingly becoming a focus of banking supervision and will be examined more closely in the course of a separate climate stress test for banks in 2022.

Financial Review (Continued)

Operating performance of HVB Group

All the statements regarding the operating performance of HVB Group in this Management's Discussion and Analysis refer to the structure of our income statement.

	1/1–31/12/2021	1/1–31/12/2020	CHANGE	
INCOME/EXPENSE	€ millions	€ millions	€ millions	in %
Net interest	2,516	2,413	+ 103	+ 4.3
Dividends and other income from equity investments	28	37	(9)	(24.3)
Net fees and commissions	1,115	1,007	+ 108	+ 10.7
Net trading income	655	662	(7)	(1.1)
Net gains/(losses) on financial assets and liabilities at fair value	85	(78)	+ 163	
Net gains/(losses) on derecognition of financial instruments measured at cost	(9)	(3)	(6)	>+ 100.0
Net other expenses/income	(142)	603	(745)	
of which net valuation/disposal of investment properties	26	18	+ 8	+ 44.4
OPERATING INCOME	**4,248**	**4,641**	**(393)**	**(8.5)**
Payroll costs	(1,485)	(1,451)	(34)	+ 2.3
Other administrative expenses	(1,202)	(1,231)	+ 29	(2.4)
Amortisation, depreciation and impairment losses				
on intangible and tangible assets	(119)	(126)	+ 7	(5.6)
Operating costs	**(2,806)**	**(2,808)**	**+ 2**	**(0.1)**
OPERATING PROFIT/(LOSS)	**1,442**	**1,833**	**(391)**	**(21.3)**
Credit impairment losses IFRS 9	(114)	(733)	+ 619	(84.4)
NET OPERATING PROFIT/(LOSS)	**1,328**	**1,100**	**+ 228**	**+ 20.7**
Provisions for risks and charges	(153)	11	(164)	
Restructuring costs	(617)	(35)	(582)	>+ 100.0
Net gains/(losses) on disposals of investments	(13)	(4)	(9)	>+ 100.0
PROFIT/(LOSS) BEFORE TAX	**545**	**1,072**	**(527)**	**(49.2)**
Income tax for the period	(300)	(404)	+ 104	(25.7)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**245**	**668**	**(423)**	**(63.3)**
attributable to the shareholder of UniCredit Bank AG	244	668	(424)	(63.5)
attributable to minorities	1	—	+ 1	

Net interest

In the reporting period, net interest came to €2,516 million compared with €2,413 million in the previous-year period and was thus a marked €103 million or 4.3% higher than the previous-year figure. Net interest in the reporting period includes, among other items, interest income of €155 million in connection with a tax refund, which is offset by an interest expense of €44 million in connection with tax provisions. The previous-year period also included interest income of €62 million in connection with a tax refund. The Corporate & Investment Banking operating segment benefited from the higher interest income generated with interest products and from positive interest effects as defaulting borrowers recovered. While the extremely low level of interest rates in the Commercial Banking operating segment continued to weigh on the customer deposit business, positive effects were, in turn, achieved through an expansion of the lending business with companies and negative rates being passed on to customers to a greater extent. In addition, the participation in the ECB's TLTRO III programme launched in mid-2020 had a positive impact on net interest.

Dividends and other income from equity investments

Dividends and other income from equity investments amounted to €28 million in the reporting period, which represents a sharp decrease of €9 million. The decrease over the previous-year period is primarily due to the income of €12 million from companies accounted for using the equity method (previous-year period: €19 million). Although both periods benefited from the sale of divisions of Comtrade B.V., an associate accounted for using the equity method, significantly lower profit was generated from the sale of divisions in the reporting year.

Net fees and commissions

In the reporting period, net fees and commissions came to €1,115 million and are thus a substantial €108 million or 10.7% higher than the previous-year period. The main reason for the rise in net fees and commissions is a marked increase in the securities business with private clients, higher income from financial and transactional banking services for companies as well as higher commission in the lending business with companies.

The fee and commission income that may no longer be recognised through profit or loss due to the judgement by the German Federal Court (Bundesgerichtshof – BGH) on the invalidity of certain clauses in general business conditions totalled a low single-digit million amount in the reporting year. HVB Group set aside a provision for claims to the reimbursement of fee and commission income earned up to and including the first quarter of 2021 on the basis of the clauses in HVB's General Business Conditions that are now no longer valid.

Net trading income

In the reporting period, net trading income was down slightly by €7 million, or 1.1%, to €655 million. On the one hand, this was attributable to the discontinuation of the adverse effects caused by the COVID-19 pandemic in the previous year and on the other hand, to the positive effects from the decline in valuation discounts of €158 million in the context of the fair value measurement of derivatives, particularly credit value adjustments and funding value adjustments. In the previous-year period, an increase of €32 million in valuation discounts was recorded as an expense, which was partly due to the market turbulence surrounding the COVID-19 pandemic. By contrast, the previous year saw an increase in demand for trading products especially after the first wave of the COVID-19 pandemic.

Net gains/losses on financial assets and liabilities at fair value

A net gain of €85 million is reported for financial assets and liabilities at fair value in the reporting period, which is a sharp €163 million higher than the loss of €78 million reported in the previous-year period. The loss of €15 million on financial liabilities mandatorily at FVTPL in the previous-year period increased significantly to €43 million in the reporting year. A gain of €47 million was generated in financial liabilities designated at FVTPL in the reporting year compared with a loss of €33 million in the previous-year period. In addition, this item includes hedge accounting effects of €61 million (previous-year period: minus €59 million) and the fair value measurement of equity instruments of €18 million (previous-year period: €10 million). Income of €2 million was generated from the derecognition from other comprehensive income in the reporting period (previous-year period: €19 million).

Net gains/losses on derecognition of financial instruments measured at cost

This item reports a loss of €9 million compared with a loss of €3 million in the previous year. The result is thus considerably lower than the previous-year figure. This higher loss is primarily due to the premature repayment of HVB Funding Trust instruments at year-end 2021, which resulted in a net loss of €6 million. In addition, the item mainly includes gains on the sale of assets measured at cost. These are generally intended to be held and are sold only in exceptional cases.

Net other expenses/income

The item "Net other expenses/income" shows an expense of €142 million for the reporting period, representing a substantial decline of €745 million compared with the net income of €603 million in the previous-year period. The decline is mainly attributable to the write-down of €81 million due to the classification of UniCredit Leasing GmbH with its subsidiaries as non-current assets or disposal groups held for sale, a rise of €67 million in expenses for the bank levy and the non-recurrence of income from the sale of land and buildings of €549 million generated at the beginning of 2020.

At €193 million in the reporting period (€126 million in the previous-year period), the bank levy is the largest single item contained in other expenses/income. In addition to the general rise in deposits (assessment basis for the bank levy), the increase in the bank levy is also due to the fact that for the first time in 2021, HVB Group waived the option of providing 15% of the annual contribution in the form of fully secured irrevocable payment commitments, as in previous years, which were not recognised as an expense.

In line with the Team 23 strategic plan, HVB Group adjusted its range of lease and hire-purchase products in the previous year: These products have been provided by an external cooperation partner since mid-2020. The subsidiary UniCredit Leasing GmbH and its subsidiaries subsequently discontinued the distribution of these products with effect from 1 August 2020. At year-end 2021, HVB Group decided to sell UniCredit Leasing GmbH with its subsidiaries and classified these afterwards as non-current assets or disposal groups held for sale. Compliant with IFRS 5.15, the disposal group of assets and liabilities of UniCredit Leasing GmbH and its subsidiaries were written down to the lower expected sales proceeds.

Financial Review (Continued)

Operating costs
Operating costs came to €2,806 million in the reporting period and were thus only a slight €2 million or 0.1% lower than the previous year's figure of €2,808 million. This shows that HVB Group has succeeded in keeping costs stable to a large extent.

Operating profit (before credit impairment losses IFRS 9)
Operating profit (before credit impairment losses IFRS 9) amounted to €1,442 million in the reporting period and thus fell sharply by €391 million compared with the previous-year figure of €1,833 million. The lower operating income is largely due to the decline in the item "Net other expenses/income", which fell a very substantial €745 million. This item was affected by the non-recurrence of the gains on the sale of land and buildings of €549 million generated in the previous year (primarily on the sale of the "Am Tucherpark" site), the write-down of €81 million to the lower expected sales proceeds (IFRS 5) of UniCredit Leasing GmbH and its subsidiaries in the reporting year and the increase of €67 million in expenses for the bank levy. This was offset by increases of €103 million in net interest, €108 million in net fees and commissions and €163 million in net gains/losses on financial assets and liabilities at fair value. In total, there was a decline of €393 million in operating income. In connection with this decline, the slight decrease of €2 million in operating costs resulted in a decline of €391 million in operating profit (before credit impairment losses IFRS 9).

The cost-income ratio (ratio of operating costs to operating income) thus distinctly deteriorated to 66.1% in the reporting period after 60.5% in the previous-year period.

Credit impairment losses IFRS 9
In the reporting period, credit impairment losses IFRS 9 came to €114 million after an expense of €733 million in the previous-year period, which represents a sharp decline of €619 million or 84.4%. This is mainly attributable to the marked recovery in economic activity whereas the previous-year period was weighed down by the default on a few, larger credit exposures, which must be seen in the light of the COVID-19 pandemic.

Allocations to portfolio valuation allowances fell a sharp €194 million, or 87%, to €29 million in the reporting year. Net charges arose in the reporting period from the adjustment of model parameters that were offset for the most part by a positive development in the portfolio of performing loans and the macroeconomic environment. In the previous-year period, the pandemic-driven adjustment of the assumptions used to reflect future economic conditions had a negative impact and in total resulted in an allocation of €223 million to portfolio valuation allowances.

In the reporting period, there was also a very marked decline in net allocations to specific valuation allowances, which fell from €510 million in the previous year to €85 million in the reporting year. Allocations to specific valuation allowances on account of defaults were largely compensated for by reversals of existing specific valuation allowances. The expected wave of COVID-19-related defaults has not occurred to date, partly as a result of an improved macroeconomic environment. By contrast, an allocation of €510 million to specific valuation allowances was necessary in the previous-year period on account of a few larger individual cases.

Provisions for risks and charges
In the reporting period, net expenses from provisions for risks and charges amounted to €153 million. This is offset by net income of €11 million reported in the previous-year period from the reversal of provisions. Individual items of significance in the reporting period relate to the setting aside of a provision of €69 million in penalty payments to the EU Commission, which imposed these in the second quarter for cartel law infringements in connection with EU government bonds. In addition, a provision in the low double-digit millions was set aside for the consequences of the BGH judgement on the invalidity of certain clauses in the General Business Conditions.

Restructuring costs
In the reporting year, restructuring costs totalled €617 million. In the previous-year period, restructuring costs of €35 million accrued, which were primarily attributable to an increase in the restructuring provision from 2019.

Restructuring costs in the reporting year are based on measures resulting from the implementation of the three-year UniCredit Unlocked 2022-24 strategic plan, which aims at driving forward further digitalisation, automation and process optimisation within HVB Group. In this context, there will be a further reduction of staff at HVB by 2024. Most of the restructuring costs are intended for the scheduled socially compatible reduction in staffing levels, which is to be achieved above all by natural fluctuation, partial and early retirement solutions as well as severance packages. The existing restructuring provision was increased appropriately for this purpose as the three-year UniCredit Unlocked 2022-24 strategic plan builds on the previous Team 23 strategic plan. Another part of the restructuring costs relates to the optimisation and reduction of areas used by HVB Group so that, among other things, rights of use to buildings were subject to unscheduled depreciation.

Net gains/(losses) on disposals of investments
In the reporting period, net losses of €13 million accrued (previous-year period: €4 million), which represents a sharp deterioration of €9 million in the net result from disposals of investments. The losses in the reporting year relate primarily to the result from the deconsolidation of 18 subsidiaries that were deconsolidated on grounds of immateriality. In this context, various minor effects had an impact, which were posted in the respective subsidiaries but were not reflected in HVB Group. Therefore, these items were derecognised through profit or loss in the course of deconsolidation. There were no disposals of material subsidiaries or investments in the reporting year.

Profit before tax, income tax for the period and consolidated profit/loss
In the reporting period, HVB Group generated profit before tax of €545 million, which is a sharp €527 million or 49.2% lower than the profit before tax of €1,072 million generated in the previous-year period. At €1,442 million, operating profit (before credit impairment losses IFRS 9) was significantly lower than the previous-year figure of €1,833 million, which is primarily due to the non-recurrence of income of €549 million generated on the sale of land and buildings. This was offset by the decline of €619 million in credit impairment losses IFRS 9 to €114 million. Net operating profit, at €1,328 million, was therefore €228 million up on the previous-year period. However, the substantial rise of €153 million in provisions for risks and charges (previous-year period: net reversals of €11 million) and in particular restructuring costs of €617 million (previous-year period: €35 million) weighed down the result so that profit before tax fell a sharp €527 million to €545 million.

The income tax expense amounted to €300 million in the reporting period and was thus also a substantial €104 million or 25.7% lower than the income tax expense of €404 million in the previous-year period. For further details concerning the tax expense, please see the Note "Income tax for the period".

After deducting income tax for the period, HVB Group generated a consolidated profit of €245 million in the reporting period, which represents a significant decline of €423 million or 63.3% compared with the consolidated profit of €668 million in the previous-year period.

Return on allocated capital
The profitability ratio return on allocated capital (RoAC) shows the annualised consolidated profit of HVB Group (attributable to the HVB shareholder) in relation to allocated capital. With RoAC, allocated capital is determined on the basis of the average risk-weighted assets (including equivalents for market risk and operational risk) whereby 11.75 percent equity is allocated to the average risk-weighted assets. In the reporting year, this ratio fell to 3.1 percent compared with 5.2 percent in the previous year.

Appropriation of profit
In the 2021 financial year, the profit available for distribution disclosed in the annual financial statements of HVB, which forms the basis for the appropriation of profit, amounts to €245 million. We will propose to the Shareholders' Meeting that a dividend of €245 million be paid in total to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €0.31 per share after around €0.50 for the 2020 financial year. The profit available for distribution of €400 million reported in the previous year was distributed to UniCredit on 30 June 2021 in accordance with a resolution adopted by the Shareholders' Meeting on 7 June 2021.

Financial Review (Continued)

Segment results by operating segment

The structure of the income statement used for internal management purposes is shown; any deviations to the presentation of the operating performance are described in detail in the "Segment reporting" section of the consolidated financial statements. When calculating totals, minor deviations might occur as a result of rounding.

(€ millions)

OPERATING INCOME	1/1-31/12/2021	1/1-31/12/2020
Commercial Banking	2,368	2,266
Corporate & Investment Banking	1,913	1,683
Group Corporate Centre	126	96
Other	58	56
Consolidation	(8)	(10)
Total	**4,454**	**4,091**

(€ millions)

NET OPERATING PROFIT/(LOSS)	1/1-31/12/2021	1/1-31/12/2020
Commercial Banking	588	264
Corporate & Investment Banking	945	298
Group Corporate Centre	96	83
Other	18	(1)
Consolidation	—	—
Total	**1,645**	**645**

(€ millions)

PROFIT/(LOSS) BEFORE TAX	1/1-31/12/2021	1/1-31/12/2020
Commercial Banking	(53)	170
Corporate & Investment Banking	479	177
Group Corporate Centre	114	73
Other	(18)	574
Consolidation	—	—
Total	**522**	**994**

(€ millions)

CONSOLIDATED PROFIT/(LOSS)	1/1-31/12/2021	1/1-31/12/2020
Commercial Banking	(88)	83
Corporate & Investment Banking	208	61
Group Corporate Centre	168	72
Other	1	334
Consolidation	—	—
Total	**289**	**550**

General comments on the business situation in 2021 and comparison with last year's expectations

The 2021 reporting year was largely characterised by the significant recovery in economic activity after the COVID-19 pandemic had led to substantial adverse effects in the previous year. In addition, the new three-year UniCredit Unlocked 2022-24 strategic plan resulted in a considerable amount of restructuring costs that weigh heavily on the result.

Operating income was down by a substantial €393 million or 8.5% in the reporting year, due mainly to the discontinuation of the gains of €549 million generated in the previous year on the sale of land and buildings. However, the expected slight recovery after taking account of non-recurrent factors was achieved: there was a notable year-on-year improvement in both interest income and net fees and commissions, with special factors having a positive impact on the increase in net interest. While net trading income remained almost unchanged compared with the previous year, there was a considerable improvement in net gains/losses on financial assets and liabilities at fair value. A gain of €85 million was generated in the reporting period for this item compared with a loss of €78 million in the previous-year period. The item "Net other expenses/income" fell sharply, as expected, as the gains on the sale of land and buildings in the previous year were non-recurrent effects.

As projected, operating costs showed a stable development in the reporting year. At €2,806 million these remained almost unchanged compared with the previous year at €2,808 million.

The item "Credit impairment losses IFRS 9" dropped from €733 million in the previous-year period to €114 million in the reporting year, showing a better development than expected. Although a significant decline had been projected, a decrease to the level before the COVID-19 pandemic had not been expected. At €114 million in 2021, however, credit impairment losses IFRS 9 reached the level from 2019, which reported credit impairment losses IFRS 9 of €115 million.

Profit before tax fell a significant €527 million to €545 million in the reporting year and therefore, adjusted for the gains on the sale of land and buildings, did not increase sharply as had been projected. Although there was a rise in operating income and a significant decline in credit impairment losses IFRS 9, restructuring costs relating to the new three-year UniCredit Unlocked 2022-24 strategic plan weighed on the result.

There was a sharp €423 million decrease in profit after tax to €245 million compared with the previous-year period for the reasons named above. Therefore, the projected very substantial rise in profit after tax did not materialise. An additional factor in this context is that the tax expense fell by €104 million to €300 million, which was a disproportionately smaller decline than that in profit after tax.

The cost-income ratio, at 66.1%, is higher than the level in 2020 (60.5%). If the cost-income ratio is adjusted for the gain on the sale of land and buildings generated in the previous year and for the write-down of UniCredit Leasing GmbH (including subsidiaries) to the lower expected sales proceeds (IFRS 5) carried out in the reporting year, this is roughly at the previous year's level, as projected.

The CET1 capital ratio in accordance with approved consolidated financial statements came to 17.4% in the reporting year (previous year: 18.8%). The year-on-year decrease is due to the increase in total risk-weighted assets. The 1.4% decline in the CET1 capital ratio has turned out higher than projected in the previous year when a slight decline in this ratio was expected.

Financial situation

Total assets

The total assets of HVB Group fell by €26.0 billion, or 7.7%, to €312.1 billion at 31 December 2021 compared with year-end 2020.

On the assets side, cash and cash balances fell sharply and amount to €27.7 billion at 31 December 2021 compared with €47.5 billion at year-end 2020. This decline is almost exclusively due to lower credit balances with central banks, which fell from €41.5 billion in the previous year to €21.7 billion at 31 December 2021, while cash on hand, at €6 billion, remained almost unchanged.

By contrast, financial assets held for trading increased distinctly by €3.2 billion to €85.9 billion, mainly on account of the increase in other financial assets held for trading (up €8.0 billion), fixed-income securities (up €2.3 billion) and equity instruments (up €1.2 billion). A development in the opposite direction was seen in the positive fair values of derivative instruments (down €8.3 billion).

The portfolio of financial assets at FVTPL, which consists mainly of securities, fell sharply by €3.9 billion to €7.5 billion compared with year-end 2020. This decline is primarily attributable to securities reaching final maturity.

Financial assets at FVTOCI, which consists exclusively of securities, declined a marked €0.5 billion to €12.0 billion compared with the previous year. This decline is primarily attributable to securities reaching final maturity.

Loans and receivables with banks fell sharply by €9.4 billion to €24.6 billion, which is mainly attributable to decreases of €9.1 billion in reverse repos and €2.3 billion in cash collateral. By contrast, there were increases of €1.1 billion in securities, €0.6 billion in other loans to banks and €0.5 billion in current accounts.

Loans and receivables with customers were up slightly by €2.5 billion to €146.8 billion. This rise is primarily due to increases in other loans and receivables (up €4.5 billion), securities (up €1.7 billion) and current accounts (up €1.1 billion). By contrast, there were decreases in reverse repos (down €3.9 billion) and finance lease receivables (down €1.5 billion). Other changes resulted in a further net increase of €0.6 billion.

The item "Non-current assets or disposal groups held for sale" rose sharply by €1.7 billion to €2.5 billion. This rise is largely attributable to the classification of UniCredit Leasing GmbH with its subsidiaries as non-current assets or disposal groups held for sale, which is planned to be sold.

On the liabilities side, the item "Deposits from banks" fell a distinct €12.3 billion to €61.3 billion. There were declines of €11.8 billion in repos, €2.1 billion in cash collateral, €1.9 billion in term deposits and €0.2 billion in current accounts. Deposits from central banks were affected by the participation in the TLTRO III programme, under which HVB Group raised further funds in the first half of 2021. These increased by €3.7 billion.

There was a marked decrease of €9.5 billion to €134.3 billion in deposits from customers. This decrease is primarily due to the decline in repos (down €7.2 billion), term deposits (down €4.4 billion) and cash collateral (down €1.7 billion). By contrast, there were increases in current accounts (up €2.4 billion) and in savings deposits (up €1.4 billion).

Compared with year-end 2020, there was a slight increase in debt securities in issue, which were up by €0.4 billion to €32.2 billion. These primarily serve to fund the medium- to long-term lending business. As a result of the stable development in the lending business and in view of the Bank's good liquidity position, the volume has hardly changed, which is reflected in a slight increase.

Financial Review (Continued)

Financial liabilities held for trading fell a marked €3.3 billion to €53.7 billion compared with year-end 2020. An amount of €3.6 billion of this decrease is attributable to the negative fair values from derivative financial instruments, whereas other financial liabilities held for trading posted an increase of €0.3 billion.

Financial liabilities at FVTPL were down slightly by €0.2 billion to €5.5 billion at 31 December 2021 compared with €5.7 billion at year-end 2020. These primarily serve to fund the medium- to long-term lending business. As a result of the stable development in the lending business and in view of the Bank's good liquidity position, the volume has hardly changed, which is reflected in a slight increase.

Shareholders' equity shown in the balance sheet fell slightly by €0.2 billion to €17.7 billion at the reporting date. Consolidated profit posted an increase of €0.2 billion which, however, could not offset the decline on account of the UniCredit-internal dividend payment of €0.4 billion for 2020.

Further and more detailed information on the individual items of the balance sheet is contained in the "Notes to the Balance Sheet" and in "Other Information" in the notes to the consolidated financial statements.

Contingent liabilities and other commitments not recognised in the balance sheet amounted to €86.1 billion at the reporting date compared with €85.3 billion at year-end 2020. This figure includes contingent liabilities in the form of financial guarantees of €28.1 billion (year-end 2020: €24.6 billion) and other commitments of €58.0 billion (year-end 2020: €60.7 billion) almost exclusively related to irrevocable credit commitments. These contingent liabilities are offset by contingent assets of the same amount.

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

The total risk-weighted assets of HVB Group (including market risk and operational risk) determined in accordance with the Capital Requirements Regulation (Kapitaladäquanzverordnung – CRR II) amounted to €86.9 billion at 31 December 2021 and were thus €6.3 billion higher than at year-end 2020 (€80.6 billion). This is mainly due to the risk-weighted assets for credit risk (including counterparty default risk), which rose by €6.0 billion to €68.8 billion. Furthermore, the risk-weighted asset equivalents for operational risk increased by €0.1 billion to €8.8 billion. The risk-weighted assets for market risk rose by €0.3 billion to €9.3 billion.

At 31 December 2021, Common Equity Tier 1 capital compliant with the CRR II excluding hybrid capital (CET1 capital) amounted to €15.2 billion and Tier 1 capital to €16.9 billion. The Tier 1 capital rose slightly compared with year-end 2020 (€16.8 billion in accordance with approved consolidated 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 the CRR II (including market risk and operational risk) amounted to 17.4% and 19.4% respectively at 31 December 2021 (31 December 2020: 18.8% and 20.9% respectively). Own funds came to €18.3 billion at 31 December 2021 (31 December 2020: €18.1 billion in accordance with approved consolidated financial statements). The own funds ratio was 21.0% at 31 December 2021 (31 December 2020: 22.5%). The decline in the ratios is attributable to the increase in risk-weighted assets.

The leverage ratio is determined by dividing the Tier 1 capital measure by the total exposure measure. The total exposure measure is the sum total of the exposure values of all assets and off-balance sheet items. The leverage ratio of HVB Group amounts to 5.3% at 31 December 2021 (31 December 2020 in accordance with approved consolidated financial statements: 4.9%). Article 429a (1) n) CRR II on the temporary exclusion of certain exposures to central banks from the total exposure measure (31 December 2020: Article 500b CRR II from Regulation (EU) 2020/873 "Temporary exclusion of certain exposures to central banks from the total exposure measure in view of the COVID-19 pandemic") was applied to determine the leverage ratio of HVB Group at 31 December 2021. If the aforementioned article had not been applied, the leverage ratio of HVB Group as at 31 December 2021 would amount to 4.9% (31 December 2020 in accordance with the approved consolidated financial statements: 4.4%).

Ratings

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

The ratings of countries and banks are subject to constant monitoring by rating agencies.

Moody's affirmed HVB's ratings on 17 Mai 2021 and adjusted the outlook from "negative" to "stable". Among others, the counterparty risk rating (CRR) was affirmed at A1/P-1, the rating for senior unsecured debt instruments at A2/P-1, the deposit rating at A2/P-1 and HVB's stand-alone rating at 'baa2'. From Moody's perspective, the latter reflects the strong capital base, the good liquidity position and the solid asset quality. According to Moody's, HVB is thus well prepared to cope with any deterioration in its currently robust asset quality that might arise as a result of the phasing out of the German government's extensive stimulus package.

The "stable" outlook reflects Moody's expectation that despite any deterioration in asset quality, HVB's financial profile will not change significantly. On 12 July 2021, the ratings for non-preferred senior unsecured debt instruments were raised from Baa3 to Baa2 as a result of the Moody's updated banking methodology.

On 17 December 2021, HVB's long-term Fitch issuer default rating (IDR) was upgraded from 'BBB' to 'BBB+' while the short-term rating was confirmed at 'F2'. In this context, the derivative counterparty rating (DCR) was also raised from BBB+ (dcr) to A- (dcr), the long-term rating for preferred senior unsecured debt and the long-term deposit rating from BBB+ to A-. The rating decision was made after the rating of UniCredit S.p.A. was upgraded from 'BBB-'/stable/'F3' to 'BBB'/stable/'F2' following an improvement in Italy's sovereign rating from 'BBB-' to 'BBB'.

In line with the rating adjustment for the IDR, HVB's viability rating (stand-alone rating) was also adjusted from 'bbb' to 'bbb+'.

Fitch continues to emphasise the very good capital base and the resulting high degree of flexibility to mitigate the possible deteriorations in asset quality. The outlook remains 'negative' as Fitch assumes that the fungibility of capital and liquidity could increase and thus HVB's financial flexibility might be restricted if UniCredit implements its "single-point-of-entry" resolution strategy.

In the course of a European-wide review of the banking sector, S&P lowered the anchor rating for the German banking sector from 'a-' to 'bbb+' on 24 June 2021. This downgrade is mainly due to the challenges with regard to profitability and the slow progress made in digitalisation. HVB's ratings were affirmed by S&P as the increased risks, driven by the structural challenges for the German banking landscape, were already adequately reflected in HVB's rating. In S&P's rating assessment, HVB's ratings continue to be supported above all by a strong capital base and the Bank's solid market position in corporate banking. HVB's ratings are therefore one notch above the ratings of UniCredit S.p.A. despite the operating interdependencies between HVB and UniCredit. The resolution counterparty rating thus remains at 'A-'/'A-2', the issuer credit rating and the rating for senior preferred debt instruments of HVB at 'BBB+'/'A-2' and the senior subordinated debt rating at 'BBB'.

S&P again affirmed HVB's ratings in November 2021; the rating outlook remains 'negative'. The rating affirmation followed a rating decision on UniCredit S.p.A. S&P raised the outlook for UniCredit S.p.A. from 'stable' to 'positive' as, according to S&P's assessment, the economic risks for Italian banks had been reduced due to various packages of measures introduced by the Italian government. In the course of adjusting S&P's rating methodology for rating financial institutions (banks and non-banks) and for determining the country risk in the banking sector (BICRA), S&P affirmed HVB's ratings in January 2022; the rating outlook remains 'negative'. The negative outlook for the issuer credit rating of HVB reflects the fact that HVB's ratings might be lowered in the medium term on account of the uncertainties regarding the implementation of UniCredit's "single-point-of-entry" resolution strategy and the related effects on subsidiaries.

Financial Review (Continued)

Report on subsequent events (events after the reporting period)

Prof Dr Annette G. Köhler resigned from the Supervisory Board as shareholder representative with effect from the end of 28 February 2022. In her place, Ms Sabine Eckhardt was elected as member of the Supervisory Board with effect from 1 March 2022 at the Extraordinary Shareholders' Meeting of UniCredit Bank AG on 24 February 2022.

War has been raging in Ukraine since the end of February. In view of this fact, a number of countries (including the USA and the EU) have imposed sanctions on Russia that have already come into effect. This might have negative consequences for HVB Group's exposure to Russia. With regard to the amount of exposure, we refer to the table "Development of credit default risk exposure by country/region outside the eurozone" in the description of credit risk in the Risk Report. In recent years, the exposure to Russian counterparties was conservatively managed with a significant portion of our commercial exposure covered by ECA guarantees. Derivative transactions with Russian financial institutions have been conducted within adequate limits. Whilst the full impact cannot be assessed at this point, the extent of potential losses resulting from the failure of Russian counterparties to honour their obligations is not expected to materially affect the financial status of HVB Group.

Forecast report/Outlook

Management's Discussion and Analysis and the rest of the Annual Report include statements, expectations and forecasts concerning the future. These statements, expectations and forecasts are based on plans and estimates 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 entail 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

The cyclical recovery is likely to continue in 2022 and 2023 following the strong global economic recovery in 2021. This will be driven firstly by a still high level of private household savings and the associated backlog in consumer spending. In addition, companies are likely to replenish their very low inventories, which should be reflected in higher production. However, the pace of global economic growth will presumably slow down compared with 2021. After global GDP growth of 5.9 percent in 2021, HVB Group is assuming an increase of 4.2 percent for 2022 (2023: 3.7 percent; The UniCredit Economics Macro & Markets 2022–23 Outlook: A bumpy road towards normalization, published on 10 December 2021). Continuing supply shortages in the manufacturing industry, relatively high inflation as well as a less expansionary monetary and fiscal policy would suggest a slowdown. The restrictions in most industrial countries in response to the emergence of the Omicron variant in the course of the COVID-19 pandemic in the fourth quarter of 2021 are likely to have only a minor impact on the level of economic activity. However, the forecast uncertainty for the outlook, in particular for 2022, is growing. The possible spread of new virus variants and the deployment of additional restrictive measures by national governments also entails downside risks. The Russia-Ukraine conflict has significantly increased the level of uncertainty for the outlook, which further complicates making macroeconomic forecasts. The potential impact of higher energy costs, impaired energy security, economic sanctions and other effects is currently impossible or extremely difficult to assess.

HVB Group expects economic growth in the USA to slow down from 5.7 percent in 2021 to 3.2 percent in 2022, followed by 2.3 percent in 2023 (The UniCredit Economics Macro & Markets Weekly: More upside for yields, published on 11 February 2022). The US economy is likely to return to the trend line in real GDP seen before the pandemic at the end of 2022. In particular, supply bottlenecks in industry, labour shortages and higher inflation, which will presumably ease only in part by the second half of 2022, suggest that the pace of growth will slow down. The US Federal Reserve's monetary policy stance is likely to become far less expansionary. It will presumably end its net bond purchases in March 2022, followed by four interest rate hikes in 2022 and probably a further three in 2023.

In China, HVB Group expects GDP growth to slow down from 8.1 percent in 2020 to 4.8 percent in 2022 and 4.7 percent in 2023 (The UniCredit Economics Macro & Markets Weekly: More upside for yields, published on 11 February 2022). These would be the lowest growth rates since 1990. The main reasons for this are the residential housing market overheating and the resulting weaknesses in the financial sector as well as power shortages and higher energy costs. Presumably, the composition of the growth will also change. Investments and exports, which provided the Chinese economy with the greatest support in 2020 and 2021, are likely to lose considerable momentum. At the same time, consumers are likely to reduce the rate at which they save and therefore gradually return to the level of spending seen before the COVID-19 pandemic.

For the eurozone, HVB Group anticipates a slowdown in growth from 5.2 percent in 2021 to 3.7 percent in 2022 and 2.8 percent in 2023 (The UniCredit Economics Macro & Markets Weekly: More upside for yields, published on 11 February 2022). Real GDP will probably not return to the trend line seen before the pandemic until the end of 2023, in other words a year later than in the USA. To begin with, continuing supply shortages and higher inflation are likely to dampen growth, as is the case in other regions. The Omicron variant which emerged during the COVID-19 pandemic will act as additional headwind in the short term and probably contribute to a cyclical slowdown in the first quarter of 2022. Economic activity should then pick up strongly over the further course of 2022 owing to the pend-up demand from companies and private households. This will probably be accompanied by the gradual elimination of the supply bottlenecks and a slow-down in inflation, the positive effects of which are likely to continue into 2023. The highly expansionary monetary policy to date in the wake of the COVID-19 pandemic should increasingly return to normal. While still contributing to growth in 2022, fiscal policy will probably have a neutral or even slightly contractionary impact in 2023.

HVB Group expects that the ECB will quickly end its conventional asset purchase programme (APP) in addition to ending its pandemic emergency purchase programme (PEPP) in March 2022. Moreover, key interest rates (deposit rate) will be raised from minus 0.5 percent at present to zero by the first quarter of 2023.

In June 2022, the remaining maturity of around €1.3 trillion in TLTRO loans issued by the ECB will fall below one year, making this liquidity less attractive for banks as only part of it will count towards their NSFR (Net Stable Funding Ratio). If no measures are taken, this could trigger a considerable wave of repayments. HVB Group expects that the ECB will introduce bridging transactions to ease this potential liquidity cliff-edge. Such transactions could have shorter maturities and less attractive conditions. In this way, the ECB could gradually reduce its liquidity assistance over the course of time.

For 2022 HVB Group is expecting GDP growth on country level in the eurozone of 3.0 percent for Germany (The UniCredit Economics Macro & Markets Weekly: More upside for yields, published on 11 February 2022). As was the case the previous year, economic growth in Germany should be less dynamic than in France (3.8 percent), Italy (3.8 percent) and Spain (4.8 percent). The difference in growth rates is again likely to be attributable above all to supply bottlenecks, which will presumably be eliminated only gradually. The German economy is impacted more strongly by this than its European neighbours owing to its independence on industry and more complex supply chains. German GDP should then grow by 4.4 percent in 2023 compared with growth of 2.5 percent in France, 2.2 percent in Italy and 3.0 percent in Spain.

Financial Review (Continued)

According to HVB Group's assessment, the German economy will probably be subdued in the first quarter of 2022 by sluggish exports owing to a slowdown in global trade and the continuing supply shortages in the manufacturing industry and in the construction sector. Furthermore, the services industry is likely to come under pressure from the reintroduction of restrictions on account of the COVID-19 pandemic and from private households refraining from going to restaurants, theatres and leisure facilities, for example. However, these negative repercussions are likely to be far less serious than at the end of 2020/beginning of 2021 or even compared to the slump in economic activity in the second quarter of 2020. The pent-up demand is likely to make itself felt positively in the second and third quarter of 2022 as the backlog of consumer demand will presumably be reduced and the savings ratio will continue to decline. In addition, the high levels of liquidity held by companies, which are based mainly on borrowing and are being kept for reasons of caution, could be put into higher investments in part. The gradual easing of supply bottlenecks is likely to provide the business cycle with additional impetus. However, there is major uncertainty over the timing and the precise extent of this effect. HVB Group also expects fiscal policy to stimulate growth in the form of higher capital expenditure. However, most of this positive effect is only likely to set in from 2023 as it will take some time to implement the new political measures. Furthermore, the supply shortages could also delay the positive impact on GDP of the increase in public construction spending to combat climate change and improve digitalisation.

Banking sector development in 2022

The fundamental indicators in the European banking sector improved further in 2021 despite the COVID-19 pandemic. Banks were able to again improve their asset quality and liquidity ratios and the capital base remained on a high level.

Relatively low profitability remains a weak point in the European banking sector, which has been below the profitability of US banks since the financial crisis. In 2020, the profit development of banks had come under additional pressure as they were required to set aside significantly higher loan-loss provisions. On average, the return on equity of European banks was a mere 1.6 percent in 2020 compared with 6.5 percent in 2019 (data from the European Banking Authority (EBA)). However, there was a significant recovery to 7.6 percent in the first nine months of 2021 driven by an increase in the level of interest rates and far lower loan-loss provisions compared with 2020, and a clearly positive non-recurrent effect of TLTRO III on net interest income. The performance of banks in the area of net interest income was under continued strain in 2021 due to margin pressure. The negative effect on net interest income was compensated in part by the very favourable TLTRO III conditions, which will, however, not be extended beyond June 2022. Income in the asset management and investment banking business remained on a high level in 2021, further underpinning the profitability of banks.

A further improvement in profitability is expected for 2022. Firstly, there is evidence since the end of 2021 of a revival in credit demand from companies driven by the high inflation and an increase in company investments. Furthermore, the marked increase in the level of interest rates since September 2021 is positive for the net interest income of banks. In its meeting in February 2022, the ECB confirmed all current measures, but indicated the accelerated exit from quantitative easing and the start of interest rates returning to normal, which led to a further clear increase in the level of interest rates. Also on the structural side, the profitability of European banks continues to improve. Firstly, strong sustainable growth was seen in digital customer interaction as a result of the COVID-19 pandemic, enabling a further structural adjustment of branch networks. Furthermore, there was a revival of bank mergers primarily in Spain and Italy, which is likely to boost profitability in addition in the medium term. It is to be assumed that the process of consolidation at European banks will continue in 2022, although still focusing on domestic consolidation rather than extremely large cross-border mergers. Moreover, the trend towards streamlining and focusing banks' business models continues, with the concentration on core areas and markets in strong competitive positions generating correspondingly higher margins. On the costs side, most banks are also planning to reduce office space.

Despite the crisis, asset quality continued to improve, above all due to continued active NPL sales and securitisations by the banks. The rate of impaired loans fell to 1.9 percent at the end of September 2021, compared with 2.3 percent at the end of 2020 and 6.5 percent at the end of 2014 (EBA data). Comprehensive government support measures, loan guarantees and payment moratoria for loan payments have helped to staunch the inflow of impaired loans until now, despite the sharp economic decline in 2020. A major factor is the extensive use of payment moratoria and state guarantees for loans. The volume of loans in moratorium fell significantly according to the EBA from €811 billion at the end of June 2020 to just €50 billion at the end of September 2021, although this has not yet resulted in a significant rise in NPL inflows to date. There was also a substantial rise in state-guaranteed loans to €378 billion or 6.8 percent of all loans to companies (EBA data at the end of September 2021). There has been no further increase in state-guaranteed loans to companies most recently. The asset quality of European banks is likely to be slightly compromised only with a time lag from 2022 - but to a manageable extent. It is therefore to be assumed that risk costs will remain low.

Banks' capital ratios remained on a high level in 2021. At the end of September 2021, the average CET1 capital ratio of European banks of 15.4 percent (on a fully loaded basis) was on a similar level as at the end of 2020 (15.5 percent: EBA data). However, risk-weighted assets will increase slightly with higher credit volumes in 2022. Furthermore, banks can decide on profit distributions again at their own discretion since October 2021. Several banks have paid special dividends for the fourth quarter of 2021 and/or announced comprehensive share buybacks. In sum, this will lead to a gradual reduction in capital ratios in 2022 from their very high levels. However, capital ratios will remain way above the regulatory minimum requirements on average.

The extremely high liquidity ratios are also likely to be reduced in 2022 as a significant increase in early TLTRO III repayments is to be expected in the second half of 2022. However, the surplus liquidity of European banks is on a very high level of €4.5 trillion in mid-February 2022 and it is to be assumed that liquidity will remain way above historical levels in 2022 despite the TLTRO III repayments.

As regards macroprudential regulation, the German Federal Financial Supervisory Authority (BaFin) decided in January to increase the countercyclical capital buffer from 0.0 percent at present to 0.75 percent of risk-weighted assets on domestic risk positions. Banks must apply this buffer rate from 1 February 2023 to calculate the bank-specific countercyclical capital buffer. Furthermore, BaFin has also proposed a sectoral systemic risk buffer of 2.0 percent of risk-weighted assets on loans collateralised by residential real estate, which is also to be observed from 1 February 2023. This will lead to a further increase in capital requirements for banks.

To summarise, it is to be assumed that the trend in the banking sector will be stable, with profitability remaining one of the main challenges. Banks will therefore need to make further structural adjustments, such as the digitalisation of business processes, the adjustment of branch networks and further consolidation in the banking sector.

Development of HVB Group

We expect the cyclical recovery to continue in 2022. The main reasons for this are private households reducing their high level of savings, companies increasing inventories and the waning economic repercussions of possible further new waves of the COVID-19 pandemic. In addition, the high level of orders on hand in industry will probably be processed. The gradual elimination of supply bottlenecks, lower energy prices and the discontinuation of base effects are likely to lead to a decline in inflation rates. As the impact of the war between Ukraine and Russia cannot be assessed at present, its possible consequences have not been accounted for in the planning to date.

As previously described in the Chapter "Team 23 and UniCredit Unlocked 2022–24", we successfully implemented the Team 23 strategic plan in 2021 and are now following the guidelines of the three-year UniCredit Unlocked 2022–24 strategic plan that is embedded in the UniCredit Unlocked 2022–24 strategic plan. HVB Group's corporate planning is for internal management purposes and is drawn up based on the segmented income statement. In this respect, all statements below on future development relate to the segmented income statement and not to the income statement. The differences are shown in the reconciliation in segment reporting in the notes to the financial statements.

Financial Review (Continued)

We expect HVB Group to generate a good profit before tax for the 2022 financial year in the continuing COVID-19 pandemic. In 2021, operating income reflected recovery effects from the COVID-19 pandemic which we expect to continue in 2022 as well and lead to operating income remaining on the same level after adjusting for non-recurrent effects in 2021. We project a marked decline in operating costs in 2022 compared with 2021, relating to the measures included in the new strategic plan. Based on the non-recurrent effects included in 2021, we are anticipating an unchanged cost-income ratio in operating income for 2022 compared with 2021. We are again expecting a significant reduction in net write-downs of loans and provisions for guarantees and commitments for 2022. In view of the war in the Ukraine and the sanctions imposed on Russia, it is not possible to rule out payment defaults resulting from this that were not previously expected. Both operating profit before tax and operating profit after tax are likely to be significantly higher in 2022 than the respective results in 2021 due to non-recurrent effects in restructuring expenses and in net income from investments in 2021.

The improvement in net operating profit of the Corporate & Investment Banking operating segment in 2021 is expected to continue in 2022 at a slower pace and lead to a notable improvement. A very significant improvement is also expected for net operating profit of the Commercial Banking operating segment, based essentially on the reduction of costs and a decline in net write-downs of loans and provisions for guarantees and commitments. Owing to the non-recurrent effect in 2021, net operating profit of the Group Corporate Centre operating segment is expected to decline sharply. For the Other operating segment, we likewise expect a very marked decline in 2022 due to both a sharp reduction in income and a notable increase in costs.

In its general ruling of 31 January 2022, the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – BaFin) increased the countercyclical capital buffer from 0 percent to 0.75 percent of risk-weighted assets on domestic risk positions with effect from 1 February 2022. Furthermore, it plans to introduce a sectoral systemic risk buffer of 2.0 percent on risk-weighted assets related to loans collateralised by residential real estate. Both capital buffers are to be observed with effect from 1 February 2023. By introducing these preventive measures, BaFin aims to increase the resilience of the banking system. The capital requirements imposed on banks will increase as a result. Owing to its capital base, HVB Group's capital ratios are still above the minimum capital requirements even taking these two measures into consideration. HVB Group will include both components in its corporate planning accordingly.

For the 2022 financial year, we anticipate a solid capital base for HVB Group with a CET1 capital ratio that is slightly lower than the figure in 2021.

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

The opportunities described below are offset by risks, for example the effects of the COVID-19 pandemic and the consistently low level of interest rates, which 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.

As a universal bank, HVB Group is a member of one of the largest banking groups in Europe, UniCredit. HVB Group is one of the largest private financial institutions in Germany and has competence for the international markets and investment banking business within UniCredit. HVB Group 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 Group can thus exploit its regional orientation combined with the network of a large European banking group covering four core regions.

This gives rise to a number of opportunities:

HVB Group is pursuing an increase in profitability by laying down the three cornerstones of the new UniCredit Unlocked 2022–24 strategic plan. Its main focus is optimising the organisational structure and adjusting the banking service model with the aim of increasing efficiency and creating a unique customer experience. We will therefore be investing in automation and front-to-back process optimisation in the coming years. At the same time, we will pursue a growth strategy in selected business areas to increase our market share, focussing on capital-efficient growth. In addition, we will forge ahead with a holistic approach to sustainability in accordance with the ESG principles and will continue to make use of the opportunities to cooperate within UniCredit across country and company lines.

In addition, the withdrawal of individual competitors from geographical areas, customer or product groups will create new growth opportunities for HVB Group. Through selective investments, we plan to make better use of our growth potential in individual regions, customer groups and product areas. This will be supported by an adjustment of structures, locations or roles.

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

On account of its capital base, HVB Group is, in our opinion, already well prepared for the tightening regulatory requirements and can take advantage of the growth opportunities that arise in the market.

The opportunities for the individual operating segments are as follows:

Within the Commercial Banking operating segment, the Corporates business unit is seeking profitable growth and an expansion of market shares in its corporate banking business through uniform customer coverage, its positioning as a principal or core bank and the acquisition of new customers. As a strategic business partner, Corporates supports the entrepreneurial activities of its customers. The most important strategic challenges of customers include, among other things, the topic of sustainability and digitalisation. For this reason, the growth initiatives of Corporates are geared to these customer requirements. At the same time, Corporates is striving for sustainable growth focused on capital-preserving products based on close cooperation with CIB.

In the Private Clients Bank business unit, we are continuing to pursue our growth strategy. In Wealth Management and Private Banking, we intend to establish ourselves as one of Germany's leading providers in the coming years while further accelerating our growth path with high net worth individuals. Supported by our positioning as a quality provider, we will thus concentrate on growth and on increasing customer loyalty. We are also continuing to fundamentally modernise the Private Clients Bank by focusing on a multi-channel service offer.

In the CIB operating segment, the strategic focus is on expanding and strengthening sustainable and long-term customer relationships through strategic advice and product solutions for capital procurement, cash and risk management as well as through investments. We see further business potential in the expansion of international payments, trade finance and as a leading partner for ESG/transitional funding. To enhance our cross-selling potential on a targeted basis, we are intensifying our cooperation with the customer service units, increasing the quality of strategic advice by improving our industry competence and will position our product solutions in risk management more consistently. Private banking clients will benefit from the expansion of the platform for investment products. There will be a stronger focus on commission-based business and conscious handling of financing solutions that tie up capital. In addition, we will continue to forge ahead with the digital expansion of our processes and product solutions.

Risk Report

HVB Group as a risk-taking entity

By their very nature, the business activities of HVB Group are subject to risk. HVB Group 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 operating segments and functions of our Group. These activities are the pre-condition for providing adequate capital backing and maintaining an adequate liquidity base.

The Risk Report deals exclusively with the risks at HVB Group. The opportunities are presented separately in Management's Discussion and Analysis of the 2021 Annual Report in the section entitled "Opportunities in terms of future business policy and corporate strategy, performance and other opportunities".

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

The income statements for each operating segment and comments on their economic performance are provided in the Note "Income statement, broken down by operating segment" in the notes to the consolidated financial statements. The contents and objectives of the individual operating segments are described in detail in the Note "Components of segment reporting by operating segment" and the Note "Method of segment reporting by operating segment".

All HVB Group companies that are included in the consolidated financial statements of HVB Group prepared in accordance with International Financial Reporting Standards (IFRS) are incorporated in the risk management programme of HVB Group. As part of the Internal Capital Adequacy Assessment Process (ICAAP), these Group companies are classified into the categories "large", "medium", "small plus" and "small" by applying various criteria such as market position, scope of business activities and complexity of the risk profile or portfolio structure. With the exception of the Group companies classified as "small", which are subject to a simplified approach to risk measurement, the economic capital is measured differently for the individual risk types.

Risk types

Credit risk is defined as the potential losses arising in the value of a credit exposure due to an unexpected change in credit quality of a contracting party (borrower, counterparty, issuer or country). This potential loss in the value of a credit exposure may be due to a default by the contracting party, meaning it is no longer in a position to meet its contractual obligations or its rating has been downgraded as a result of a deterioration in its credit quality.

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 market 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 will not be 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 Group 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 measures taken by supervisory authorities, and private settlements.

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

The following risk types are summarised as other risks:

- **Real estate risk** covers potential losses resulting from fluctuations in the market value of the Bank's own real estate portfolio. This comprises the real estate owned by Group companies (owned or leased in accordance with IFRS 16), real estate holding companies and special purpose vehicles. No land or properties are included that are held as collateral. These are included under credit risk.
- **Business risk** is defined as a measure of the gap between unexpected disadvantageous changes in the Bank's future earnings and expected changes over a one-year risk horizon. Business risk can result above all from a serious deterioration in the market environment, changes in the competitive situation or customer behaviour but also from changes in the cost structure.
- **Pension risk** can occur on both 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.

Risk Report (Continued)

- **Financial investment risk** covers potential losses arising from fluctuations in the measurement of HVB Group's equity interests. HVB Group's financial investment risk stems from the occurrence of losses in equity provided in connection with a financial investment in other companies that are not consolidated in HVB or included in market risk. Financial investment risk is accounted for in the risk analysis via credit risk and 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 Group.
- **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 changed perception may be triggered by a primary risk such as credit risk, market risk, operational risk, liquidity risk, business risk, strategic risk or independently of any triggering primary risk.

Integrated overall bank management

Risk management

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

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.

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. In the planning process for 2021, these planning scenarios, also referred to as adverse scenarios, have been adapted against the backdrop of the COVID-19 pandemic. Each of the scenarios simulates a different development of the pandemic. Whereas the first scenario assumes further waves of infections and thus more of a W-shaped economic recovery from the COVID-19 pandemic, the second scenario is based on a U-shaped economic recovery after the COVID-19 pandemic that is accompanied by a prolonged period of economic stagnation. 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 and is essentially carried out by the Chief Risk Officer (CRO) organisation. The CRO organisation is responsible for risk management and risk policy guidelines set by the Management Board. The CRO reports on a regular basis to the Management Board and the Risk Committee of the Supervisory Board on the Group's risk situation.

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

Separation of functions

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

Risk controlling

Risk controlling is defined as the operational implementation of the risk strategy. Since 1 June 2021, Central Credit Management (CCM), which was created by merging the two previously independent units Senior Risk Management – Centralized Credit Underwriting (SRM) and Credit RR & NRR Germany (KCE), has been responsible for the operational management of credit risk for the Commercial Banking and Corporate & Investment Banking (CIB) operating segments. The credit specialists take lending decisions in the defined "risk-relevant business". They thus make it possible for the operating 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 operating 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 Operational & Reputational Risks unit 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 operating segments, which the CFO organisation proactively coordinates. The relevant operating segments are responsible for controlling the financial investments. The real estate risk arising from the property portfolio within the Group is controlled centrally by the Chief Operating Office (COO) unit. Within HVB Group, this is performed by the Real Estate unit, HVB Immobilien AG and the UniCredit Services S.C.p.A., which was engaged by HVB Immobilien AG by way of a service level agreement. HVB Group 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 the Insurance and Pension Funds Supervision unit, and therefore need to comply with external rules and regulations. Controlling of strategic risk is the shared responsibility of HVB's Management Board.

Risk Report (Continued)

Risk monitoring

The central risk monitoring function within the CRO organisation is responsible for identifying, measuring and evaluating the risks at HVB Group. 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, while operational risk and reputational risk are 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 (continuous 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 aggregate economic capital and the internal capital requirement. Financial investment risk is depicted via market risk and credit risk. 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 (covered under credit risk and market risk), real estate risk, pension risk and reputational 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.

Divisions and committees

Chief Risk Officer

The controlling and cross-business area management of risk at HVB Group 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
– identification and control of risk at the preliminary stages in order to reduce risk
– restructuring activities with a view to minimising losses for the Bank

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 Group (Asset Liability Management) acting in concert with the front office units and asset/liability management.

Regional Planning & Controlling (CCP) has been tasked with central business management and cost controlling of HVB Group. CCP also prepares and validates the internal segment report in accordance with IFRS and has responsibility for the processes involved in preparing the income budgets and the income projections and is responsible for managing capital and capital allocation as well as the risk-return methodology. Furthermore, CCP includes the operating-segment controlling departments for all the segments apart from Corporate & Investment Banking (CIB) and Group Corporate Centre (GCC). Controlling for CIB is the responsibility of CIB Planning and Control (CPA). This unit carries out the reconciliation of net trading income for markets jointly with Accounting. The reconciliation of net trading income for Treasury is carried out between Accounting (CFF) and Finance (CDF).

Asset Liability Management
The Finance unit controls Asset Liability Management by managing short-term and long-term liquidity within HVB Group. Its main objectives are to ensure that HVB Group 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 Group'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".

Financial and Credit Risk Committee
The Management Board has entrusted the following tasks to the Financial and Credit Risk Committee (FCRC), subject to its management competence and its ultimate decision-making authority at any time:
– decisions regarding suitable policies and methods, especially for credit risk and credit portfolio management as well as other risk topics, including issues relevant to market and liquidity along with asset/liability management issues
– discussion of and decision on strategic risk policy issues
A submission is always made to the Management Board when required for legal reasons, for instance (such as to comply with the MaRisk rules).

The FCRC generally meets once a month.

Risk Report (Continued)

Local Transactional Committee

The Local Transactional Committee (LTC) is charged with the task of reviewing and approving credit lines as well as deciding on applications for loan-loss provisions/debt cancellation/depreciation and impairment losses on assets. The LTC carries out this task in meetings differentiated by topic: the Credit Committee Session meets two times per week and decides on loan applications and credit lines, while the Loan Loss Provision Session, which approves decisions on loan-loss provisions/depreciation and impairment losses on assets meets once per quarter.

Non-Financial Risks and Controls Committee

The Non-Financial Risks and Controls Committee (NFRCC) makes decisions on coordination between the operational business units, Risk Management, and Internal Audit with the goal of identifying non-financial risks (e.g. external events, regulatory, and emerging risks) and to review the effectiveness of related measures.

In particular, the NFRCC is responsible for:
- approval of regulations and methods for the measurement, management and control of non-financial risks
- monitoring of the internal control systems for non-financial risks and ensuring a systematic approach for the evaluation of operational risks
- evaluation and provision guidelines for the management of risk-relevant (in terms of reputation, security, or data protection, for instance) individual customer transactions or contracts with third parties
- establishment and implementation of plans for maintaining operations

Implementation of overall bank management

Strategy

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

The HVB Group risk strategy is derived consistently from the business strategy, supplementing it with the relevant aspects of risk management. The risk strategy of HVB Group controls the risk types, credit risk and market risk (including financial investment risk components for each), operational risk, pension risk, reputation risk, real estate risk and business risk using the economic capital. This control is supplemented by risk-type-specific limits in credit risk and market risk. A qualitative description is provided of the strategic objectives for strategic risk, liquidity risk, sustainability risk and for outsourcing. The risk strategy is supplemented by the Industry Credit Risk Strategy, which specifies the risk appetite within the individual 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 metrics defined for the overall bank management of HVB Group are reviewed in the annual budgeting process and 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 internal capital are defined and monitored in order to guarantee the risk-taking capacity. For the purposes of operating segment management, the economic capital limits are distributed for each risk type (credit risk and market risk) to ensure that the planned economic risks remain within the parameters defined by the Management Board of HVB.

Key performance indicators (KPIs) generally applicable across all operating segments have been defined for the management of HVB Group. These KPIs serve to entrench the aspects of profitability and growth, as well as constraints 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 groupwide 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 operating segments. Both resources are expected to yield an adequate 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 operating 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 countermeasures in response to significant 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 operating 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 11.75%. 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 adequate capital base over the long term:

Yearly budgeting 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 to provide an ongoing forecast of the capital ratios of HVB Group.

More details on the development of these capital ratios are presented in the sections entitled "Risk-weighted assets, key capital ratios, and leverage ratio of HVB Group" and "Operating performance of HVB Group" in the section entitled "Financial Review" of this Management's Discussion and Analysis.

The total capital ratio of HVB Group is 21.0% at 31 December 2021 (31 December 2020: 22.5%).

Risk Report (Continued)

Economic capital adequacy

The internal capital is the sum of the aggregated economic capital for all quantified risk types (with the exception of liquidity risk). The economic capital measures the potential for unexpected loss over a time horizon of one year with a confidence level of 99.90%.

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.

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%)

	31/12/2021		31/12/2020	
Broken down by risk type	**€ millions**	**in %**	**€ millions**	**in %**
Credit risk	3,609	43.9	3,109	45.0
Market risk	2,125	25.8	1,858	26.9
Pension risk	1,463	17.8	851	12.3
Operational risk	425	5.2	472	6.8
Real estate risk	147	1.8	181	2.6
Business risk	225	2.7	239	3.5
Reputational risk	41	0.5	42	0.6
Aggregated economic capital	**8,036**	**97.6**	**6,751**	**97.8**
Model risk cushion	195	2.4	152	2.2
Internal capital of HVB Group	**8,231**	**100.0**	**6,903**	**100.0**
Available financial resources of HVB Group	**17,920**		**17,403**	
Risk-taking capacity of HVB Group, in %		**217.7**		**252.1**

Contains rounding differences.

Internal capital rose by €1,328 million in comparison to 31 December 2020.

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 operating segment (confidence level 99.90%)

	31/12/2021		31/12/2020	
Broken down by operating segment	€ millions	in %	€ millions	in %
Commercial Banking	1,635	24.9	1,379	23.4
Corporate & Investment Banking	4,706	71.6	4,201	71.2
Group Corporate Centre	231	3.5	85	1.4
Other	–	–	235	4.0
Consolidation	–	–	–	–
Internal capital (without pension risk and without the model risk cushion) of HVB Group	**6,573**	**100.0**	**5,900**	**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 broken down into regulatory metrics and managerial metrics and subdivided into categories such as capital, liquidity and interest rate risk, credit risk or risk and earnings. For the most part, targets, triggers and limits are defined for these metrics that allow excessive risk to be identified and countermeasures to be initiated at an early stage. The matter is escalated to the appropriate persons with authority, 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. has been identified as systemically important at a global level and HVB has at a national level. 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 an HVB Group recovery plan since 2015. For this reason, HVB works in close collaboration 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 15 October 2021 and has been in effect since then.

Risk Report (Continued)

Risk-taking capacity

As part of an analysis of the risk-taking capacity, HVB Group measures its 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 that, 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. The available financial resources at HVB Group totalled €17,920 million as at 31 December 2021 (31 December 2020: €17,403 million).

With internal capital (including the model risk cushion) of €8,231 million, the risk-taking capacity for HVB Group is 217.7% (31 December 2020: 252.1%). This figure is higher than the target of 160% HVB Group set itself in the 2021 risk appetite framework. The decline of 34.4 percentage points in comparison with 31 December 2020 for HVB Group is attributable to growth of €1,328 million or 19.2% in internal capital in 2021. The available financial resources have increased by €517 million or 3.0%. The increase in available financial resources is largely due to positive development in the profit component and the economic value adjustment excess.

Limit concept

The The risk limit system is a key component of the ICAAP at HVB Group. Its purpose is to guarantee 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 (including pension risks), operational, business, real estate and reputational risk are currently recorded. In addition, any model risks 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 Group has specified triggers in the form of early warning indicators in addition to the defined limits. The utilisation of, and hence compliance with, the limits is presented in the Bank's reports on a monthly basis. Any overshooting of limits is immediately escalated and return to compliance with limits is monitored.

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 2021:
– Pandemic W scenario (from June 2020) – W-shaped recovery from the COVID-19 pandemic
– Pandemic W+ scenario (from June 2020) – W-shaped recovery from the COVID-19 pandemic, an increase in global protectionist tensions and sovereign debt stress in Europe
– Severe inflation scenario (from December 2021) – sharp increase in inflation and inflation expectations
– Local U-shaped scenario – local severe U-shaped recession (from September 2020 through September 2021) – U-shaped recovery from the COVID-19 pandemic
– Local U-shaped+ scenario – local severe U-shaped recession+ scenario (only in September 2020) – U-shaped recovery from the COVID-19 pandemic with additional turbulence in the German financial system
– Historical scenario (from December 2020) – historical scenario based on the 2009 financial crisis
– Financial Intermediary scenario – a tougher version of the most severe scenario (in June 2020 the W+ scenario, in September 2020 the U+ scenario, from December 2020 the historical scenario) additionally maps the default of the financial intermediary with the highest stressed counterparty risk exposures

The stress tests across risk types are presented and analysed on a quarterly basis within the Stress Test Council, and from September 2021, in the Financial and Credit Risk Committee, and any measures required are presented to the Risk Committee (until August 2021) 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 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.

Risk Report (Continued)

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 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 risk types, such that concentration risk is integrated into assessment and controlling functions.

The concentration of earnings with individual customers or in operating segments, products, industries or regions represents a business-related strategy risk for the Bank. Risks arising from concentrations oft 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 Group was started in the first quarter of 2021. Existing and potential new risks are analysed and critically evaluated by means of structured interviews with numerous decision-makers within HVB Group and by means of questionnaires, among other things. This interview also covers aspects of the current COVID-19 pandemic as well as sustainability topics. The outcome of the 2021 risk inventory was presented to HVB's Financial and Credit Risk Committee in September 2021 and included in the calculation and planning of the risk-taking capacity. The risk inventory serves to review the overall risk profile of HVB Group. 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.

Internal reporting system

The internal reporting system supports risk monitoring at portfolio level in particular. 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 Financial and Credit 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, which focus on specific operating segments, countries or industries.

Risk types in detail

Where the measurement methods for individual risk types have been refined, details are presented under the risk type concerned.

1 Credit risk

Credit risk is composed 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 Group, 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 Group.

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 Group 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 Group's annual plan and takes into account ceilings arising from the requirements regarding the capital base. The limits are intended to leave scope for implementation of the business planning and also to set upper limits, specifically with regard to economic capital.

Risk Report (Continued)

Systematic controlling and setting of limits for credit risk are essential for sustaining HVB Group'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 and subsidiaries, or groups of subsidiaries of HVB Group
– operating 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:
– 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.

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 Group 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. Typical examples for which transaction ratings are applied are structured loans and securitisations.

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.

Risk Report (Continued)

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 EL that is used to manage the individual HVB Group sub-portfolios. HVB Group 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.

Internal credit risk model
HVB Group 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 take place on a monthly basis.

Special features of counterparty risk and issuer
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 Group uses derivative exchanges in its function as a central counterparty.

Quantification and specification
The economic capital for credit risk at HVB Group, without taking account of diversification effects between the risk types and without the model risk cushion, amounts to €3,765 million, which is €464 million higher than the total reported value as at 31 December 2020 (€3,301 million). This change is primarily attributable to changes in models. The financial investment risk from holdings in unlisted companies has been included in credit risk since September 2020.

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 Group including issuer risk from the trading book. Issuer risk arising from the trading book is also included in the regulatory market risk analysis by way of the incremental risk charge. 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 area 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 €18 million (31 December 2020: €19 million).

Risk Report (Continued)

Development of metrics by operating segment

Broken down by operating segment	EXPECTED LOSS[1] € millions 2021	EXPECTED LOSS[1] € millions 2020	RISK DENSITY[2] in bps 2021	RISK DENSITY[2] in bps 2020	ECONOMIC CAPITAL[3] € millions 2021	ECONOMIC CAPITAL[3] € millions 2020
Commercial Banking	216	202	20	19	1,319	1,119
Corporate & Investment Banking	136	136	10	8	2,435	2,164
Group Corporate Centre	—	—	19	10	6	17
Other	1	1	12	371	4	1
Consolidation	—	—	—	—	—	—
HVB Group	**353**	**339**	**14**	**13**	**3,765**	**3,301**

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%.
3 Without taking account of diversification effects and including financial investment risk.

In 2021, the expected loss of HVB Group increased by €14 million and risk density by 1bp.

The key contributor to this development was the Commercial Banking operating segment, in which the expected loss rose by €14 million and the risk density by 1bp.

The expected loss in the CIB operating segment remained almost unchanged; the risk density increased by 2bps is mainly due to drawing down liquidity reserves at Deutsche Bundesbank.

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

(€ millions)

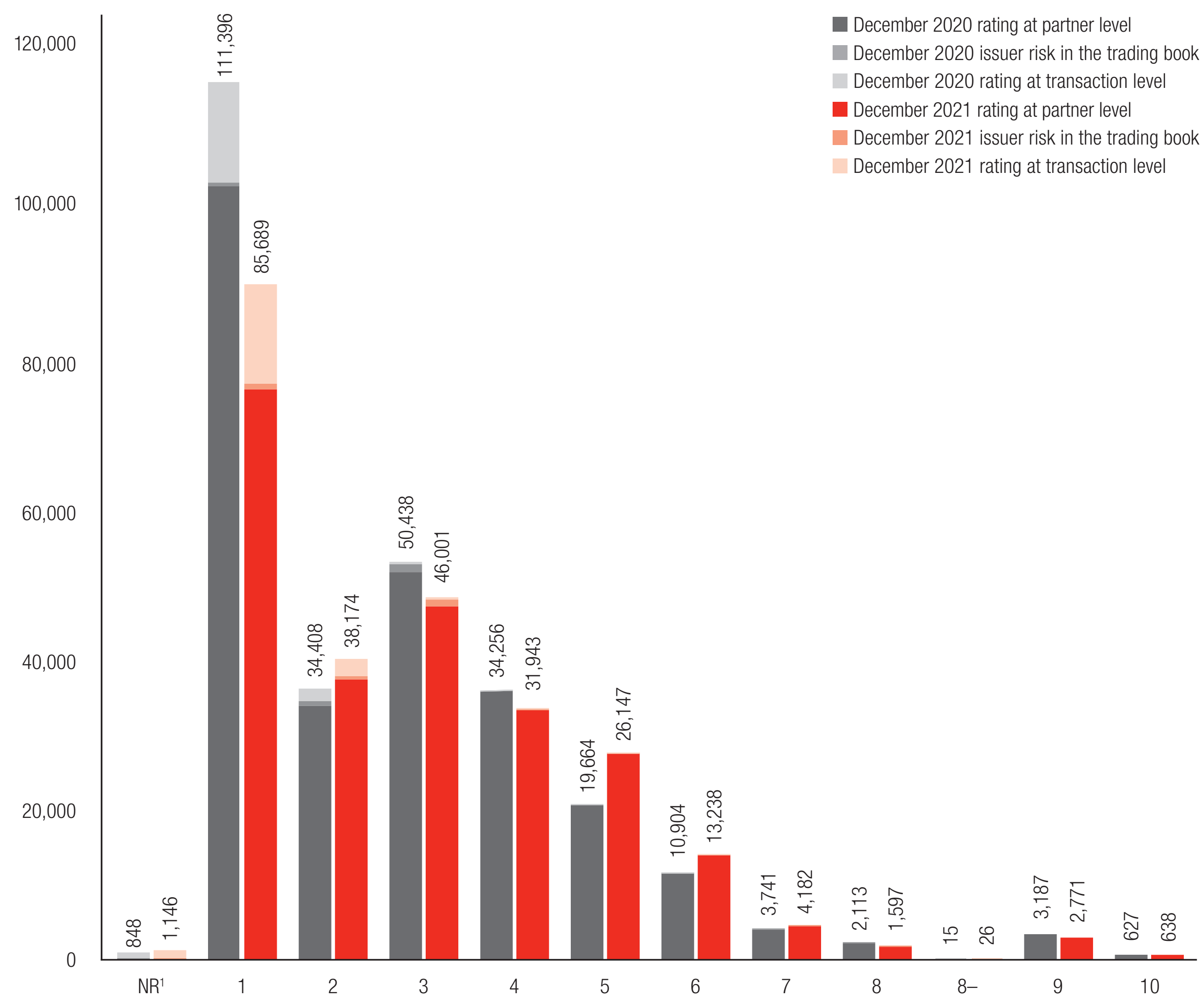
Broken down by operating segment	CREDIT DEFAULT RISK EXPOSURE 2021	CREDIT DEFAULT RISK EXPOSURE 2020	OF WHICH COUNTERPARTY RISK 2021	OF WHICH COUNTERPARTY RISK 2020	OF WHICH ISSUER RISK IN BANKING BOOK 2021	OF WHICH ISSUER RISK IN BANKING BOOK 2020	OF WHICH ISSUER RISK IN TRADING BOOK 2021	OF WHICH ISSUER RISK IN TRADING BOOK 2020
Commercial Banking	109,514	106,158	4,265	3,240	—	—	—	—
Corporate & Investment Banking	141,077	165,320	21,663	20,762	44,151	44,905	2,315	2,305
Group Corporate Centre	140	105	60	16	6	6	—	—
Other	821	14	—	—	—	—	—	—
Consolidation	—	—	—	—	—	—	—	—
HVB Group	**251,552**	**271,597**	**25,988**	**24,018**	**44,157**	**44,911**	**2,315**	**2,305**

HVB Group's credit default risk exposure fell by €20,045 million in 2021.

This figure includes a reduction in exposure of €24,243 million in the CIB operating segment. This is mainly due to the reduction in liquidity reserves built up at Deutsche Bundesbank.

In the Commercial Banking operating segment, exposure rose by €3,356 million. Main drivers included, among others, the real estate, financial institutions (incl. foreign sovereigns) and agriculture and forestry industry groups.

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



1 Not rated.

The rating structure of HVB Group changed in the course of 2021, primarily as a result of the reduction in exposure of €25,707 million in rating class 1. The key reasons for this are essentially the reduction in liquidity reserves built up at Deutsche Bundesbank.

Risk Report (Continued)

Development of metrics by industry group

Broken down by industry group	CREDIT DEFAULT RISK EXPOSURE € millions 2021	2020	OF WHICH ISSUER RISK IN TRADING BOOK € millions 2021	2020	EXPECTED LOSS[1] € millions 2021	2020	RISK DENSITY[2] in bps 2021	2020
Financial institutions (incl. foreign sovereigns)	65,270	84,117	1,724	1,819	30	27	5	3
Real estate	28,838	27,383	31	39	29	28	10	10
Public sector (German sovereign incl,								
sub-sovereign, excl, public service companies)	22,313	24,425	92	64	—	—	—	—
Special products	16,100	15,482	—	—	5	5	3	3
Energy	16,004	12,841	60	58	13	13	8	10
Machinery, metals	10,799	10,800	23	25	35	34	34	32
Chemicals, pharma, healthcare	9,599	10,812	46	44	30	28	32	26
Automotive	7,412	9,153	25	45	17	15	24	18
Construction, building materials	7,020	6,691	54	5	13	12	18	18
Food, beverages	5,910	7,313	6	20	11	13	19	18
Services	5,852	5,701	43	37	19	20	33	37
Consumer goods	5,677	5,072	15	8	19	24	35	48
Telecommunication, IT	5,303	4,693	59	50	8	6	16	14
Transport, travel	5,080	6,391	27	34	12	14	24	23
Agriculture, forestry	3,894	3,010	9	—	9	8	23	27
Electronics	2,713	3,348	21	16	8	5	28	15
Tourism	2,600	2,896	—	—	31	21	159	92
Media, paper	2,241	2,281	6	4	9	8	43	35
Shipping	1,672	2,062	—	—	5	11	34	61
Textile	1,458	1,654	9	1	3	6	23	43
Public service companies	1,052	1,304	59	11	1	2	8	16
Retail customers	24,701	24,124	—	—	45	38	18	16
Others	44	44	6	25	1	1	276	294
HVB Group	**251,552**	**271,597**	**2,315**	**2,305**	**353**	**339**	**14**	**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%,

The impact of the COVID-19 pandemic is monitored in each of the industry groups on a regular basis and taken into account in the 2021 risk strategy.

How the top five industry groups developed within HVB Group is described below.

Financial institutions (including foreign sovereigns)
The exposure in the financial institutions (including foreign sovereigns) industry group decreased by €18,847 million as at 31 December 2021 compared with year-end 2020, mainly driven by lower deposits at the Bundesbank. However, the portfolio's expected loss increased by €3 million and the risk density by 2bps, to 5bps.

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 2021 increased by €1,455 million compared with year-end 2020, whereby the expected loss and also the risk density remained almost unchanged at a low level (€29 million and 10bps). 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. So far, the COVID-19 pandemic has not resulted in any particular negative developments for the real estate portfolio.

Public sector (including German sovereign, excluding public service companies)
The public sector (including German sovereign, excluding public service companies) industry group contains both public entities and private enterprises with public-sector owners. 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, excluding public service companies) industry group, exposure decreased by €2,112 million in 2021. This decrease is essentially attributable to HVB's expired liquidity reserves.

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 lease transactions and other structured financial transactions (not including project and acquisition financing).

At €618 million, exposure increased significantly in the special products industry group in the 2021 financial year compared with 2020, despite the ongoing COVID-19 pandemic. In this context, the focus remained on customer-related securitisations, which was also in line with the 2021 risk strategy. The latter determined a strategy of growth within clearly defined parameters involving conservative credit standards (for instance in relation to asset classes and rating quality) for sub-segments of the special products portfolio. Despite this growth the expected loss and the risk density remained stable at a very low level (€5 million or 3bps respectively) compared with 2020.

Energy
Exposure in the energy industry group increased by €3,163 million in 2021.

The rise is driven by the increased volatility of energy and raw material prices with a corresponding impact on the fair value of hedging transactions. As our focus for new energy business is, as defined in the risk strategy, on large international companies with strong credit ratings in line with our internal sustainability standards, the overall portfolio quality was improved with an expected loss of €13 million and a risk density of 8bps. Project loans in the area of renewable energy are in line with the 2021 risk strategy and the funding standards.

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

Risk Report (Continued)

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

Broken down by eurozone countries	CREDIT DEFAULT RISK EXPOSURE 2021	CREDIT DEFAULT RISK EXPOSURE 2020	OF WHICH ISSUER RISK IN TRADING BOOK 2021	OF WHICH ISSUER RISK IN TRADING BOOK 2020
Germany	162,031	181,352	188	402
France	11,547	9,153	183	235
Italy	9,264	10,023	644	530
Spain	7,710	7,443	66	53
Ireland	5,391	8,181	13	16
Netherlands	4,429	3,833	45	55
Luxembourg	4,423	5,118	68	59
Austria	2,222	1,848	410	264
Finland	693	293	2	1
Belgium	446	512	12	15
Portugal	83	34	1	6
Greece	44	116	—	—
Slovakia	26	5	3	3
Slovenia	13	14	6	2
Cyprus	13	54	1	-
Estonia	11	16	—	—
Lithuania	5	15	4	13
Malta	—	—	—	—
Latvia	—	—	—	—
Supranational organisations and multilateral banks	2,297	2,532	223	71
HVB Group	**210,648**	**230,542**	**1,869**	**1,725**

Italy

The size of the portfolio results from HVB Group'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.

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 2021	CREDIT DEFAULT RISK EXPOSURE 2020	OF WHICH ISSUER RISK IN TRADING BOOK 2021	OF WHICH ISSUER RISK IN TRADING BOOK 2020
USA	8,827	9,573	211	123
UK	6,061	8,158	38	44
Switzerland	5,925	4,887	62	107
Japan	5,510	5,777	—	—
Asia/Oceania (without Japan, China, Hong Kong)	3,771	2,739	3	1
Western Europe (without Switzerland, UK)	2,221	2,120	15	44
China (including Hong Kong)	2,112	1,962	—	—
CIS/Central Asia (without Turkey)	1,567	1,214	26	63
Eastern Europe (without euro countries)	1,456	882	80	153
Near/Middle East	1,131	1,077	—	—
Turkey	1,068	818	—	2
Africa	692	810	—	—
North America (including offshore jurisdictions, without USA)	321	556	8	43
Central/South America	242	483	3	—
Without country classification	—	—	—	—
HVB Group	**40,904**	**41,056**	**446**	**580**

In 2021, the total exposure to customers in countries/regions outside the eurozone fell by €152 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 Group as at 31 December 2021 totalled €87.2 billion (31 December 2020: €99.6 billion). The year-on-year decline of €12.4 billion is primarily attributable to OTC interest rate swaps (down €15.0 billion) and cross-currency swaps (down €1.8 billion). This is offset by increases of €3.0 billion in other transactions and €1.6 billion in OTC interest rate options (purchases).

In accordance with the regulatory provisions under CRR and taking account of the internal model method (IMM) that has been approved by the regulatory authorities for use by HVB to determine counterparty risk, risk-weighted assets for counterparty risk in HVB Group’s derivatives business were €6.8 billion as at 31 December 2021 (31 December 2020: €5.1 billion).

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

Risk Report (Continued)

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	2021	2020	2021	2020	2021	2020
Interest rate derivatives	**1,918,589**	**1,889,296**	**1,776,795**	**5,584,680**	**3,923,146**	**68,610**	**81,822**	**63,873**	**75,765**
OTC products									
Forward rate agreements	940,639	1,144	—	941,783	326,980	48	21	45	23
Interest rate swaps	832,219	1,751,658	1,669,363	4,253,240	3,223,721	62,756	77,716	57,810	69,689
Interest rate options									
– purchased	16,711	49,963	47,488	114,162	125,679	5,435	3,825	204	235
– written	17,080	65,041	59,944	142,065	146,246	255	229	5,662	5,817
Other interest rate derivatives	35,795	6,808	—	42,603	54,018	116	30	152	1
Exchange-traded products									
Interest rate futures	50,495	10,682	—	61,177	30,457	—	—	—	—
Interest rate options	25,650	4,000	—	29,650	16,045	—	1	—	—
Foreign exchange derivatives	**217,803**	**41,657**	**2,920**	**262,380**	**248,726**	**2,642**	**3,318**	**2,612**	**3,006**
OTC products									
Foreign exchange forwards	181,116	26,469	2,905	210,490	189,572	2,192	2,579	2,212	2,420
Foreign exchange options									
– purchased	16,796	6,986	8	23,790	28,106	204	334	136	240
– written	19,795	8,202	7	28,004	30,608	184	303	264	346
Other foreign exchange derivatives	62	—	—	62	338	62	102	—	—
Exchange-traded products									
Foreign exchange futures	34	—	—	34	102	—	—	—	—
Foreign exchange options	—	—	—	—	—	—	—	—	—
Cross-currency swaps	**38,506**	**107,669**	**64,888**	**211,063**	**193,333**	**4,380**	**6,227**	**3,729**	**5,024**
Equity/index derivatives	**95,964**	**81,008**	**15,878**	**192,850**	**174,515**	**6,669**	**6,448**	**5,845**	**5,410**
OTC products									
Equity/index swaps	3,396	7,490	5,594	16,480	7,409	368	458	422	276
Equity/index options									
– purchased	2,831	2,264	2,443	7,538	7,346	278	194	12	53
– written	18,116	7,157	3,815	29,088	46,959	297	260	515	663
Other equity/index derivatives	29,141	318	2	29,461	26,623	1,819	1,681	2	—
Exchange-traded products									
Equity/index futures	13,805	10,780	1,244	25,829	16,131	—	—	—	—
Equity/index options	27,780	52,305	2,758	82,843	68,863	3,907	3,855	4,894	4,418
Equity swaps	895	694	22	1,611	1,184	—	—	—	—
Credit derivatives[1]	**1,736**	**15,629**	**377**	**17,742**	**9,486**	**210**	**82**	**334**	**290**
Other transactions	**41,579**	**19,040**	**614**	**61,233**	**16,424**	**4,685**	**1,709**	**7,073**	**1,768**
HVB Group	**2,314,177**	**2,154,299**	**1,861,472**	**6,329,948**	**4,565,630**	*** 87,197**	**99,606**	**83,466**	**91,263**

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 €1.0 billion as at 31 December 2021 (of which credit derivatives on a pro-rata basis: €0.2 billion).

Derivative transactions by counterparty type

(€ millions)

	FAIR VALUES			
	POSITIVE		NEGATIVE	
	2021	2020	2021	2020
Central governments and central banks	8,206	11,750	1,222	1,364
Banks	45,063	50,363	45,941	51,357
Financial institutions	28,029	32,588	29,264	34,619
Other companies and private individuals	5,899	4,905	7,039	3,923
HVB Group	**87,197**	**99,606**	**83,466**	**91,263**

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	2021	2020	2021	2020	2021	2020
Banking book	**18**	**383**	**74**	**475**	**189**	**1**	**—**	**1**	**8**
Protection buyer									
Credit default swaps	—	66	10	76	189	—	—	1	8
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	18	317	61	396	—	1	—	—	—
Protection seller									
Credit default swaps	—	—	—	—	—	—	—	—	—
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	—	—	3	3	—	—	—	—	—
Trading book	**1,718**	**15,247**	**303**	**17,267**	**9,297**	**209**	**82**	**333**	**282**
Protection buyer									
Credit default swaps	420	7,933	—	8,353	4,671	7	6	237	109
Total return swaps	265	66	48	379	901	2	2	82	157
Credit-linked notes	399	341	56	796	43	2	—	3	—
Protection seller									
Credit default swaps	440	6,542	151	7,133	3,662	197	74	8	16
Total return swaps	—	64	—	64	—	—	—	2	—
Credit-linked notes	194	301	48	542	20	1	—	1	—
HVB Group	**1,736**	**15,630**	**377**	**17,742**	**9,486**	**210.00**	**82**	**334**	**290**

Credit derivatives by reference asset

(€ millions)

	NOMINAL AMOUNT				
	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT-LINKED NOTES	TOTAL 2021	TOTAL 2020
Public sector bonds	306	130	131	567	578
Corporate bonds	14,958	115	674	15,747	8,197
Equities	—	—	—	—	—
Other assets	298	198	932	1,428	711
HVB Group	**15,562**	**443**	**1,737**	**17,742**	**9,486**

Risk Report (Continued)

Single-name credit derivatives make up 18.9% of the total; multi-name credit derivatives, relating notably to baskets or indices, account for a share of 81.1%.

Stress tests
By carrying out stress tests in the credit portfolio, credit risk managers obtain information on a quarterly basis about the possible consequences of a negative change 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, inverse stress tests and sensitivity analyses are carried out alongside the stress tests based on macroeconomic scenarios (results of which are included in the cross-risk-type stress test calculations, among others).

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 operating segment. As was already the case in previous years, the focus in 2021 was 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 market risk-bearing transactions of HVB Group recognised at fair value are aggregated every day to form value-at-risk (VaR) metrics and set against the risk limits for internal control purposes.

In accordance with the 2021 risk strategy, the existing framework for managing market risk limits has been confirmed. The main purpose of this new framework is to focus on the fluctuation of the values in profit and loss accounting. VaR limits are set for items recognised at fair value through profit or loss (FVTPL) and for items recognised at fair value through other comprehensive income (FVOCI). The risk limits are approved annually by the Management Board of HVB and adjusted as required. Both groups of limits are equally binding and compliance with them is equally enforceable.

When the 2021 risk strategy was adopted, the FVTPL limit for HVB Group was set at €54 million and the FVOCI limit at €23 million.

Monitoring of the regulatory metrics stressed VaR 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.

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 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 of the last 250 days.

HVB Group 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; however, the associated 12-month observation period is selected in which the most significant negative market changes for HVB's trading portfolio have occurred. 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 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 default 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 recognised at fair value are monitored using a hierarchical limit system that restricts the potential loss from market risk. This involves restricting the VaR totals from FVTPL and FVOCI positions by setting appropriate limits.

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

Risk Report (Continued)

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.

HVB Group calculates 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, in which connection only interest rate movements are taken into account for positions carried at cost. Any hedge effect of the model book for own funds is not included. The results from the credit valuation adjustment (CVA) and funding valuation adjustment (FVA) risk are added to this hypothetical distribution, whereby the FVA risk is derived from the expected future funding costs of derivative transactions. Furthermore, market risks are also added 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 Group, without taking account of diversification effects between risk types, amounts to €2,258 million (31 December 2020: €1,999 million).

The following table shows the aggregated market risk for internal risk controlling at HVB Group over the course of the year. Most of the market risk arises from positions of the CIB operating segment of HVB Group.

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

	MARKET RISK OF POSITIONS RECOGNISED AT FVTPL			MARKET RISK OF POSITIONS RECOGNISED AT FVTOCI		
	AVERAGE	PERIOD END		AVERAGE	PERIOD END	
	2021	31/12/2021	31/12/2020	2021	31/12/2021	31/12/2020
Credit spread risk	6.0	3.7	10.3	4.8	2.9	10.9
Interest rate positions	7.1	7.1	6.0	3.3	2.3	7.8
Foreign exchange positions	1.8	0.7	1.8	0.2	0.2	0.2
Equity/index positions[1]	4.0	6.6	6.2	–	–	–
HVB GROUP[2]	**7.1**	**8.2**	**11.1**	**6.1**	**3.4**	**11.9**

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.

The decline in risk in 2021 is attributable to reduced market volatility as a result of less uncertainty regarding the COVID-19 pandemic.

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

Regulatory capital requirements of HVB Group (€ millions)

	31/12/2021	30/9/2021	30/6/2021	31/3/2021	31/12/2020
Value at risk	76	47	47	94	92
Stressed value at risk	294	179	198	216	247
Incremental risk charge	240	221	263	256	220
Market risk standard approach	51	51	55	66	60
CVA value at risk	7	4	6	25	34
Stressed CVA value at risk	34	35	35	36	38
CVA standard approach	44	44	60	40	34

The decline in risk metric value at risk in the second and third quarters of 2021 is mainly due to fewer market fluctuations in connection with less uncertainty with respect to the economic consequences of the COVID-19 pandemic.

Risk Report (Continued)

Regulatory back-testing of the internal model at HVB for 2021

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. Eight reportable back-testing outliers occurred in 2021. The hypothetical loss was larger than the forecast VaR figure on these days.

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 2021, there were four instances of a limit being exceeded.

Besides back-testing, further methods are used at quarterly intervals 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 Group 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 relative to 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 Group, 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).

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 potential market movements in the future. The Contagion scenario assumes that the debt crisis will worsen in Europe whereas three hypothetical scenarios "W Recovery", "W Recovery Trade and Sovereign Tensions" and "Temporary Stagnation" take account of the different effects of the COVID-19 pandemic. From December 2021, high inflation and rising interest rates are simulated in the "Severe Inflation" scenario.

At 31 December 2021, the most significant stress test result involves a potential loss of €0.6 billion from the "W Recovery Trade and Sovereign Tensions" scenario. This scenario is also used in the cross-risk-type stress tests, where it is analysed for risk-taking capacity. On 31 December 2020, the "W Recovery Trade and Sovereign Tensions" scenario also showed the highest stress test loss at €0.7 billion.

HVB Group stress tests at 31 December 2021 (€ 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 2021. 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 statistical analyses.

Risk Report (Continued)

HVB Group 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. The market risk of the Treasury department is monitored 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. In addition, six further interest rate scenarios are calculated as early warning indicators, in which, however, the changes in present value are considered in relation to the core capital. In December 2021, the plus 200bps increase in interest rates and the parallel shift upwards as an early warning indicator resulted in the greatest negative changes in present value. The interest rate scenarios stated are calculated according to Circular 6/2019 (BA) of the Federal Financial Supervisory Authority on interest rate risks in the banking book. The evaluations are carried out as required without taking account of the hedge effect from the model book for own funds from a regulatory perspective. In accordance with the European Banking Authority, additional modified model assumptions have been included in the calculation of the sight and savings deposits.

Information on interest rate risks in the banking book

	31/12/2021		31/12/2020	
	€ millions	in %	€ millions	in %
+ 200 basis points	(1,644)	(9.0)	(353)	(1.9)
– 200 basis points	115	0.6	(37)	(0.2)

HVB Group 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. These figures include HVB's positions as well as the positions of the material Group companies, customer margins are not included. The significant changes in figures compared with year-end 2020 are due to the decrease in the model components of sight and savings deposits that were not invested due to higher interest rates.

In addition to the present value approach, a simulation of net interest in the banking book is performed for HVB Group 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 100bps upwards (parallel upwards) and by minus 25bps to minus 100bps downwards depending on the currency (parallel downwards). The interest rate shocks downwards were updated at the beginning of the year. Assumptions regarding the elasticity of sight 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 downwards 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 early warning indicator of minus 11.0%.

Effects of changes in the interest rate on net interest

	31/12/2021		31/12/2020	
	€ millions	in %	€ millions	in %
Parallel upwards	(63)	(2.7)	180	7.3
Parallel downwards	23	1.0	(31)	(1.3)

The resulting sensitivity analysis was carried out on the basis of the planned net interest for the 2021 financial year. The change in results compared with the previous year can be explained by the changed positions held by the Bank.

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 consists of the following categories:
– short-term liquidity risk
– operational liquidity risk (as part of the 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 the market liquidity risk is provided in the section entitled "Market risk".

Risk Report (Continued)

Strategy
Liquidity management at HVB Group 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. The result is the specification of limits, triggers and 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 Group 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 things, specific processes, the implementation of an early warning system complete with early warning indicators and a limit system as well as the management of highly liquid assets made available as collateral serve to reduce the liquidity risk.

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 Group.

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 Group 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 Group-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 countermeasures 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 test scenario over a period of 30 calendar days.

Funding risk

To measure funding risk, the long-term funding requirements based on the expected business development are determined and updated in a coordinated process. The long-term funding requirements, which are used to set the funding targets and are presented to the Financial and Credit Risk Committee in the context of a financial risk session, take into account the assets and liabilities falling due in the planning period. 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 CRR II 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. In addition, both the loan-to-deposit ratio and the funding gap are recorded.

Monitoring and controlling

Short-term liquidity risk

The task of monitoring the short-term liquidity situation at HVB Group 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 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, monthly 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 and the early warning indicators, while the CFO organisation has been tasked with monitoring and analysing the portfolio of freely disposable securities eligible as collateral for central bank borrowings that can be used at short notice to cover unexpected liquidity outflows as well as concentration risk. 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 Group 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 Group 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 Financial and Credit Risk Committee and the Management Board 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 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 Group by the Market Risk unit in the CRO organisation.

Risk Report (Continued)

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 €41.5 billion at HVB Group for the three-month maturity bucket at 31 December 2021 (at 31 December 2020: €56.6 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 €12.1 billion at the end of 2021 (31 December 2020: €13.5 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 2021 with a value of more than 100%.

Funding risk

The funding risk of HVB Group was again low in 2021 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 2021, HVB Group had obtained longer-term funding with a volume of €14.4 billion, including a further TLTRO III tranche of €5.9 billion (31 December 2020: €38.3 billion), €25.7 billion of which was concluded via the Targeted Longer-Term Refinancing Operation of the ECB (TLTRO III). There is a regulatory minimum ratio of 100% to be complied with from June 2021 for the NSFR. HVB adhered to a ratio of over 100% in 2021 based on CRR II requirements. The internal indicator "adjusted NSFR greater than three years" was over 100% in this period. On account of their ratings, our Pfandbriefe still remain an important funding instrument.

(in %)

BREAKDOWN OF SOURCES OF FUNDING OF HVB GROUP	
Deposits from customers	49.4
Deposits from banks	9.3
Debt securities (including Pfandbriefs)	12.0
Repos[1]	3.1
Equity	6.6
Central banks	12.0
Financial liabilities held for trading[2]	2.7
Other	2.8
Financial assets at fair value through profit or loss	2.1

1 Repos from the items "Financial liabilities held for trading", "Deposits from customers" and "Deposits from banks".
2 Without the item "Negative fair values arising from derivative financial instruments".

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 2021 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 (OpRisk) 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 and strategic risk areas relevant to operational risk.

Limit system

Operational risk is part of the internal capital, with a limit set for HVB Group accordingly.

Reduction

HVB Group has a group-wide organisational structure for operational risk management. The individual business areas of HVB and each subsidiary of HVB Group are responsible for identifying, analysing and managing operational risk.

Loss events that have occurred and significant risks are reported to the Management Board 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 IT services for HVB Group. IT services needed to meet special requirements of HVB subsidiaries will be secured through additional selected providers. In this connection, both HVB and HVB Group adhere to a control framework set forth by UniCredit Group in order to monitor and manage all significant IT and cyber risks appropriately within the ICT management processes. Any such outsourcing of activities to additional providers is subject to clear IT compliance guidelines and will also be monitored in the context of the overarching control process.

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. The business continuity and crisis management function successfully navigated the COVID-19 pandemic which has persisted since 2020.

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, data protection and the legal areas covered by compliance, which are overseen by the respective functional departments.

Risk Report (Continued)

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. Part of the ICS is the compliance function (second line of defence), which helps the Management Board to manage compliance risk. In terms of the three lines of defence, however, the business units have the task (first line of defence) of knowing 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 a compliance function should be structured. At HVB, both functions are combined in the Compliance unit in order to ensure a uniform approach. Anti-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 and other companies belonging to HVB Group are involved in various legal proceedings. The following is a summary of cases against HVB and other companies belonging to HVB Group, 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 a loss is considered likely, and it is possible to reliably estimate the amount of possible losses, provisions have been set up based on the circumstances and consistent with IFRS accounting principles applied by HVB Group.

VIP 4 Medienfonds
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 the Bank provided inadequate disclosure 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.

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. In this context, criminal investigations have been conducted against current or former employees of HVB and HVB itself as an ancillary party by the Prosecutors in Frankfurt/Main, Cologne and Munich. With respect to HVB, all proceedings originally initiated by the aforesaid prosecution offices were finally closed with payment of a fine or the payment of a forfeiture.

In December 2018, in connection with an ongoing investigation against other financial institutions and former Bank employees, HVB was informed by the Cologne Prosecutor of the initiation of a new 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 is cooperating with the authorities.

On 28 July 2021, the Federal Criminal Court (BGH) rendered a decision through which the principle criminal liability of cum/ex structures was determined the first time. HVB is monitoring the development.

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 transactions in equities around the dividend record date (so called cum/cum transactions). 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 cum/cum transactions. It remains to be clarified whether, and under what circumstances, tax credits can be obtained or taxes refunded with regard to different types of cum/cum transactions, 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. In this context, HVB is considering the latest view of the German Tax Authorities.

HVB has made provisions.

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. In December 2020, the case was formally registered before the District Court of Luxembourg. The alleged claim is still under evaluation.

Financial sanctions matters
Following the settlement in April 2019, the U.S. and New York Authorities require an annual external review regarding the evolution of the process implementation. In light of the request, in 2020, the Group appointed an external independent consultant. Following the interaction with the independent consultant and also considering the mandatory commitments towards the Authorities HVB has implemented additional requirements and controls, about which the bank makes periodic reports to the Authorities.

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 extended to certain periods from 2007 to 2011 and included activities by HVB between September and November 2011. The European Commission concluded its investigation by issuance of its decision on 20 May 2021. The decision provides for the imposition of a fine of €69.4 million on the parent company UniCredit S.p.A and HVB. UniCredit S.p.A. and HVB contest the European Commission's findings and brought an action for the annulment of its decision before the General Court of the European Union on 30 July 2021.

Risk Report (Continued)

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 on 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. On 23 July 2020, the court granted motions to dismiss the third amended complaint by certain defendants, including HVB and UniCredit Capital Markets LLC, without prejudice. Plaintiffs filed their fourth amended class action complaint on 9 February 2021, repleading their claim against HVB and UniCredit Capital Markets LLC and other financial institutions. Like earlier pleadings, the fourth amended class action complaint does not include a quantification of damages claimed. Exchange of correspondence concerning motions to dismiss the fourth amended complaint has been completed, and in June 2021 defendants have requested a pre-motion conference with the court.

Adjustment of fees conditions as well as general terms and conditions

On 27 April 2021, the Federal Court of Justice (Bundesgerichtshof) decided in a ruling against another financial institution that in ongoing contracts fee conditions as well as general terms and conditions can only be amended vis-à-vis consumers if the customer declares his consent. Until now, the financial industry had assumed, based on a common provision in the general terms and conditions, that it was sufficient if the customer was notified of the changes and did not object within two months. The bank has examined the effects of the ruling on its contractual relationships. For a part of the contracts, adjustments to fee conditions made in the past under this provision are ineffective, so that repayment obligations may arise. The bank is asking the clients concerned to declare their consent to the current fees and general conditions.

Claims in relation to a syndicated loan

HVB, together with several other financial institutions, has been named as a defendant in complaints filed by the judicial administrator and foreign representative of a Brazilian oil and gas conglomerate in July 2021 in the United States before the District of New York court claiming damages in connection with the repayment of a syndicated loan for two oil drilling rigs HVB participated that defendants are alleged to have unlawfully obtained.

Claim in relation to interest rate swap

In December 2021 HVB was named as defendant in a case pertaining to an interest rate swap commenced by an Italian region before the Court of Bologna in Italy. The region argues, inter alia, HVB´s precontractual and/or non-contractual liability because HVB had allegedly missed to include certain requirements in the swap allegedly needed for the validity of the contract. The region seeks damages for an amount of approx. €52 million (equal to the payments made under the swap), as well as a declaration that no further sums are due to HVB (equal to approx. €18 million). The first hearing of the case is scheduled for 30 June 2022.

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. The VaRs of the individual model risk categories are modified to reflect internal control and business environment factors. In the aggregation, correlations between the model risk categories and risk-reducing measures, such as insurance policies, are taken into account.

In line with UniCredit's approach, operational risk 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.

The model was developed by UniCredit S.p.A. HVB checks the plausibility of the calculation results at regular intervals. The AMA model is validated on an annual basis to ensure that it is appropriate.

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

In the section entitled "Other risks", HVB Group collates the following types of quantifiable risk: real estate risk, business risk, pension risk, reputational risk and financial investment risk (which is shown via market and credit risk) as well as the risk type strategic risk, which is described exclusively in qualitative terms. The risk arising from outsourcing activities is not treated as a separate risk type at HVB Group, 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 real estate required for operations (used by the Bank) and real estate that is not used for operations (not used by the Bank). It is planned to develop an alternative location for the Tucherpark site, which was sold. The longer-term orientation for real estate used by the Bank 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 Group at market terms on a cost-optimised basis.

Risk Report (Continued)

Facility concepts are drawn up both for the Bank's own real estate portfolio and the leased properties. Taking into account the above-mentioned premises, the requirements of the divisions and holistic, value-optimised management are the decisive factors for decisions.

The main risks for the Bank-owned portfolio primarily stem from the development of the market value. The risk drivers are the future usage by the Bank, market rents, rental contract periods, occupancy rate, required investment and the price development on the real estate market. The medium-term goal for the real estate portfolio not used by the Bank, on the other hand, is to realise the best possible value upon disposal of the 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. In terms of HVB Group's real estate risk, the COVID-19 pandemic has essentially led to the postponement of individual disposals due to restrictions. Possible long-term effects on fair values are not yet discernable.

Real estate risk is managed overall on the basis of an internal capital limit for HVB Group. In addition, economic capital limits adjusted for diversification effects were allocated to the operating segments and the relevant subsidiaries for 2021 in the context of overall bank management. Based on these limits, HVB Group defined additional early warning indicators in the form of targets and triggers in order to identify in advance any overshooting.

To quantify real estate risk, the Bank uses an empirical Bayesian model (a group-wide real estate risk 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 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 operating 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 real estate risk at HVB Group, without taking account of diversification effects between the risk types and without the model risk cushion, amounts to €313 million at 31 December 2021, which represents a decrease of €32 million (31 December 2020: €345 million). The fully diversified economic capital for real estate risk at HVB Group stands at €147 million (31 December 2020: €181 million).

The risk figures relate to a portfolio valued at €2,766 million.

Breakdown of the real estate portfolio by type

	PORTFOLIO VALUE € millions		SHARE in %	
	2021	2020	2021	2020
Real estate used by the Bank	2,227	2,262	80.5	76.4
Real estate not used by the Bank	539	698	19.5	23.6
HVB Group	**2,766**	**2,960**	**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 on the basis of an internal capital limit for HVB Group. Based on this limit, HVB Group has additionally defined early warning indicators in the form of targets and triggers in order to identify in advance any overshooting.

HVB Group 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 areas, 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 Group's business risk, without taking account of diversification effects between the risk types and without the model risk cushion, amounted to €344 million at 31 December 2021 (31 December 2020: €346 million). The fully diversified economic capital for HVB Group's business risk totals €225 million as at 31 December 2021 (31 December 2020: €239 million).

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

Risk Report (Continued)

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 plan assets and the cash flows on the obligations side. A figure of €1,555 million was determined as at 31 December 2021 for the total pension risk of HVB Group (31 December 2020: €915 million). The increase compared with year-end 2020 is primarily due to a significantly higher assumed potential interest shock on benefit obligations as a result of an increase in interest rates. The risk figure is incorporated in the calculation of the risk-taking capacity in the form of an additive component in market risk before aggregation as the internal capital. In addition, the impact on pension risk is analysed at regular intervals as part of the cross-risk-type stress tests.

The interest rate level still appears to be the main driver of the risks for the amount of pension obligations reported. Despite the slight increase in yields in recent months, the persistently low yields continue to pose a challenge in generating the returns on investments that can be achieved with an acceptable level of risk. A further increase in yields would reduce the total pension obligations but would also have a negative impact on the valuation of bonds. Furthermore, an increase in volatility in the capital markets could potentially have a negative impact on the asset side.

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 financial investment risk are either considered strategic and allocated to a business area or competence line, or deemed non-strategic and connected with the fundamental goal of reduction.

Financial investment risk is controlled at a higher level on the basis of a limit for internal capital for HVB Group. In addition, the business areas and the relevant subsidiaries have been allocated limits for economic capital for the year 2020 that were adjusted for diversification effects for the purpose of overall bank management. On the basis of these limits, HVB Group has additionally defined early warning indicators in the form of target values and triggers in order to indicate in advance any overshooting. As holdings from unlisted companies were subsumed under credit risk in September 2020, a limit has no longer been directly allocated to this part of the financial investment risk from 2021.

The risk from holdings in unlisted companies has been included under credit risk since September 2020. The following risk drivers are relevant for financial investment risk: the carrying amounts of investments and the related residual capital contribution liabilities and the macroeconomic situation. In addition, risks from hedge funds, private equity funds (including issuer risks from the trading book) and FX risks from the investment portfolio are included in the calculation of the market risk.

The economic capital for financial investment 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 areas, the CRO, the Management Board and the Risk Committee of the Supervisory Board. In line with the risk strategy, quarterly risk reporting until June 2020 also included a comparison of the actual values with the limits.

The economic capital from holdings in unlisted companies for financial investment risk at HVB Group has been included under credit risk since September 2020.

Breakdown of the financial investment portfolio

	PORTFOLIO VALUE € millions		SHARE in %	
	2021	2020	2021	2020
Private equity investments	10	10	4.0	4.1
Other investments[1]	229	225	96.0	95.9
HVB Group	**239**	**235**	**100.0**	**100.0**

1 Listed and unlisted investments.

The impact of macroeconomic scenarios on financial investment risk within credit risk is examined in the course of cross-risk-type stress tests.

Strategic risk

As a universal bank, HVB Group 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 Group's profitability and risk profile 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 Group.

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

- Economic environment – If new COVID-19 variants continue to spread, the prices for energy and intermediate goods increase further and economic growth weakens more than expected, this could have negative effects on the earnings situation of HVB Group.
- Strategic orientation of the business model of HVB Group – The persistently low level of interest rates could, for example, lead to imbalances in the earnings contributions of the business areas.
- 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.

Risk Report (Continued)

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, the national and international environment in which HVB Group operates is continually monitored (for example, political, economic, regulatory or specific banking market conditions) and the Bank's own strategic positioning is continually reviewed.

Strategic risk is monitored 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 as required. 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.

Reputational risk

HVB and its most important subsidiaries apply 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 special purpose vehicles) 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 Non-Financial Risks and Controls Committee or the reputational risk function together with the specialist departments 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.

Within the framework of the "run-the-bank" approach, the risk is classified in accordance with a three-tier system (traffic light logic). 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 areas 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.

In addition to the "change-the-bank" and the "run-the-bank" approach, UniCredit's method for quantifying reputational risk was introduced at HVB corporate group in the first quarter of 2020. For the purposes of quantification, reputation risk is defined as the impact of "negative sentiment" in the opinion-forming media (press, television, online media) on UniCredit's future profits generated by the reporting of an event that has a negative impact on the Bank's reputation.

UniCredit's method for quantifying reputational risk is based on measuring the semi-elasticity between the development of the Media Tonality Index (a measure, the development of which reflects changes in UniCredit's reputation) and the development of the idiosyncratic portion of the expected profits. The economic capital for reputational risk is based on the value-at-risk (VaR) measure, which is calculated at a confidence level of 99.90% and is derived from the distribution of expected declines in profit.

The economic capital for reputational risk is calculated on a quarterly basis at UniCredit corporate group level and – based on the weighted "ratio of capital for operational risk of the subsidiary to the capital for the operational risk of UniCredit corporate group" – distributed between the subsidiaries of UniCredit corporate group.

The Operational & Reputational Risks department checks the results obtained from calculating the economic capital for the reputational risk of HVB corporate group on a quarterly basis for their plausibility. The method for the quantification of reputational risk is validated at regular intervals.

The impact on reputation risk stemming from a change in sentiment about UniCredit in the opinion-forming media is examined in the course of cross-risk-type stress tests. The extent of this change is determined by assessing the severity of the respective macro-economic scenario.

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 or a subsidiary of HVB Group. 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 other-wise be performed by the outsourcing company itself. This includes outsourcing arrangements within UniCredit as well as the subcon-tracting of outsourced activities and functions to subcontractors.

Outsourcing risk is considered a cross-risk-type risk at HVB Group 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. 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 Group's risk management in the processes defined for the risk types concerned. The operational risk managers help the project managers and the heads of the RTOs to prepare and/or update the related risk analyses. Other external service providers for whom aspects of ICT security, data protection or business continuity are relevant have been evaluated in a dedicated third-party risk management process since mid-2020.

In 2021, a new critical/material outsourcing arrangement was agreed in HVB Group by HVB. Due to the post-trade transparency reports to be submitted separately to the UK supervisory authority after Brexit, an outsourcing agreement was concluded with MarketAxess Ltd for services relating to the Approved Publication Arrangement (APA) and Approved Reporting Mechanism (ARM) under MiFID II. This did not result in a significant change in the risk.

ICS – Internal Control System

Internal control system with regard to the financial reporting process

Section 315 (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.

As part of UniCredit, HVB Group is obliged to comply with Law 262 ("the 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, Law 262). Alongside the internal CFO controls, there are also checking and control steps in the upstream processes and organisations.

Definitions and objectives

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 HVB Group is presented in the Risk Report in the present Management's Discussion and Analysis. The respective risk types are described in detail in the sections entitled "Risk types" and "Risk types in detail".

The internal control system (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.

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 give a true and fair view of the assets, liabilities, financial position and profit or loss. These risks might possibly entail legal penalties and, in addition, the erosion of stakeholders' confidence and thus damage to the Bank's reputation. The purpose of the ICS with regard to the financial reporting process is to implement controls that ensure with an adequate degree of certainty that the annual and consolidated financial statements together with the Management Report and Management's Discussion and Analysis are prepared in compliance with regulations despite the identified risks.

The method of the ICS in relation to the financial reporting process and thus the introduction of processes including risk and monitoring assessment is based on the international "Internal Control – Integrated Framework" issued by the Treadway Commission's Committee of Sponsoring Organizations (COSO). 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: Mapping of all relevant transactions such as assets, liabilities and provisions that have an effect on the financial reports.
- Measurement: Recognition of the relevant items at their correct amounts in the financial reports.
- Presentation and disclosure: The financial reports are correctly classified and discussed regarding recognition, structure and disclosures in the notes to the financial statements, comply with 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 HVB Group, taking measures to refine the systems and adapt them to changing conditions. At Board meetings, focused on the Internal Control Business Committee, the Management Board discusses the consolidation and monitoring of all projects and measures related to the ICS on a regular basis.

Responsibility for the financial reporting process and, in particular, for the preparation of the annual and consolidated financial statements rests with the Chief Financial Officer (CFO). The CFO receives significant support in this context from the Chief Risk Officer (CRO) 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 extend 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 of the Chief Operating Officer (COO).

Organisational structure and tasks of the CFO organisation

For purposes of the financial reporting processes, the 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 HGB, it prepares the consolidated financial statements and is also responsible for the financial reporting in the Annual Report of HVB Group. In addition, the management and administration of shareholdings for financial reporting purposes and the regulatory reporting for HVB Group to the banking supervisory authorities are positioned in this unit.

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 Group. 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. It is also responsible for the management of capital and capital allocation as well as the risk-return methodology. Moreover, the business segment-related controlling departments for all the segments excluding Corporate & Investment Banking (CIB) and the Group Corporate Centre (GCC) are assigned to CCP. Controlling for CIB is the responsibility of CIB Planning and Control (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 (CFF) 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 production for the CFO organisation are amalgamated in CDO 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

Based on the requirements under Law 262 and the legal requirements under HGB, 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 Group. To reduce the risk of misrepresentation in financial reporting, various preventive and investigative controls are carried out which are documented in process descriptions. Attention is paid to compliance with the separation of functions and with approval authority regulations in the definition of controls. The controls comprise both manually operated system-based controls and purely manual controls. Alongside the internal CFO controls, there are also checking and control steps in the upstream processes and organisations.

The focus of risk and monitoring analysis is on identifying and evaluating the risks and controls relevant to financial reporting. Identified risk potential is to be sufficiently mitigated through defined control steps. In periodic representative spot checks, those responsible for the controls document the implementation of these controls and provide adequate records. If no controls are implemented or if controls are identified that do not sufficiently reduce risk, or there is insufficient documentation of the controls, measures are initiated to eliminate the identified deficiencies. The timely implementation and documentation of these measures are reviewed on a quarterly basis.

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 S.p.A., that controls to ensure correct reporting have been carried out.

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 framework, 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.

The controls cover the aspects of the ICS described below:

Group posting and accounting rules defined in the UniCredit Group Accounting Manual (GAM), which is valid for the Group as a whole, serve to ensure consistent financial reporting about the Group's business activities. In addition, 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 positions delivered by the upstream systems are reconciled and an automatic check of the totals against the general ledger account balances is performed, which serves as proof of the completeness of balance sheet items. The Accounting department collates the data relevant to the financial statements. 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 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 reconciled 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, MarktIT and others. Valuation adjustments and valuations based on estimates are to be agreed by the CRO and CFO organisations.
- 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 consolidated financial statements prepared in accordance with IFRS are based on the standalone financial statements of HVB, the subsidiaries included in the consolidated financial statements and special purpose entities on the basis of local accounting rules. These financial statements are converted by the reporting companies to HVB Group standards in accordance with the group-wide UniCredit Accounting Principles and transformed to comply with the corporate position classifications. The financial information reported within the framework of the consolidated financial statements is included in the process of auditing the consolidated financial statements. The figures for the consolidated financial statements and the subsequent consolidated bookings are collected and reported using the TAGETIK CPM consolidation system marketed by Tagetik Software S.R.L. This is used across the entire corporate group and networked across all Group companies. After the figures have been entered in or transferred to this system by the Group companies, the system is closed for further entries in line with the phases of the consolidation process. These data may only be changed in exceptional circumstances, as agreed with the subsidiary concerned. The consolidation process includes system-based validation checks at a diverse range of levels to reduce the risk of error. In addition, plausibility checks are carried out on a regular basis.

The figures presented in the consolidated balance sheet and consolidated 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 through the use of checklists and through the review and approval of the data 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 in accordance with 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 Chief Data Office and 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 in particular 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 implies a time restriction of no more than one year.

Furthermore, contingency plans are in place to ensure the availability of human and technical resources to handle processes regarding financial reporting. These contingency plans are updated and refined regularly and on an ad hoc basis.

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 Spokesman of the Management Board (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 adequacy of the internal control system
- applications, functionality, effectiveness and adequacy 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 include 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 management of the Internal Audit department informs the Audit Committee and the Risk Committee of the Supervisory Board on a quarterly basis at the meetings of these committees on 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 by reviewing and approving the annual and consolidated financial statements, the Management Report and the Management's Discussion and Analysis as well as the proposal for the appropriation of profit. 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 areas.

In the course of the update of the ICS in relation to the financial reporting process, the documented processes are subject to half-yearly reviews and adjustments for organisational changes and changes in content by the persons responsible for the process and controls.

Financial Statements (2)

Consolidated Financial Statements

Consolidated Income Statement

Consolidated Income Statement

(€ millions)

INCOME/EXPENSE	NOTES	1/1-31/12/2021	1/1-31/12/2020
Interest income		3,299	3,423
of which calculated using the effective interest method (based on classification according to IFRS 9)		2,253	2,486
Negative interest on financial assets		(376)	(211)
Interest expense		(1,040)	(1,207)
Negative interest on financial liabilities		633	408
Net interest	36	2,516	2,413
Dividends and other income from equity investments	37	28	37
Net fees and commissions	38	1,115	1,007
Net trading income	39	655	662
Net gains/(losses) on financial assets and liabilities at fair value	40	85	(78)
Net gains/(losses) on derecognition of financial instruments measured at cost	41	(9)	(3)
Net other expenses/income	42	(142)	603
Payroll costs		(1,485)	(1,451)
Other administrative expenses		(1,202)	(1,231)
Amortisation, depreciation and impairment losses on intangible and tangible assets		(119)	(126)
Operating costs	43	(2,806)	(2,808)
Credit impairment losses IFRS 9	44	(114)	(733)
Provisions for risks and charges	45	(153)	11
Restructuring costs	46	(617)	(35)
Net gains/(losses) on disposals of investments	47	(13)	(4)
PROFIT/(LOSS) BEFORE TAX		**545**	**1,072**
Income tax for the period	48	(300)	(404)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))		**245**	**668**
attributable to the shareholder of UniCredit Bank AG		244	668
attributable to minorities		1	—

Earnings per share

in €

	NOTE	1/1-31/12/2021	1/1-31/12/2020
Earnings per share (undiluted and diluted)	49	0.30	0.83

Consolidated Statement of Total Comprehensive Income

(€ millions)

	1/1-31/12/2021	1/1-31/12/2020
Profit/(loss) after tax recognised in the income statement (consolidated profit/(loss))	**245**	**668**
Income and expenses recognised in other comprehensive income		
Income and expenses not to be reclassified to the income statement in future periods		
Actuarial profit/(loss) on defined benefit plans (pension commitments)	196	(201)
Allocation to/withdrawal from the revaluation surplus for owner-occupied property (IAS 16)	95	75
Change in the fair value of financial liabilities at FVTPL attributable to changes in the default risk		
(own credit spread reserve)	(45)	(13)
Other changes	1	1
Taxes on income and expenses not to be reclassified to the income statement in future periods	(198)	19
Income and expenses to be reclassified to the income statement in future periods		
Changes from foreign currency translation	7	(8)
Changes in the measurement of financial instruments (hedge reserve)	—	(4)
Unrealised gains/(losses)	—	(4)
Gains/(losses) reclassified to the income statement	—	—
Changes in the measurement of financial instruments at FVTOCI (FVTOCI reserve)	4	21
Unrealised gains/(losses)	6	40
Gains/(losses) reclassified to the income statement	(2)	(19)
Other changes	(2)	(6)
Taxes on income and expenses to be reclassified to the income statement in future periods	(1)	(4)
Total income and expenses recognised in equity through other comprehensive income	**57**	**(120)**
Total comprehensive income	**302**	**548**
of which:		
attributable to the shareholder of UniCredit Bank AG	301	548
attributable to minorities	1	—

Consolidated Balance Sheet

(€ millions)

ASSETS	NOTES	31/12/2021	31/12/2020
Cash and cash balances	50	27,692	47,531
Financial assets held for trading	51	85,914	82,705
Financial assets at FVTPL	52	7,534	11,444
Financial assets at FVTOCI	53	12,006	12,471
Loans and receivables with banks (at cost)	54	24,620	33,973
Loans and receivables with customers (at cost)	55	146,794	144,247
Hedging derivatives	57	231	372
Hedge adjustment of hedged items in the portfolio fair value hedge		24	70
Investments in associates and joint ventures accounted for using the equity method	58	12	11
Property, plant and equipment	59	2,356	2,525
Investment properties	60	360	352
Intangible assets	61	4	8
Tax assets		908	1,031
Current tax assets		165	88
Deferred tax assets		743	943
Non-current assets or disposal groups held for sale	62	2,519	778
Other assets	63	1,138	606
TOTAL ASSETS		**312,112**	**338,124**

(€ millions)

LIABILITIES	NOTES	31/12/2021	31/12/2020
Deposits from banks	65	61,250	73,507
Deposits from customers	66	134,340	143,803
Debt securities in issue	67	32,180	31,743
Financial liabilities held for trading	68	53,659	56,951
Financial liabilities at FVTPL	69	5,510	5,736
Hedging derivatives	70	500	734
Hedge adjustment of hedged items in the portfolio fair value hedge	71	617	1,941
Tax liabilities		980	1,173
Current tax liabilities		530	737
Deferred tax liabilities		450	436
Liabilities of disposal groups held for sale	72	1,068	631
Other liabilities	73	1,565	1,152
Provisions	74	2,734	2,878
Shareholders' equity	75	17,709	17,875
Shareholders' equity attributable to the shareholder of UniCredit Bank AG		16,018	16,185
Subscribed capital		2,407	2,407
Additional paid-in capital		9,791	9,791
Other reserves		3,508	3,528
Currency reserves		16	9
Changes in valuation of financial instruments		51	50
Hedge reserve		19	21
FVTOCI reserve		32	29
Profit available for distribution		245	400
Additional equity instruments		1,700	1,700
Minority interests		(9)	(10)
TOTAL LIABILITIES		**312,112**	**338,124**

The 2021 profit available for distribution disclosed in the annual financial statements of HVB, which forms the basis for the appropriation of profit, amounts to €245 million. We will propose to the Shareholders' Meeting to pass a resolution that a dividend totalling €245 million be paid to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €0.31 per share after around €0.50 for the 2020 financial year. The profit available for distribution of €400 million reported in the previous year was distributed to UniCredit on 30 June 2021 in accordance with a resolution adopted by the Shareholders' Meeting on 7 June 2021.

Statement of Changes in Consolidated Shareholders' Equity

			OTHER RESERVES			
	SUBSCRIBED CAPITAL	ADDITIONAL PAID-IN CAPITAL	TOTAL OTHER RESERVES	OF WHICH: OWN CREDIT SPREAD	OF WHICH: REVALUATION RESERVE FOR OWN PROPERTIES	OF WHICH: PENSIONS AND SIMILAR OBLIGATIONS (IAS 19)
Shareholders' equity at 1/1/2021	**2,407**	**9,791**	**3,528**	**(24)**	**892**	**(1,964)**
Consolidated profit/(loss) recognised in the consolidated income statement	**—**	**—**	**—**	**—**	**—**	**—**
Total income and expenses recognised in equity through other comprehensive income[3]	**—**	**—**	**49**	**(31)**	**66**	**14**
Unrealised gains/(losses) due to changes in measurement	—	—	35	(31)	66	—
Gains/(losses) reclassified to the income statement	—	—	—	—	—	—
Actuarial gains/(losses) on defined benefit plans	—	—	13	—	—	13
Changes from foreign currency translation	—	—	—	—	—	—
Other changes	—	—	1	—	—	1
Total other changes in equity	**—**	**—**	**(69)**	**—**	**(13)**	**1**
Capital increase	—	—	—	—	—	—
Reclassification from equity reserves to retained earnings	—	—	—	—	(10)	—
Dividend payouts	—	—	—	—	—	—
Payouts on additional equity instruments	—	—	(68)	—	—	—
Transfers to/withdrawals from profit available for distribution	—	—	(1)	—	—	—
Changes in group of consolidated companies	—	—	—	—	(3)	1
Capital decreases	—	—	—	—	—	—
Shareholders' equity at 31/12/2021	**2,407**	**9,791**	**3,508**	**(55)**	**945**	**(1,949)**
Shareholders' equity at 1/1/2020	**2,407**	**9,791**	**3,379**	**(13)**	**852**	**(1,806)**
Consolidated profit/(loss) recognised in the consolidated income statement	**—**	**—**	**—**	**—**	**—**	**—**
Total income and expenses recognised in equity through other comprehensive income[3]	**—**	**—**	**(119)**	**(9)**	**50**	**(158)**
Unrealised gains/(losses) due to changes in measurement	—	—	41	(9)	50	—
Gains/(losses) reclassified to the income statement	—	—	—	—	—	—
Actuarial gains/(losses) on defined benefit plans	—	—	(160)	—	—	(160)
Changes from foreign currency translation	—	—	—	—	—	—
Other changes	—	—	—	—	—	2
Total other changes in equity	**—**	**—**	**268**	**(2)**	**(10)**	**—**
Capital increase	—	—	—	—	—	—
Reclassification from equity reserves to retained earnings	—	—	—	(2)	(10)	—
Dividend payouts	—	—	—	—	—	—
Payouts on additional equity instruments	—	—	—	—	—	—
Transfers to/withdrawals from profit available for distribution	—	—	268	—	—	—
Changes in group of consolidated companies	—	—	—	—	—	—
Capital decreases	—	—	—	—	—	—
Shareholders' equity at 31/12/2020	**2,407**	**9,791**	**3,528**	**(24)**	**892**	**(1,964)**

1 The Shareholders' Meeting of 7 June 2021 resolved to distribute the 2020 profit available for distribution to our sole shareholder UniCredit S.p.A. (UniCredit), Milan, Italy.
The Shareholders' Meeting of 23 June 2020 resolved to distribute the 2019 profit available for distribution to our sole shareholder UniCredit S.p.A. (UniCredit), Milan, Italy.
2 Attributable to the shareholder UniCredit Bank AG.
3 Recognised through the consolidated statement of total comprehensive income.

(€ millions)

	CHANGE IN MEASUREMENT OF FINANCIAL INSTRUMENTS						
CURRENCY RESERVE	HEDGE RESERVE	FVTOCI RESERVE	PROFIT AVAILABLE FOR DISTRIBUTION[1]	TOTAL SHARE-HOLDERS' EQUITY ATTRIBUTABLE TO THE SHARE-HOLDER OF HVB[2]	ADDITIONAL EQUITY INSTRUMENTS	MINORITY INTERESTS	TOTAL SHAREHOLDERS' EQUITY
9	21	29	400	16,185	1,700	(10)	17,875
—	—	—	244	244	—	1	245
7	(2)	3	—	57	—	—	57
—	—	4	—	39	—	—	39
—	—	(1)	—	(1)	—	—	(1)
—	—	—	—	13	—	—	13
7	—	—	—	7	—	—	7
—	(2)	—	—	(1)	—	—	(1)
—	—	—	(399)	(468)	—	—	(468)
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	(400)	(400)	—	—	(400)
—	—	—	—	(68)	—	—	(68)
—	—	—	1	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
16	19	32	245	16,018	1,700	(9)	17,709
	—						
17	28	15	3,288	18,925	—	(10)	18,915
—	—	—	668	668	—	—	668
(8)	(7)	14	—	(120)	—	—	(120)
—	(3)	27	—	65	—	—	65
—	—	(13)	—	(13)	—	—	(13)
—	—	—	—	(160)	—	—	(160)
(8)	—	—	—	(8)	—	—	(8)
—	(4)	—	—	(4)	—	—	(4)
—	—	—	(3,556)	(3,288)	1,700	—	(1,588)
—	—	—	—	—	1,700	—	1,700
—	—	—	—	—	—	—	—
—	—	—	(3,288)	(3,288)	—	—	(3,288)
—	—	—	—	—	—	—	—
—	—	—	(268)	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
9	21	29	400	16,185	1,700	(10)	17,875

Consolidated Cash Flow Statement

(€ millions)

	2021	2020
CONSOLIDATED PROFIT/(LOSS)	**245**	**668**
Write-downs, provisions for losses on, and write-ups of, loans and receivables and		
additions to provisions for losses on guarantees and indemnities	162	782
Write-downs and depreciation less write-ups on non-current assets	185	128
Change in other non-cash positions	3,878	(4,249)
Gains/(losses) on the disposal of non-current assets	3	(3)
Other adjustments (net interest and dividend income from the income statement, taxes on income paid)	(2,292)	(2,425)
Subtotal	**2,181**	**(5,099)**
Change in assets and liabilities from operating activities after correction for non-cash components		
Increase in assets/decrease in liabilities (-)		
Decrease in assets/increase in liabilities (+)		
Financial assets held for trading	(11,975)	(2,080)
Financial assets at FVTPL	3,910	4,027
Financial assets at FVTOCI	465	2,224
Loans and receivables with banks (at cost)	9,707	(2,352)
Loans and receivables with customers (at cost)	(2,804)	(5,284)
Other assets from operating activities	(2,520)	201
Deposits from banks	(12,127)	3,286
Deposits from customers	(9,398)	18,591
Debt securities in issue	502	3,541
Other liabilities from operating activities	499	3,882
Taxes on income	(155)	(124)
Interest received	3,600	3,979
Interest paid	(1,419)	(1,648)
Dividends received	284	170
CASH FLOW FROM OPERATING ACTIVITIES	**(19,250)**	**23,314**
Proceeds from the sale of investments	15	(4)
Proceeds from the sale of property, plant and equipment	154	8
Payments for the acquisition of investments	(17)	—
Payments for the acquisition of property, plant and equipment	(99)	(249)
Effects of the change in the group of companies included in consolidation	—	—
Effect of the disposal of discontinued operations	—	—
CASH FLOW FROM INVESTING ACTIVITIES	**53**	**(245)**
Change in additional paid-in capital	—	—
Dividend payments	(400)	(3,288)
Issue of subordinated liabilities and hybrid capital	—	1,700
Payouts on additional equity instruments (after tax)	(68)	—
Repayment/buy-back of subordinated liabilities and hybrid capital	(147)	(9)
Changes in cash from other change in equity	(27)	(156)
CASH FLOW FROM FINANCING ACTIVITIES	**(642)**	**(1,753)**
CASH AND CASH EQUIVALENTS AT END OF PREVIOUS PERIOD	**47,531**	**26,215^**
CASH FLOW FROM OPERATING ACTIVITIES	**(19,250)**	**23,314**
CASH FLOW FROM INVESTING ACTIVITIES	**53**	**(245)**
CASH FLOW FROM FINANCING ACTIVITIES	**(642)**	**(1,753)**
Effects of exchange rate changes	—	—
Less non-current assets or disposal groups held for sale	—	—
CASH AND CASH EQUIVALENTS AT END OF PERIOD	**27,692**	**47,531**

Legal Basis

Details of the company

Company name	UniCredit Bank AG
Legal form of the company	Aktiengesellschaft (public limited company)
Company headquarters	Germany
Country in which the company is registered as a legal entity	Germany
Address of the registered office and principal place of business	Arabellastrasse 12, 81925 Munich, Germany
Commercial Register	Number HRB 42148, B section of the Commercial Register, Munich Local Court
Type of business activity of the company	Universal bank providing banking and financial services
Name of the parent company	UniCredit S.p.A.
Name of the ultimate parent company of the corporate group	UniCredit S.p.A.

UniCredit Bank AG (HVB) is an affiliated company of UniCredit S.p.A., Milan, Italy in whose consolidated financial statements HVB Group is included. These are published on the UniCredit corporate group's website at the following address: https://www.unicreditgroup.eu/en/investors/financial-reports.html.

As a universal bank, HVB with its subsidiaries is one of the leading providers of banking and financial services in Germany. It offers a comprehensive range of banking and financial products and services to private, corporate and public-sector customers, international companies and institutional customers. Further information on the Bank's products and services is provided in the Note "Components of segment reporting by operating segment" in the notes to these consolidated financial statements.

As a capital market-oriented company, HVB prepares its financial statements in accordance with the requirements of the International Accounting Standards Board (IASB) in the version adopted by the EU. This provides a reliable and internationally comparable basis for evaluating the assets, liabilities, financial position and profit or loss of HVB Group. Our value-based management is similarly based on these accounting principles.

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) pursuant to Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002 (IAS Regulation) together with further regulations regarding the adoption of certain IFRS within the framework of the EU endorsement in conjunction with Section 315e (1) of the German Commercial Code (Handelsgesetzbuch – HGB) as non-exempt consolidated financial statements compliant with Section 4 of the IAS Regulation. Besides the standards defined as IFRS, the IFRS also comprise the existing International Accounting Standards (IAS) together with the interpretations known as IFRIC and SIC of the IFRS Interpretations Committee (IFRS IC) and its predecessor organisation. All the standards and interpretations subject to mandatory application in the EU for the 2021 financial year have been applied. Section 315e HGB also contains national regulations to be applied alongside the IFRS by capital market-oriented companies.

The present consolidated financial statements were prepared by HVB's Management Board on 8 March 2022 and will be submitted to the Supervisory Board on 18 March 2022 for approval.

Management's Discussion and Analysis meets the requirements of Section 315 (1, 2 and 4) HGB and incorporates a risk report pursuant to Section 315 HGB.

Legal Basis (Continued)

Compliant with Section 264b HGB, the following partnerships are exempted from the obligation to prepare a management report and publish their annual financial statements:
– Acis Immobilien- und Projektentwicklungs GmbH & Co. Oberbaum City KG, Grünwald
– Acis Immobilien- und Projektentwicklungs GmbH & Co. Stuttgart Kronprinzstraße KG, Grünwald
– Grundstücksgesellschaft Simon beschränkt haftende Kommanditgesellschaft, Munich
– HAWA Grundstücks GmbH & Co. oHG Hotelverwaltung, Munich
– HAWA Grundstücks GmbH & Co. OHG Immobilienverwaltung, Munich
– H.F.S. Leasingfonds Deutschland 1 GmbH & Co. KG (Immobilienleasing), Munich
– H.F.S. Leasingfonds Deutschland 7 GmbH & Co. KG, Munich
– HVB Gesellschaft für Gebäude mbH & Co. KG, Munich
– HVZ GmbH & Co. Objekt KG, Munich
– Hypo-Bank Verwaltungszentrum GmbH & Co. KG Objekt Arabellastraße, Munich
– Omnia Grundstücks-GmbH & Co. Objekt Haidenauplatz KG, Munich
– Omnia Grundstücks-GmbH & Co. Objekt Perlach KG, Munich
– Othmarschen Park Hamburg GmbH & Co. Gewerbepark KG, Munich
– Portia Grundstücks-Verwaltungsgesellschaft mbH & Co. Objekt KG, Munich
– Salvatorplatz-Grundstücksgesellschaft mbH & Co. oHG Saarland, Munich
– Salvatorplatz-Grundstücksgesellschaft mbH & Co. OHG Verwaltungszentrum, Munich
– Solos Immobilien- und Projektentwicklungs GmbH & Co. Sirius Beteiligungs KG, Munich
– TERRENO Grundstücksverwaltung GmbH & Co. Entwicklungs- und Finanzierungsvermittlungs KG, Munich
– TRICASA Grundbesitz Gesellschaft mbH & Co. 1. Vermietungs KG, Munich
– Vermietungsgesellschaft mbH & Co. Objekt MOC KG, Munich

Compliant with Section 264 (3) HGB, the following corporations are exempted from the obligation to prepare a management report and publish their annual financial statements:
– Argentaurus Immobilien-Vermietungs- und Verwaltungs GmbH, Munich
– HVB Immobilien AG, Munich
– HVB Projekt GmbH, Munich
– HVB Tecta GmbH, Munich
– HVB Verwa 4 GmbH, Munich
– HVB Verwa 4.4 GmbH, Munich
– MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung, Munich
– NF Objekt FFM GmbH, Munich
– NF Objekte Berlin GmbH, Munich
– Orestos Immobilien-Verwaltungs GmbH, Munich
– UniCredit Direct Services GmbH, Munich
– UniCredit Beteiligungs GmbH, Munich

Accounting and Valuation

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 Uniform Group accounting policies

The separate financial statements of the domestic and foreign subsidiaries are incorporated in the consolidated financial statements of HVB Group in accordance with uniform principles of accounting and valuation. Where options have been exercised, the details are explained under the balance sheet items concerned.

3 Consistency

In accordance with the IFRS framework together with IAS 1 and IAS 8, the accounting, valuation and disclosure principles are applied consistently from one period to the next. The changes in accounting principles are discussed, if necessary, as follows: the first-time adoption of new IFRS accounting rules is described in the Note “Initial adoption of the new IFRS accounting rules”. Where significant accounting and valuation errors from earlier periods are corrected, the amounts involved are adjusted retroactively. Where retroactive adjustment is not possible in exceptional circumstances, the amounts involved are adjusted against retained earnings. Where we effect changes in accounting policies, any resulting adjustments are similarly recognised retrospectively.

Provisions for interest on expected and accrued taxes

In the course of internal analyses, it was found that provisions set aside for interest on expected and accrued taxes were reported as other liabilities. As interest payments depend on the amount and the time of the tax payment concerned, these interest payments are also subject to some uncertainty regarding the amount and time of the payment. These are therefore to be shown as provisions and not as other liabilities in the balance sheet. The disclosure was also changed retroactively for previous years: provisions for interest on tax payments of €116 million are recognised as provisions as at 31 December 2021 (previous year: €55 million); the presentation of the changes in provisions was also adjusted.

Changes in estimates have been recognised in net income for the period affected by the change in the estimation method. Provided the change in the estimation method does not affect the consolidated income statement, the carrying amount of the asset, liability or equity item concerned has been adjusted.

The consolidated financial statements are prepared under the assumption of a going concern. Accounting and valuation in accordance with IFRS contains values that have been determined reliably using estimates and assumptions. The estimates and assumptions applied are based on past experience and other factors such as budgets, expectations and forecasts regarding future events which seem appropriate under the present circumstances. This mainly affects the determination of the fair value of certain financial assets and liabilities, impairments in the lending business, deferred taxes, and the accounting and valuation of provisions. The actual values may differ from the assumptions and estimates made.

Accounting and Valuation (Continued)

The following matters in particular are affected by estimates, assumptions and discretionary decisions:

– Determination of impairments (IFRS 9):
  Scenarios of the anticipated cash flows of debt instruments serve as a basis for determining the expected credit losses. This means that, to determine the impairments, assumptions and forecasts must be made regarding the payments that may still be received from the borrower and/or proceeds from the realisation of the collateral and the probability of occurrence of the respective scenario must be estimated. This is carried out collectively for debt instruments at Stage 1 and Stage 2 and for insignificant individual cases at Stage 3 while the assumptions and estimates are made individually for significant individual cases at Stage 3.
– Determination of fair value:
  HVB Group employs internal models to determine the fair value of financial instruments for which no price is available on an active market. The application of these internal models presupposes assumptions and forecasts, among other things, the scope of which depends on the complexity of the financial instruments and the valuation parameters derived from market data.
  Determining the fair value of real estate as non-financial assets also requires discretionary decisions to a certain degree. As self-occupied land and buildings (property, plant and equipment) and investment properties are unique, there is generally no observable market data available for such properties. As a result, the value of this real estate is periodically assessed by independent external assessors, using recognised appraisal methods, and the valuation parameters, such as rents, are estimated based on market information.
– Provisions:
  Provisions are recognised for present or future obligations to cover the payments required to settle these obligations. In this context, it is necessary to estimate the amount of these expenses or costs and also the date at which the liabilities are expected to be settled. This involves making assumptions regarding the actual amount of the costs occurring and, in the case of long-term provisions, also determining possible cost increases up until the settlement date. If the settlement date is more than one year in the future, the forecast expenses and costs are discounted over the period until the liability is settled. If provisions are set up for future audits of tax returns by the tax authorities, the anticipated additional tax payments are not discounted. Instead the interest charged by the tax authorities on the additional amounts payable are added together. The uncertainties in making estimates are greater in this case as the interpretation of tax issues is constantly evolving and is also applied retrospectively.
– Deferred tax assets and liabilities:
  Apart from a few exceptions defined in the standard, deferred tax assets and liabilities are recognised for all temporary differences between the values stated in accordance with IFRS and the values stated for tax-reporting purposes (liability method). Accounting and valuation are performed in accordance with IAS 12 on the basis of local tax regulations that are expected to apply to the period when an asset is realised or a liability is settled. The regulations and applicable local tax rates are assumed that are enacted or substantively enacted at the reporting date. Deferred tax assets are not recognised to the extent that it seems unlikely that sufficient taxable profit will be available in future periods.
  Furthermore, deferred tax assets are recognised for unused tax losses carried forward and unused tax credits to the extent that recoverability is demonstrated. This is done on the basis of a five-year plan for HVB Group, which is subject to segment-specific and macroeconomic assumptions and takes account of local tax regulations.
– Share-based payments:
  Assumptions must similarly be made to determine the cost of share-based payment programmes. The costs for the instruments to be transferred are amortised over the vesting period or the beneficiaries' claims expire if they leave UniCredit first. This makes it necessary to forecast what proportion of employees will leave UniCredit during the vesting period. At the same time, the shares granted must be measured at fair value at the grant date. The comments made above regarding the determination of fair value are applicable analogously.
– Determination of the useful life of property, plant and equipment:
  Depreciable items of property, plant and equipment are depreciated over their useful lives. Since the useful life is not independent of the usage of the actual asset in question, it must be estimated in the light of the circumstances in each case by making suitable assumptions.

The accounting, valuation and disclosure principles applied in the 2021 financial year are the same as those applied in the consolidated financial statements for 2020, with the exception of the adjustment described in this note and the new IFRS rules to be applied as described in the Note "Initial adoption of new IFRS accounting rules".

4 Initial adoption of new IFRS accounting rules

New standards and interpretations

No new standards or interpretations issued by the IASB were subject to mandatory application in the EU for the first time in the 2021 financial year.

Amendments to existing standards and interpretations

The amendments to the following standards and interpretations revised by the IASB are subject to mandatory application in the EU for the first time in the 2021 financial year:

– Amendments to IFRS 4 "Insurance Contracts" – Extension of the temporary exemption from the application of IFRS 9 "Financial Instruments" (issued on 25 June 2020 / adopted into European law on 15 December 2020).
– Amendments to IFRS 9 "Financial Instruments"; IAS 39 "Financial Instruments: Recognition and Measurement", IFRS 7 "Financial Instruments: Disclosures", IFRS 4 "Insurance Contracts" and IFRS 16 "Leases" – Interest Rate Benchmark Reform (Phase 2) (issued on 27 August 2020 / adopted into European law on 13 January 2021).

HVB Group implemented the amended accounting principles. Unless the effects of this implementation are explicitly explained below, they did not impact or have any material effects on our consolidated financial statements.

With effect from 1 January 2021, HVB Group implemented the amendments to IFRS 9 "Financial Instruments", IAS 39 "Financial Instruments: Recognition and Measurement", IFRS 7 "Financial Instruments: Disclosures", IFRS 4 "Insurance Contracts" and IFRS 16 "Leases – Interest Rate Benchmark Reform (Phase 2)". The amendments addressed here relate to the replacement of interest rate benchmarks and are concerned with the impact they have on financial reporting. In HVB Group, they only affect financial instruments.

Provided the conditions of IFRS 9.5.4.5 ff. are met, the replacement of interest rate benchmarks in the course of the IBOR reform can be reflected by adjusting the effective interest rate. If, in exceptional cases, this does not apply, the adjustments are reflected in line with the requirements of IFRS 9 on contract modifications of financial instruments.

LIBOR rates are affected by the transition as a result of the IBOR reform. As EURIBOR rates are regarded as being in line with the new benchmark requirements and can continue to be used, there is no requirement to switch EURIBOR rates at present. LIBOR rates for existing derivatives contracts have been switched within the scope of a fallback solution developed by the ISDA. This switch took place in the reporting year with the exception of USD LIBOR benchmarks, which are expected to be switched in 2022/2023. The nominal volume for derivatives with USD LIBOR interest rate benchmarks is €267 billion. This is based on the rules laid down by the relevant ISDA protocol and the amendment of the German master agreements in conjunction with the ISDA fallback rate. Further rate variants for pricing new business are currently published by private sector providers; a final market standard has not yet been established. Bilateral agreements have been reached with the respect to loans and securities with LIBOR rates. In this case too, the LIBOR rates, except for the USD LIBOR interest rate benchmarks, have been switched or will be switched at the next interest rate reset date. The carrying amount of assets with USD LIBOR interest rate benchmarks is €7.4 billion.

Clearing houses already started switching EONIA rates to €STR rates in 2020. The differences between the interest rate curves are offset by a spread or compensation payment. Bilateral adjustments were made to the contractual terms as required. This affects primarily the provisions on fair value measurement of the derivatives and determining cash collateral under netting arrangements. In addition, further EONIA swaps that are subject to a clearing agreement were migrated to €STR in 2021. A compensation payment was exchanged between HVB and LCH or EUREX in this connection. HVB Group already concluded new derivatives transactions with €STR rates in the first half of 2021.

The implementation of Phase 2 of the IBOR reform has had no material impact on financial reporting so far and no material impact is anticipated from the planned replacement of the USD LIBOR benchmark rates.

Accounting and Valuation (Continued)

5 Published IFRS that are not yet the subject of mandatory adoption and that have not been the subject of early adoption

As permitted, HVB Group has decided against the early voluntary adoption of the standards and interpretations adopted or revised by the IASB, which become the subject of mandatory adoption for the 2022 financial year or thereafter. HVB Group will apply these standards and interpretations in the financial year in which the new rules in question become mandatorily applicable for EU-based enterprises for the first time.

The EU has adopted the following into European law:

– Amendments to IFRS 3 "Business Combinations" – Reference to the Conceptual Framework (issued on 14 May 2020 / adopted into European law on 28 June 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2022.
– Amendments to IAS 16 "Property, Plant and Equipment" – Proceeds before Intended Use (issued on 14 May 2020 / adopted into European law on 28 June 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2022.
– Amendments to IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" – Onerous Contracts: Cost of Fulfilling a Contract (issued on 14 May 2020 / adopted into European law on 28 June 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2022.
– Annual Improvements to the IFRS (Cycle 2018-2020) with minor amendments to IFRS 1 "First-time Adoption of IFRS", IFRS 9 "Financial Instruments", IFRS 16 "Leases" (Illustrative Example) and IAS 41 "Agriculture" (issued on 14 May 2020 / adopted into European law on 28 June 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2022.
– Amendments to IFRS 16 "Leases" – COVID-19-Related Rent Concessions after 30 June 2021 (issued on 31 March 2021 / adopted into European law on 30 August 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 April 2021. Therefore, HVB Group will apply this amendment for the first time in the 2022 financial year.
– IFRS 17 "Insurance Contracts" (issued on 18 May 2017 / adopted into European law on 19 November 2021) including the amendments to IFRS 17 (issued on 25 June 2020 / adopted into European law on 19 November 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.
– Amendments to IAS 1 "Presentation of Financial Statements" and to the IFRS Practice Statement 2 – Disclosures of Accounting Policies (issued on 12 February 2021 / adopted into European law on 2 March 2022). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.
– Amendments to IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors" – Definition of Accounting Estimates (issued on 12 February 2021 / adopted into European law on 2 March 2022). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.

The EU has not yet adopted the following into European law:

– Amendments to IAS 1 "Presentation of Financial Statements" – Classification of Liabilities as Current or Non-current (issued on 23 January 2020) and Classification of Liabilities as Current or Non-current: Deferral of Effective Date (issued on 15 July 2020). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.
– Amendments to IAS 12 "Income Taxes" – Deferred Tax related to Assets and Liabilities arising from a Single Transaction (issued on 7 May 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.
– Amendments to IFRS 17 "Insurance Contracts" – First-time adoption of IFRS 17 and IFRS 9 – Comparative Information (published on 9 December 2021). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2023.

HVB Group does not expect the remaining new or amended rules to be applied in the future to have any significant effects on the consolidated financial statements.

6 Companies included in consolidation

The group of companies included in consolidation by HVB Group encompasses 122 (previous year: 141) controlled companies, of which 39 (previous year: 44) are classified as structured entities within the meaning of IFRS 12.

	2021	2020
Total controlled companies	295	300
Consolidated companies	122	141
of which structured entities according to IFRS 12	39	44
Non-consolidated companies	173	159
Joint ventures	1	2
of which accounted for using the equity method	—	—
Associates	2	3
of which accounted for using the equity method	1	1

At year-end 2021, we had a total of 176 (previous year: 163) controlled companies, associates and joint ventures in HVB Group that were neither fully consolidated nor fully accounted for using the equity method as they are not of material importance to the Group.

The structured entities include two borrowers (previous year: three) over which HVB gained control during the course of restructuring or resolution. The borrowers are classified as structured entities within the meaning of IFRS 12 as, on account of their financial difficulties, they are controlled by their credit relationship with HVB and no longer by voting rights. Not all of the borrowers are disclosed in the Note “List of holdings”, for data protection reasons. Two (previous year: three) of these borrowers have been consolidated. As in the previous year, there were no borrowers who have not been consolidated for materiality reasons.

The effects on the balance sheet of the contractual relationships between the Group companies and these non-consolidated companies are included in the consolidated financial statements. The aggregate amounts of net income for the year of these companies that have not been consolidated due to their minor importance make up 5.32% (previous year: 2.35%) of the consolidated profit of HVB Group, while such companies provide around 0.12% (previous year: 0.06%) of the consolidated assets. The aggregate amounts of net income for the year of companies not accounted for using the equity method due to their minor importance (joint ventures and associates) amounts to 0.0000002% (previous year: 0.0008%) of the consolidated profit, their share in the Group capital is 0.0003% (previous year: 0.0004%). Our interests in these companies are carried under the item “Financial assets at FVTPL” and loans extended under the item “Loans and receivables with customers (at cost)”.

Controlled companies

The group of companies included in consolidation has been defined taking into account materiality criteria. In the reporting year, the materiality threshold was redefined and previously immaterial but fully consolidated companies were deconsolidated. The fully consolidated companies prepared their annual financial statements for the period ending 31 December 2021.

In accordance with IFRS 12, 39 (previous year: 44) fully consolidated controlled companies are classified as structured entities. Please refer to the Note “Disclosures regarding structured entities” for more information on structured entities.

There were significant restrictions on the ability of HVB Group to access assets of the controlled companies as follows:

– Subsidiaries classified as credit institutions or financial services institutions for supervisory purposes are subject to the provisions of the German Banking Act (Kreditwesengesetz – KWG), the CRR and MaRisk/ICAAP regarding their capital base. The equity capital to be maintained under these provisions limits the ability of HVB Group to adopt resolutions regarding dividend distributions.
– Fully consolidated structured entities are not generally included in the consolidated financial statements on account of HVB Group’s position as a shareholder. Therefore, HVB Group has no ability to decide on dividend distributions and is bound by the contractual arrangements (such as lending agreements or derivative contracts).

The non-controlling interests at 31 December 2021 have no significant effects on the consolidated financial statements of HVB Group either individually or in aggregate. At 31 December 2021 third parties hold non-controlling interests in 44 (previous year: 51) fully consolidated companies. The non-controlling interests are shown separately in the consolidated balance sheet and generally participate in the profits and losses of the companies; their shareholders hold voting rights in the companies, but without breaking the controlling influence of HVB Group.

Accounting and Valuation (Continued)

The following companies were newly added to the group of companies included in consolidation at HVB Group in 2021:
– Ice Creek Pool No. 3 DAC, Dublin
– Wealthcap Objekt Berlin III GmbH & Co. KG, Munich
– Wealthcap Objekt Vorrat 39 GmbH & Co KG, Munich
– Wealthcap Spezial Wohnen 1 Komplementär GmbH, Munich
– Wealthcap Wohnen 1b GmbH & Co. KG, Munich

The following companies left the group of companies included in consolidation of HVB Group in 2021 due to imminent or completed liquidation or cessation of control:
– Elektra Purchase No. 41 DAC, Dublin
– Elektra Purchase No. 44 DAC, Dublin
– Elektra Purchase No. 55 DAC, Dublin
– Elektra Purchase No. 718 DAC, Dublin
– Wealthcap Objekt Essen II GmbH & Co. KG, Munich
– Wealthcap Objekt Mainz GmbH & Co. KG, Munich

The following companies left the group of companies included in consolidation in 2021 for materiality reasons:
– A&T-Projektentwicklungs GmbH & Co. Potsdamer Platz Berlin KG, Munich
– Acis Immobilien- und Projektentwicklungs GmbH & Co. Parkkolonnaden KG, Grünwald
– Atlanterra Immobilienverwaltungs GmbH, Munich
– BIL Leasing-Fonds GmbH & Co VELUM KG, Grünwald
– Buitengaats Holding B.V., Eemshaven
– Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Alpha Management KG, Munich
– Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Gamma Management KG, Munich
– Food & more GmbH, Munich
– Grundstücksaktiengesellschaft am Potsdamer Platz (Haus Vaterland), Munich
– HVB Hong Kong Limited, Hong Kong
– HVB Secur GmbH, Munich
– Interra Gesellschaft für Immobilienverwaltung mbH, Munich
– Othmarschen Park Hamburg GmbH & Co. Centerpark KG, Munich
– Selfoss Beteiligungsgesellschaft mbH, Grünwald
– Simon Verwaltungs-Aktiengesellschaft i.L., Munich
– Spree Galerie Hotelbetriebsgesellschaft mbH, Munich
– Verwaltungsgesellschaft Katharinenhof mbH, Munich
– Wealthcap Objekt-Vorrat 25 GmbH & Co. KG, Munich

On account of the deconsolidation of the companies listed above, HVB Group realised a deconsolidation result of minus €11 million (previous-year period: minus €1 million) in accordance with IFRS 10.25 in the income statement under the item "Net gains/losses on disposals of investments".

Associates
No financial statements at 31 December 2021 were available for the associate listed below accounted for using the equity method when the consolidated financial statements were prepared. The following financial statements were used for accounting using the equity method:

– Comtrade Group B.V., Rotterdam	30 September 2021

There were no significant events at this company between the date when the above financial statements were prepared and 31 December 2021 that could have an impact on the assets, liabilities, financial position, and profit or loss.

The group of consolidated companies does not include any companies for which the proportionate consolidation method is applied.

7 Principles of consolidation

An enterprise (or economically separate entity) is fully consolidated when it is controlled by HVB Group. Control is deemed to exist when the following three criteria defined in IFRS 10 are met: HVB Group must have power over the relevant activities of the enterprise and be exposed to variable returns from it. In addition, HVB Group must be able to use its power to influence the variable returns it obtains from the enterprise.

Control is independent of the type of financial relationship between parent company and subsidiary and does not require any participation in the enterprise's capital. Control may also be derived from contractual arrangements or legal provisions.

To assess whether an enterprise is controlled by HVB Group, a detailed analysis must be carried out of the business purpose, the relevant activities of the enterprise, the parties involved and the distribution of the variable returns from the enterprise. The analysis includes an assessment of whether HVB Group is acting as the principal and has delegated power over the enterprise to a third party (agent). This may be the case when the decision-maker who has power over the enterprise does not pursue its own economic interests in respect of the enterprise or these are of minor importance and the decision-maker merely exercises delegated decision-making powers on behalf of HVB Group.

An enterprise is initially consolidated as soon as HVB Group gains control over the enterprise. During initial consolidation, the assets and liabilities of the enterprise are included at their fair values at the effective date. The uniform Group accounting and valuation policies are then applied. The expenses and income of the respective company are included in the consolidated income statement from the effective date of initial consolidation. Participating interests in a consolidated company held by third parties are carried under minority interests, provided the criteria for disclosure as shareholders' equity are met. Otherwise, they are recognised as debt.

Consolidation is performed by offsetting the purchase price of a subsidiary company against the value of the interest held in the completely remeasured shareholders' equity at the time of acquisition, provided the transactions involved are not internal to UniCredit. This amount represents the difference between the assets and liabilities of the acquired company measured at the fair value at the time of initial consolidation. The difference between the higher acquisition cost and the remeasured balance of assets and liabilities is recognised as goodwill under intangible assets in the balance sheet on a prorated basis if the purchased company is a business. If in an exceptional case the company that is being consolidated for the first time is not a business and is a group of assets and liabilities instead, these assets and liabilities are measured and recognised in conformity with the applicable IFRS following the requirements of IFRS 3.2b. Any difference between the net carrying amounts calculated in this manner and the acquisition costs is recognised as an expense. Goodwill on companies accounted for using the equity method is carried under "Investments in associates and joint ventures accounted for using the equity method". Compliant with IAS 36, scheduled amortisation is not taken on goodwill. The goodwill is allocated to the cash-generating units (CGU) that are expected to benefit from the synergies arising from the business combination. At HVB Group, these cash-generating units are the business areas. Where the commercial activities of a company span more than one business area, the goodwill is distributed in line with the expected contribution to results at the time of acquisition. There is no goodwill to report in the reporting year and in the previous year.

IFRS 3 is not applicable to combinations of businesses under common control (IFRS 3.2 (c)). IAS 8.10 requires an appropriate accounting and valuation method to be developed accordingly for such cases. Given that HVB Group is part of UniCredit, the carrying amounts of the parent company are retained for business combinations within UniCredit. Any difference between the purchase price paid and the net carrying amount of the company acquired is recognised in equity under reserves.

Compliant with IAS 28, shares in associates are accounted for using the equity method or the capital share method and disclosed in the balance sheet accordingly. HVB is able to exercise significant influence over associates without being able to control them. Significant influence is assumed when a company holds more than 20% but less than 50% of the voting rights in an investee. This assumption of association can be refuted where a qualitative analysis demonstrates that significant influence over the financial and strategic decisions of the investee is not possible. Shares in associates are recognised at cost upon initial inclusion in the consolidated financial statements. For the purposes of subsequent measurement, the carrying amount increases or decreases in accordance with HVB's share in the profit or loss of the investee. This share of the investee's profit or loss attributable to HVB is measured on the basis of the fair values of the investee's assets, liabilities and contingent liabilities when the shares were acquired. The accounting and valuation principles of HVB Group are applied for subsequent measurement.

Business transactions between consolidated companies are offset. Any profits or losses arising from intercompany transactions are eliminated.

Accounting and Valuation (Continued)

8 Implementation of the European Single Electronic Format (ESEF)
HVB fulfils its obligation under Section 328 HGB to publish these consolidated financial statements in the single electronic reporting format (ESEF) prescribed by law by publishing them in the German Federal Gazette (Bundesanzeiger). The 2020 ESEF taxonomy was applied for both the reporting year and the previous year.

9 Financial instruments
A financial instrument is any contract that gives rise to both a financial asset of one company and a financial liability or equity instrument of another company.

The classes required by IFRS 7.6 are defined as follows:
– Cash and cash balances
– Financial assets and liabilities held for trading
– Financial assets at FVTPL
– Financial assets at FVTOCI
– Loans and receivables with banks (at cost)
– Loans and receivables with customers (at cost)
– Finance lease receivables
– Hedging derivatives
– Other deposits from banks
– Other deposits from customers
– Other debt securities in issue
– Financial liabilities at FVTPL
– Financial guarantees and irrevocable credit commitments

With regard to the classes, the balance sheet disclosures and profit contributions of the financial instruments, among other things, must be presented separately in accordance with IFRS 9 measurement categories. In the present consolidated financial statements, we have included these in the explanatory notes to the balance sheet and the income statement. The information required by IFRS 7 regarding risks in connection with financial instruments is also provided in the Risk Report within Management's Discussion and Analysis. Compliant with IFRS 7.36 (a), the maximum exposure to credit risk is the same as the carrying amount of the risk-bearing financial instruments or, in the case of financial guarantees and credit commitments, the nominal amount disclosed in the Note "Fair values of financial instruments compliant with IFRS 7" for the guarantee/amount of the credit commitments not yet utilised.

IFRS 9 requires all financial instruments to be recognised in the balance sheet, classified in the given valuation or portfolio categories and measured in line with this classification. In addition, debt instruments must be allocated to a business model.

Financial assets and liabilities are initially recognised from the date on which the corporate group becomes a contractual party to the financial instrument in question. HVB Group normally recognises customary market purchases and sales of financial assets (known as regular way contracts) at the settlement date. Derivatives are recognised at the trading date.

Financial assets and liabilities are derecognised when either the contractual rights or obligations to pay have expired, such as through repayment, or all the risks and rewards have essentially been transferred to third parties. HVB Group did not carry out any transactions in which all the risks and rewards were essentially either transferred or retained. Where the contractual rights to an asset or liability are transferred to third parties but the risks and rewards are essentially retained, the assets or liabilities are not derecognised.

The regulations set forth in IFRS 9 on reclassification were observed. No reclassifications were carried out.

Financial assets and liabilities at fair value through profit or loss
The "financial assets and liabilities at fair value through profit or loss" category is subdivided into the following categories:

– Financial assets and liabilities held for trading:
  Financial assets and liabilities classified as held for trading at the time of initial recognition are financial instruments acquired or incurred for the purpose of short-term profit-taking as a result of changes in market prices or of realising a profit margin. This category also includes all derivatives (apart from hedging derivatives) which qualify for hedge accounting. These are disclosed in the item "Financial assets held for trading" and "Financial liabilities held for trading".
  In accordance with the provisions of IAS 32 (IAS 32.42 in conjunction with IAS 32.48), the positive and negative fair values of OTC derivatives that offset each other at currency level were netted for OTC derivatives concluded with the same central counterparty (CCP).
– Assets subject to the requirement of measurement at fair value through profit or loss with the exception of held-for-trading portfolios:
  In accordance with the specifications, both shareholdings and assets that are neither allocated to the "Hold-to-maturity" nor to the "Held-for-sale" business model are generally subject to measurement at fair value through profit or loss. HVB Group did not exercise the option of measuring shareholdings at fair value without affecting profit or loss. As all assets measured at fair value through profit or loss are also managed on a fair value basis, any allocation of assets that do not meet cash flow criteria to the "Hold-to-maturity" business model is ruled out. These are to be allocated to the "Other" business model and are consequently subject to the requirement of measurement at fair value through profit or loss.
– HVB Group does not exercise the option to designate financial assets pursuant to IFRS 9.4.1.5 as measured at fair value through profit or loss.
– HVB Group only uses the fair value option for certain financial liabilities designated as "at fair value through profit or loss" upon initial recognition. Financial instruments are designated on the basis of the fair value-based management of the portfolios concerned.

Financial assets and liabilities at fair value through profit or loss are disclosed upon initial recognition at their fair value without any transaction costs.

Consequently, held-for-trading portfolios, assets subject to the requirement of measurement at fair value through profit or loss and liabilities allocated to the fair value option are measured at fair value. Changes in value are recognised in the income statement.

Assets measured at fair value without affecting profit or loss
Certain securities holdings that are either held to maturity or can be sold have been allocated to the "Held-for-sale" business model. As these securities also meet cash flow criteria, the conditions for measurement at fair value without affecting profit or loss have been met. These holdings are reported under the balance sheet item named "Financial assets at FVTOCI".

Loans and receivables measured at cost
In the lending business, HVB Group focuses on customer care and customer relationships so the intention is generally to hold extended loans to maturity. If, in exceptional cases, there is no intention to hold loan receivables to maturity at the time of their addition, these are allocated to the "Other" business model. Provided the loans also meet cash flow criteria, these are allocated to the "Hold-to-maturity" business model and measured at amortised cost. In addition, securities holdings that meet cash flow criteria and are intended to be held to maturity are also measured at amortised cost. Premiums and discounts are taken to the income statement under net interest over the term of the underlying items. This is done using the effective interest method. These assets are disclosed upon initial recognition at their fair value including any transaction costs.

As the intention is generally to hold to maturity, debt instruments allocated to the "Hold-to-maturity" business model may be sold only in the following exceptional cases:
– sales occur infrequently or irregularly even if they are of significant value in this case,
– sales, if they occur frequently, are individually or in the aggregate of insignificant value,
– sales occur just before the final maturity date and the sales proceeds equal the outstanding contractual payments for the most part or
– sales are made as a result of an increase in the credit default risk.

Depending on the allocation of the debtor, the loans and receivables measured at cost are reported under the balance sheet item "Loans and receivables with banks (at cost)" or "Loans and receivables with customers (at cost)".

HVB Group did not exercise the option of designating an asset to be measured at fair value through profit or loss. The Bank also waived measuring credit exposures at fair value through profit or loss.

Accounting and Valuation (Continued)

IBOR reform: Modification of financial instruments in the course of the IBOR transition

On account of the IBOR reform, changes may occur in the contractual cash flows of a financial instrument in the following ways:

– Change from an existing interest rate benchmark to an alternative benchmark rate under a contractual agreement or an already existing fallback clause in an agreement with spreads that can be agreed to offset a basis difference between the interest rate benchmarks, or
– Adjustment in the method used to calculate an unchanged designated interest rate benchmark (e.g. EURIBOR)

These adjustments to agreements on contractual cash flows do not result in any significant modification of the instrument which means that derecognition is not necessary. Instead, the changes in interest rate benchmarks in the context of the IBOR reform constitute an adjustment in variable interest rates, which must be accounted for by a prospective adjustment in the effective interest rate pursuant to IFRS 9.B5.4.5. If the financial instruments concerned are to be accounted for at fair value, the changes made in the interest rate benchmarks must be taken into account in the fair value measurement. If compensation payments were made for derivatives in the course of the change in interest rate benchmarks, these were recognised in the fair value measurement of the derivatives through profit or loss.

Determination of fair value

We can normally reliably determine the fair value of financial instruments to be measured at fair value. IFRS 13 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction (no forced liquidation or distress sale) between independent market participants at the measurement date. Thus, the fair value based on a notional transfer corresponds to a selling price or, in the case of a liability, the transfer price (exit price).

The fair value is determined using the same three-level fair value hierarchy under IFRS 13 as is applicable for the disclosures regarding the fair value hierarchy (Note “Fair value hierarchy”):

– Level 1: Financial instruments measured using (unadjusted) quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date
– Level 2: Assets or liabilities for which no price can be observed on an active market and whose valuation is derived from valuation parameters that are directly observable (prices) or indirectly observable (derived from prices)
– Level 3: Assets or liabilities for which the fair value cannot be measured exclusively on the basis of observable market data; but also on valuation parameters based on model assumptions (non-observable valuation parameters)

Suitable measurement adjustments are applied to the fair value determined in this way in order to reflect further factors affecting the fair value (such as the liquidity of the financial instrument or model risks when the fair value is determined using a valuation model). When determining these valuation adjustments, we have exercised the option permitted by IFRS 13 under certain circumstances to determine fair value on a portfolio basis.

The risk of a counterparty defaulting on derivatives is covered by credit valuation adjustments (CVAs). Funding valuation adjustments (FVAs) are also set up for derivatives that are not fully covered by relevant collateral.

The own credit spread is also included in the underlying valuation parameters for liabilities held for sale and liabilities designated at fair value through profit or loss.

Further disclosures regarding fair values and the fair value hierarchy are given in the Note “Fair value hierarchy”, and the Note “Fair values of financial instruments compliant with IFRS 7”.

Financial guarantees
A financial guarantee is a contract that requires the issuer to reimburse the holder for a loss it incurs because a specific debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

Viewed overall, the fair value of a financial guarantee is zero when the contract is concluded because the value of the premium received will normally match the value of the guarantee obligation in standard market contracts. The guarantee premium is recognised on a pro-rata basis. The existence of an impairment is checked during the subsequent measurement.

Credit derivatives, and most notably standardised credit default swaps (CDS), are measured at fair value through profit or loss as they are considered derivatives held for trading and not financial guarantees.

Credit commitments
Credit commitments represent declarations made to the customer to extend loans, buy securities or provide guarantees and acceptances. If these have not yet been utilised, they are generally shown as contingent liabilities in the notes. Necessary impairments are recorded as provisions. An exception to this rule are credit commitments where the assets resulting from the drawdown are usually sold shortly after the loan has been extended. The latter are recognised at fair value through profit or loss.

Hedge accounting
The Bank exercised the option of continuing to apply the provisions of IAS 39 on Hedge Accounting.

Hedges between financial instruments are recognised almost exclusively in accordance with the forms of the fair value hedge described in IAS 39. In 2008 and 2009, HVB Group changed the previously applied macro cash flow hedge accounting to the fair value hedge similarly permitted by IAS 39 for interest rate risk at portfolio level in large areas of asset/liability interest rate risk management. This is described additionally below alongside the principles covering general fair value hedges.

Besides the portfolio fair value hedge, HVB Group has other micro fair value hedges for individual financial instruments as well as a cash flow hedge in which HVB Group designated a smaller portfolio of securities as a cash flow hedge in 2018. Furthermore, the cash flow hedge reserve will be amortised for one cash flow hedge, which has since been terminated.

A micro fair value hedge is generally a hedge of the exposure to changes in the fair value of a recognised asset, liability or an unrecognised firm commitment (or portions thereof) that is attributable to a particular risk and that might affect net income for the period. In this respect, a high level of effectiveness is required, with the changes in the fair value of the hedged item in terms of the hedged risk and hedging derivative compensating each other within a range of 80% to 125%. In fair value hedge accounting, the hedging instrument is measured at fair value through profit or loss. The carrying amounts of the hedged item are adjusted by the valuation results relating to the hedged risk in a way that affects the income statement.

At our Bank, we designated micro fair value hedges for interest rate risks. For fixed-interest European government bonds or bonds of issuers with a similar risk allocated to the “Held for sale” business model, the interest rate risk of which was hedged individually and completely with interest rate swaps, we set up a separate micro fair value hedge for each transaction.

We apply the portfolio fair value hedge for interest rate risk in the accounting treatment of interest rate risk in asset/liability interest rate risk management. Recognising a fair value hedge for a portfolio of interest-bearing financial assets and liabilities using interest rate derivatives makes it possible to largely reflect the standard bank risk management procedures for the hedging of fixed interest rate risks in the accounts.

In this accounting treatment of hedges across several items, the changes in the value of the hedged amount of the hedged items attributable to the hedged risk are carried altogether as a separate asset or liability item and not as an adjustment to the carrying amount of individual items as is the case with micro hedges. The hedged amount of the hedged items is determined as part of interest rate risk management and cannot be directly allocated to individual assets or liabilities. Where the hedge conditions are met, the offsetting changes in value of the hedged amount of the hedged items and the hedging instruments (interest derivatives) are recognised directly in profit and loss. Hedge inefficiencies arising within the necessary hedge efficiency thresholds of 80% to 125% are recognised as profit or loss in net hedging income.

Accounting and Valuation (Continued)

Furthermore, for economic reasons cross-currency interest rate swaps (CCIRS) have been used in the refinancing of loans denominated in foreign currency. The CCIRS exchange longer dated fixed-interest positions denominated in euros for variable-yield positions denominated in foreign currency. This serves to hedge the hedged item against interest rate risk as part of the portfolio fair value hedge accordingly.

The cash flow hedge reserve existing at the changeover date and the offsetting clean fair values (fair values excluding the related accrued interest) of the existing cash flow hedge derivatives are amortised over the remaining term in net interest. This means that the amortisation of the cash flow hedge reserve existing at the changeover date will have no overall impact on profit or loss in the future until they are fully amortised. The changes in value of the same hedged items and hedging derivatives, together with all new contracts arising after the changeover date, are treated in accordance with the new portfolio fair value hedge model.

Generally, a cash flow hedge is employed to hedge the risk arising from volatile cash flows resulting from a recognised asset, recognised liability or planned transaction to be taken to the income statement. For example, derivatives are deployed in cash flow hedge accounting to hedge future interest payment flows. In this context, payments arising from variable-interest assets and liabilities are swapped for fixed payments primarily using interest rate swaps. Hedging instruments are measured at fair value. The valuation result is divided into an effective and an ineffective portion. The effective portion of the hedging instrument is recognised in a separate item within shareholders' equity (hedge reserve) without affecting reported profit or loss. The ineffective portion of the hedging derivatives is recognised directly in profit and loss. The hedged item is recognised at amortised cost.

10 Financial assets held for trading

This item includes securities held for trading purposes and positive fair values of traded derivatives. All other derivatives not classified as hedging derivatives (which are shown separately in the balance sheet) are similarly considered held for trading. Provided they are held for trading purposes, receivables from repurchase transactions, promissory notes, registered bonds and treasury bills are carried as other financial assets held for trading.

Financial assets held for trading are carried at fair value. Gains and losses arising from the valuation and realisation of financial assets held for trading are reported under net trading income in the income statement.

With interest rate swaps, the two offsetting interest payment flows are aggregated for each swap contract and reported in net terms as interest income or interest expense. In the case of pure derivative trading portfolios, we report the netted interest payments under net trading income.

11 Financial assets at FVTPL

The item "Financial assets at FVTPL" reflects the new measurement category introduced by IFRS 9 and contains all the assets subject to the IFRS requirement of measurement at fair value with the exception of the held-for-trading portfolios. This item thus contains all the debt instruments subject to measurement at fair value through profit or loss based on the "Other" business model as well as the shareholdings also subject to measurement at fair value through profit or loss. This includes debt instruments to be held to maturity that do not meet cash flow criteria and are thus managed on a fair value basis in line with the Bank's specifications.

The majority of debt instruments are hedged against interest rate risks with interest rate swaps. The changes in fair value of the assets and hedging derivatives are reported in the item "Net gains/losses on financial assets and liabilities at fair value" in the income statement. Current interest income from debt instruments is recorded as interest income and profit distributions from shareholdings in the item "Dividends and other income from equity investments".

12 Financial assets at FVTOCI

The balance sheet item "Financial assets at FVTOCI" reflects the new measurement category introduced by IFRS 9. This item contains all the assets measured at fair value through other comprehensive income on the basis of the "Held-for-sale" business model and the cash flow criteria met.

This item only contains interest-bearing assets that are deferred at the effective interest rate. Upon addition, they are posted at their fair value including transaction costs (acquisition cost). Current interest income is recorded under the item "Interest income" in the income statement. Impairments are recorded through profit or loss in the income statement. The difference between the amortised cost calculated in this way and the fair value of the assets is entered directly in equity in the FVTOCI reserve, whereby the changes are recognised or derecognised through other comprehensive income. A gain or loss on disposal (repayment/sale) is shown under the item "Net gains/losses on financial assets and liabilities at fair value".

13 Loans and receivables

Debt instruments allocated to the "Hold-to-maturity" business model are shown under the balance sheet items "Loans and receivables with banks (at cost)" and "Loans and receivables with customers (at cost)". Assets allocated to a business model other than to the "Hold-to-maturity" business model are not included in the balance sheet items "Loans and receivables with banks (at cost)" and "Loans and receivables with customers (at cost)". In addition to loans and receivables from the lending business, these include securities allocated to the "Hold-to-maturity" business model. All the instruments allocated to the "Hold-to-maturity" business model meet the cash flow criteria and are carried at amortised cost, provided they are not hedged items of a recognised micro fair value hedge. The amount shown in the balance sheet has been adjusted for allowances for losses on loans and receivables.

14 Impairment of financial assets

Upon the introduction of IFRS 9, the method used to determine impairment losses was switched to the expected credit loss model. According to IFRS 9 requirements, impairment losses have to be recognised for debt instruments that are measured at amortised cost or, alternatively, at fair value through other comprehensive income. Furthermore, the rules applicable for determining an impairment loss are also to be applied to credit commitments or financial guarantees that are not measured at fair value through profit or loss.

For the presentation of the measurement and management of credit risk, we refer to the statements made on credit risk in the Risk Report of this Management's Discussion and Analysis.

In the case of loans and receivables measured at cost, the impairment losses determined are posted to an impairment account and reduce the carrying amount; in the case of assets measured at fair value through other comprehensive income, the impairment losses are determined in relation to the asset and, as a consequence of measurement at fair value, are recognised in the statement of total comprehensive income, whereas a provision is set aside for impairment losses on credit commitments and financial guarantees.

HVB Group has not exercised the option of using the simplified approach pursuant to IFRS 9.5.5.15 for determining impairment losses on trade receivables, contract assets and lease receivables.

The method of calculating impairment losses is based on two pillars:
– allocation of the asset to a stage
– calculation of the expected loss associated with the asset

Accounting and Valuation (Continued)

Allocation to a stage

The following principles apply to the allocation to stages:
– Stage 1 contains newly issued credit balances, financial instruments for which there has been no significant deterioration in terms of their creditworthiness since they were first issued and securities with a low credit risk (low credit risk exemption).
– Stage 2 contains financial instruments which, although not yet in default, have undergone a significant deterioration in terms of their creditworthiness since they were first issued.
– Stage 3 contains financial instruments in default.

In the notes to the respective balance sheet items, the tables on changes in gross carrying amounts and impairments include information on the transfers between the respective stages. The table on changes in impairments shows, as a transfer from one stage to another due to the change in credit quality, the reversals of the impairments upon disposal in the original stage and the addition to the impairments in the new stage.

An impairment loss is generally recognised at the amount of the expected 12-month credit losses for a financial instrument upon initial recognition (Stage 1). Financial assets already impaired upon initial recognition are an exception to this rule as, in these cases, the expected credit losses have already been taken into account at the fair value at which such an asset is posted.

The method used by HVB Group for stage allocation is based on a combination of relative and absolute elements. If the credit default risk has increased significantly since initial recognition, an impairment loss must be recognised in the amount of the loss expected over the (residual) maturity (Stage 2). To determine when a significant increase has occurred in the credit default risk, HVB Group uses an internal model that takes account of both relative and absolute changes in the credit default risk. Key factors in this context are:
– a comparison of the forward PD upon initial recognition and at the reporting date at the level of each individual transaction whereby trigger levels to be exceeded for a significant increase are defined that take account of material elements for determining an expected change in the credit default risk such as maturity, age and PD level upon initial recognition,
– absolute thresholds like the backstops required by the standard, such as arrears of 30 days or more,
– further internal attributes such as renegotiations of financial instruments on account of financial difficulties (forbearance measure).

In the reporting period, the stage model was expanded to include the following elements: extension of the probation period for transactions with a forborne performing status from 9 months to 24 months.

Furthermore, the anticipated effect was taken into account via a scalar factor, which results from the following changes implemented in the first half of 2022:
– taking into account the residual maturity in the model
– transactions with a probability of default greater than or equal to 20% on the current reference date are assigned to Stage 2
– taking into account a three-month probation period per transaction in order to be transferred back from Stage 2 to Stage 1
– partners that are placed on an internal credit monitoring list for closer credit monitoring (for the early detection of risks) are allocated to Stage 2
– introduction of a further backstop whereby a tripling of the PD lifetime results in a transfer to Stage 2 if the one-year PD is greater than 0.3%.

If the credit default risk is no longer significantly higher on the reporting date, the asset is transferred back to Stage 1.

The actual share of financial instruments in Stage 2 varies by the long-term average of the quantile, depending on the current macroeconomic situation and expected developments in the economic cycle.

A statistical model based on quantile regression was introduced to implement the quantitative component for the allocation of assets to stages. This defines a threshold that determines the maximum change between the probability of default upon addition of a financial instrument and the current reference date. An important part of this model is defining the quantile that determines the expectation concerning the share of instruments in Stage 2 in long-term funds. The quantiles and how the individual influencing factors are taken into account (such as the PD on the date of the commitment, age) differ depending on the portfolio. Essentially, the historical default rate of the portfolio concerned is used as a basis to determine the quantile and is supplemented by further absolute criteria on stage allocation, such as the share of instruments with 30 days default and forbearance classification.

In the reporting period, the model for stage allocation was changed from the one-year PD to the lifetime PD: The new approach compares the forward lifetime PD instead of the one-year PD at the commitment date with the lifetime PD at the current reference date.

HVB Group has exercised the option for securities pursuant to IFRS 9.5.5.10 according to which it can be assumed in the case of debt instruments with a low credit default risk that no significant increase in the credit default risk has occurred. Securities of this kind with an investment grade rating are generally allocated to Stage 1.

Risk parameters probability of default (PD), loss given default (LGD) and exposure at default (EaD)
In the process of determining the expected credit losses, not only reliable information on past events is taken into account but also the current conditions and forecasts of future economic parameters. The regulatory procedures for the determination of the PD, LGD and EaD represent the starting point in this connection. These parameters are then adjusted to meet IFRS 9 requirements essentially as follows:
– Conservative elements arising purely from regulatory requirements were removed.
– Parameters were adjusted in order to move from a regulatory calculation based on long-term averages (through the cycle) to a calculation related more to the reporting date (point in time) that takes greater account of the current macroeconomic situation.
– In addition, forward-looking information on the macroeconomic development is taken into account in the parameters.
– The credit risk parameters were adjusted to the multi-year horizon required in Stage 2.

The following adjustments were made to the individual parameters:
– To determine a multi-year probability of default, which covers the lifetime of a financial instrument, PD curves based on long-term averages and calculated on the basis of the default rates of the corresponding portfolios are determined as a first step. These PD curves are then adjusted to a perspective that relates more to the reference date using statistical methods and adjustments are made to integrate macroeconomic forecasts over the next three years.
– To calculate a multi-year probability of loss, the LGD used for regulatory purposes are adjusted for conservative elements arising purely from regulatory requirements. Furthermore, a check is conducted to determine whether it is necessary to adjust the figures calculated on the basis of long-term averages to current framework conditions and, where required, they are adjusted. In addition, the recovery rate is adjusted for the next three years on the basis of a macroeconomic forecast. For material collateral, macroeconomic forecasts are included in the determination of the market value. Downturn adjustments required for regulatory purposes are not used. Nor are any internal costs of the Bank added to the loss ratio in the course of treating defaulting exposures.
– To determine the multi-year exposure at default (EaD), the parameters used by the regulatory authorities are adjusted for conservative elements arising purely from regulatory requirements. A parameter used from a regulatory perspective which covers drawdowns in excess of the existing credit line is not used under IFRS 9. An additional parameter was also introduced which reflects the expectations on average drawdowns of existing lines from the second year. Furthermore, a parameter representing an expected term for loans without a fixed term is modelled which decisively determines the term over which an expected loss is calculated in Stage 2. For loans with existing repayment schedules, expected repayments are taken into account in determining the multi-year exposure at default.

The main PD and LGD rating models were recalibrated and the time series extended in the reporting year. The average probability of default (central tendency) in the PD models also takes account of the 90-day payment default criteria for Germany slightly adapted by the EBA. The cure rate in the LGD was adapted to reflect the new definition of payment default. Regular recalibrations of the risk parameters are also to be found in the determination of the LLP. In order to adequately apply the forward-looking information for 2022 until 2024, the 2021 default rates were extrapolated on the basis of the first nine months in 2021 already available.

The impairment losses at the reporting date 31 December 2021 are also affected by the material model changes in the underlying internal rating-based approaches (IRB models) for PD and LGD estimations which are related to the implementation of the EBA's "Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures".

The IRB models on PD estimations for retail customers and corporate customers were introduced in the fourth quarter of 2021. The anticipated effects on the expected credit loss (ECL) already taken into account in advance for this in June 2021 were reversed when the new models were implemented.

The effects of the new IRB model on LGD estimation, the implementation of which is planned for 2022, was anticipated in the impairment losses at year-end.

Accounting and Valuation (Continued)

Macroeconomic scenarios

The process for incorporating macroeconomic scenarios into estimates is consistent with other forecasting processes in risk management (e.g. as part of the EBA stress tests and the ICAAP framework) and benefits from UniCredit's independent research department. Three macroeconomic developments to be expected in the future are identified. In addition to the probable scenario (baseline), a positive scenario and an adverse scenario are also estimated. The baseline scenario represents the central scenario and is considered to be the most likely to occur. The positive and the adverse scenarios represent other possible occurrences, each depicting better or worse economic developments in the countries relevant for the Bank compared with the baseline scenario. The individual scenarios are assigned probabilities of occurrence.

– The baseline scenario reflects the developments anticipated by HVB Group. The recovery of economic activity continues and is resilient to another deterioration in the COVID-19 pandemic. This is consistent with the assessment that new waves of COVID-19 will cause less and less damage to the economy. Fiscal policy gradually returns to normal but continues to provide support. Households can draw on the high savings accumulated during the pandemic. Overall, the major economies are on track for solid growth in 2022, which is followed by rates of growth that are more likely to be slower in 2023 and 2024. The current surge in inflation proves to be of a temporary nature for the most part. The Fed and the ECB begin to reduce stimulus measures step by step coupled with accommodating financial terms. This applies particularly in the eurozone where the expansion phase is less advanced and inflation is lower than in the USA. In this scenario, GDP in the USA will grow by 3.9% in 2022 after an increase of almost 6% in 2021. In 2022, GDP will increase by 4.3% in the eurozone after rising by 5.0% in 2021. Inflation will slow down as the imbalances triggered by the COVID-19 pandemic fade away and basic effects lower energy inflation. In the eurozone, inflation will fall below the ECB's target and on average amount to 1.8% in 2022 and 1.7% in 2023 and 2024. The central banks are prepared to tolerate temporary inflation peaks and remain accommodating while fiscal incentives revive the economy. The Fed is expected to pare back its bond buying programme in the course of 2022 and hike the key interest rate in 2023 and 2024 (up 50 basis points per year). The ECB, which is facing a longer recovery and weaker inflation than the Fed, is likely to leave key interest rates unchanged until 2024 and calibrate asset purchases in order to keep yield curves under control. In the eurozone, purchases under the Pandemic Emergency Purchase Programme (PEPP) will be gradually discontinued but the traditional quantitative easing will continue to provide support. The TLTRO programmes and their favourable conditions are set to continue until 2022. Incentives are likely to be phased out step by step in line with the subdued inflation outlook in the medium term. In detail, annual real growth in the gross domestic product in Germany is forecast at 5.0% in 2022, 2.2% in 2023 and 1.7% in 2024.
– In the positive scenario it is assumed that higher vaccination rates will boost confidence and GDP more strongly than we project in the baseline scenario. The pace of recovery turns out to be much faster as households significantly reduce precautionary saving while companies vigorously resume their investment plans that had been put on hold. Driven by pent-up demand, GDP in the eurozone returns to the trend line it was at before the COVID-19 pandemic by the end of 2022. Governments gradually reduce their support measures. As new issues of debt securities slow down, there is less need to continue the very expansive monetary policy. In this scenario, GDP in the eurozone grows by 5.8% in 2022 (up 1.5% compared with the initial value), by 3.6% in 2023 (up 1.5%) and by 2.5% in 2024 (up 0.8%). The production gap closes by the end of 2022. Core inflation increases, supported primarily by price increases in sectors hardest hit by the pandemic, while supply bottlenecks persist. During the forecast horizon, overall inflation in the eurozone levels off at around 2%, which reflects the ECB's definition of price stability. Central banks maintain their accommodating stance, however less strongly than in the baseline projections. After the Fed has pared back its bond purchases in 2022, the Fed carries out three interest rate hikes by 25 basis points in 2023 and two further hikes in 2024. The ECB stops net asset purchases under the PEPP in March 2022 and gradually lowers net purchases under the Asset Purchase Programme (APP) to zero. The TLTRO conditions are less generous. Key interest rates remain unchanged until 2024.

– In this adverse scenario we assume that Europe and the USA will be confronted with a new serious wave in the COVID-19 pandemic. This will force governments to restrict mobility and business activities once again. Despite lower vaccination rates, we assume that the USA, like in previous waves, will take less stringent measures than eurozone countries. We also project that a kind of herd immunity will only be achieved towards the end of the forecast horizon. In view of these assumptions, the COVID-19 pandemic will dampen private demand more strongly than assumed in the baseline scenario. Governments will maintain an expansive policy to mitigate the effects of the COVID-19 pandemic and maintain social stability. The ECB is expected to remain in the market with the PEPP and carry out TLTRO on generous terms throughout the forecast horizon. This will allow favourable financing conditions to be maintained overall despite the continuing build-up of debt in the public and private sectors. GDP in the eurozone would increase by 2.6% in 2022 (down 1.7% compared with the initial value), followed by growth of only 0.4% in 2023 (down 1.7%) and 0.7% in 2024 (down 1.0%). By the end of 2024, GDP in the eurozone would remain well below its pre-crisis trend line. Disinflationary forces emerge as low demand and an expansion of the production gap have priority over supply-side disruptions. Coupled with lower oil prices, this exerts downward pressure on inflation. Overall inflation in the eurozone fluctuates at around 1.5%, which is below the ECB's tolerance threshold, over the entire forecast horizon. Fiscal policy responds to the deterioration in growth and inflation prospects and to any potential threat to the transmission mechanisms of fiscal policy. Key interest rates remain unchanged in the USA until 2023 and in the eurozone throughout the forecast horizon. The ECB is of the opinion that particularly in the eurozone the negative effects on banks' profitability in such an environment outweigh the positive effects of a cut in interest rates on the real economy. It is therefore assumed that the entire burden of the additional monetary expansion will rest on asset purchases, most probably by increasing the volume of the PEPP, and on TLTRO. Due to its flexibility, the PEPP is an ideal instrument for combatting negative macroeconomic developments coupled with potential risks to the transmission mechanism, triggered by tensions between states. Favourable conditions for TLTRO are likely to remain in place so that the banking sector can keep funding costs low.

Models from the Group's central stress test area are used to adjust the PD and LGD parameters in order to calculate the expected loss. These model the relationship between macroeconomic development and the resulting development of PD and LGD. The parameters are adjusted on the basis of the baseline scenario by the respective differences determined for the three forecast years. The forward-looking information is updated twice a year to reflect the latest macroeconomic conditions.

Moreover, the expected loss is adjusted with a factor that compensates for the partial non-linearity that might be included in the correlation between macroeconomic changes and the change in the expected loss. This means that an adjustment factor is calculated from the three scenarios, taking account of their weighting, which is applied directly to the expected loss.

In addition to this and against the backdrop of the experience gained in the last two years, industry-specific elements have been added to the existing macroeconomic models since the 2020 reporting year so that the forecast models can now cover asymmetrical shocks at a detailed level. The time series was extended by one year in the reporting period and directly affects the PD.

At the end of 2020 and at the beginning of 2021, the strict lockdown in Germany as a result of pandemic developments and the incompleteness of the information available on the economic situation of customers resulted in an increase in loan loss provisions. These were initially reversed in stages, partly by including information on the latest balance sheet figures and reassessing the probability of default, and were finally completely reversed at the end of the reporting year.

In the second half of the year, it was observed that supply disruptions and supply bottlenecks had a considerable impact on global supply chains. During the recovery phase of the COVID-19 pandemic, households increased purchases of certain products such as electronics and DIY tools. This resulted in a stronger-than-expected surge in demand in some sectors in particular. However, export-dependent sectors are temporarily having to cope with these risks from supply disruptions and supply bottlenecks. The effects on customers' balance sheet figures and the duration of the supply chain risk cannot be established in detail and recorded in the model at the present time. The greater risk and possible negative impact on the portfolio resulted in additional impairment losses at the end of the year.

Accounting and Valuation (Continued)

Impairment losses on receivables in default (Stage 3)

The HVB Group units responsible for the restructuring or workout of non-performing exposures determine the future incoming payments for non-performing exposures which are significant in terms of amount based on the circumstances in each case. Consequently, specific allowances are recognised for these exposures while a collective allowance is recognised on a parameter basis for non-performing exposures which are insignificant in terms of amount in line with the method used in determining the expected credit losses.

If the borrower of a debt instrument has defaulted, such credit-impaired assets are allocated to Stage 3. For these assets, interest income is recognised only in the amount of the interest on the basis of the net carrying amount. Like in the past, default is when a material liability of the borrower is overdue by more than 90 days or HVB Group believes the borrower is unable to meet their payment obligations in full without steps to realise collateral being taken. This presupposes that there is objective evidence that the financial asset is impaired. Objective evidence of impairment refers to events that normally lead to an actual impairment. In the case of debt instruments, these are events that could result in the borrower not being able to settle their obligations in full or at the agreed date. Objective evidence is provided only by events that have already occurred, not by events expected in the future. The assessment of the borrower's creditworthiness using internal rating processes is relevant in this connection. This assessment is reviewed periodically and when negative events occur. If the borrower is 90 days in arrears, this is considered objective evidence of an impairment, similarly leading promptly to a review of the borrower's individual rating on account of the occurrence of a negative event involving the borrower. Based on internal procedures, the classification of the borrower is updated to "in default" or "not in default". As a result, the assessment of the borrower's creditworthiness is always assessed with regard to their ability to meet outstanding liabilities.

In Stage 3, the impairment is calculated as the difference between the carrying amount and the present value of the expected future cash flow. These figures are estimated by HVB Group and discounted using the corresponding interest rate. In doing so, different, realistic scenarios are estimated whereby the impairment loss is obtained from the expected value of the credit defaults weighted by the probability of occurrence for each scenario. The impairment loss calculated in this way likewise corresponds to the expected credit losses for the debt instrument but, deviating from Stage 1 and Stage 2, the probability of default is no longer taken into account as default has already occurred.

As the debt instrument is in default, it is put on a non-accrual basis, i.e. the contractual interest payments are no longer recognised in the income statement. Instead, the interest income is determined on the basis of the net carrying amount. For this purpose, the net carrying amount from the previous period is compounded at the original interest rate of the debt instrument over the reporting period and the impairment loss, which is calculated as the difference between the present value of the expected cash flow (net carrying amount) and the gross carrying amount, is recognised in interest income at the compounded amount in the income statement. Furthermore, the amounts put on a non-accrual basis are recorded both in the gross carrying amount and in the impairment losses without affecting income. As, in doing so, the gross carrying amount and the impairment losses are increased by the same amount, the net carrying amount does not change.

As soon as the reasons for the default no longer apply, the assets are transferred back to Stage 1 or 2, respectively, depending on whether the credit default risk is still significantly higher or not in comparison to when the assets were first acquired.

In the case of financial guarantees and irrevocable credit commitments made to a borrower in default, a possible impairment is determined in the same way; the impairment loss is recognised as a provision.

If a receivable is considered uncollectible, the amount concerned is written off, which leads to the derecognition of the receivable. The amount is derecognised if the receivable in question is due, any available collateral has been realised and further attempts to collect the receivable have failed. Acute country-specific transfer risks are taken into account in the process.

For financial assets that were already in default upon initial recognition (purchased or originated credit impaired assets – POCI), the interest income is likewise recognised only at the amount of interest based on the net carrying amount. Only those new additions are recognised as POCI that result in more than only an insignificant increase in the existing exposure, i.e. exceed 20% of the existing net exposure (exposure after deduction of recoverable collateral). Credit losses expected upon initial recognition are already taken into consideration in the fair value when posting assets so that no impairment is recorded for POCI assets upon initial recognition. With regard to subsequent measurement, these assets are measured on the basis of the loss anticipated over the (residual) term to maturity; in the case of higher expected inflows than assumed upon initial recognition, however, the assets can be written up to amounts in excess of the acquisition cost.

Modification of financial assets measured at amortised cost
If the contractual terms of financial assets are modified, it is necessary to review whether such modifications are significant or insignificant. Whereas significant modifications result in the derecognition of the existing asset and the posting of a new, significantly modified asset, in the case of insignificant modifications, only the agreed modifications to the contractual cash flows are discounted and the difference between the present value of the modified contractual payments determined in this way and the carrying amount (present value of the contractual payments before modification) are recognised in the income statement.

A significant modification to the contractual terms has occurred where compliance with cash flow conditions has changed or where conditions have been adjusted to general market terms without this adjustment being seen as a concession made to the borrower based on the borrower's credit rating. In such cases, the existing loan is derecognised and the modified loan posted as a newly extended loan.

In addition, lending agreements can be modified to ease the burden on borrowers in poor financial situations and improve the probability of the loans being serviced (forbearance). Various strategies may be used to ease the burden on the borrower. Possible measures include deferrals and temporary moratoriums, longer periods allowed for repayment, reduced interest rates and rescheduling, and even partial debt waiver.

Where the Bank waives payments by the borrower (such as waived fees, reduction of contractual interest rates, etc.) due to a deterioration in credit-worthiness, such a waiver represents objective evidence of the borrower defaulting. The derecognition of payments due or of future repayments caused by an issued waiver is recognised in the income statement as an impairment, provided an allowance had not already been set up for this in the past or recognition was waived on account of the borrower defaulting (such as putting a loan on an internal non-accrual basis).

If the modification of the agreement does not give rise to derecognition of the receivable or part of the receivable on account of the waiver of payments due or of future repayments but merely to an adjustment of future cash flows, for example through a prospective reduction in the interest rate as of the date of the modification, the gross carrying amount has to be adjusted accordingly. For this purpose, the newly agreed cash flows have to be discounted at the original effective interest rate and this present value deducted from the gross carrying amount (prior to the modification to the agreement). The difference determined in this way is recorded as a modification gain or loss through the income statement. As this primarily affects non-performing, impaired receivables, the modification gain or loss is reported under the consolidated income statement item "Credit impairment losses IFRS 9".

15 Investments in associates and joint ventures accounted for using the equity method
Investments in joint ventures and associates are accounted for using the equity method.

16 Property, plant and equipment
Property, plant and equipment are tangible assets held for use in the production or supply of goods or services, for leasing to third parties or for administrative purposes and are expected to be used for longer than one period. Property, plant and equipment includes land and buildings used by HVB Group itself, fixtures in buildings not owned by the Bank, plant and office equipment and right-of-use assets (leases).

Property, plant and equipment are measured at acquisition or production cost upon initial recognition. This includes:
– the purchase price including customs duty and non-refundable turnover tax after deducting rebates, bonuses and discounts
– all directly attributable costs that were incurred to transport the asset to the site and to put it into the required, operational condition as intended by Management
– costs of future waste disposal, recultivation and similar obligations

Acquisition or production cost incurred subsequently is capitalised in the carrying amount of the item of property, plant and equipment, provided additional economic benefits flow to the Bank. Expenditure on repairs or maintenance of the item of property, plant and equipment is recognised as expense in the year in which it is incurred.

Accounting and Valuation (Continued)

After initial recognition, HVB Group applies the following accounting principles to its property, plant and equipment in line with IAS 16.29:
- Subsequent measurement of owner-occupied land and buildings is carried out by applying the revaluation model in accordance with IAS 16.31. According to that model, an item of property, plant or equipment recognised as an asset is accounted for at a revalued amount, which will generally be the fair value at the revaluation date less any subsequent accumulated scheduled depreciation and impairment losses. The carrying amounts of properties were divided into separate carrying amounts for land on the one hand and buildings on the other, which are measured separately as classes of property, plant and equipment.
- The remaining items of property, plant and equipment are measured on the basis of the cost model in line with IAS 16.30 upon subsequent measurement. According to this model, an item of property, plant and equipment recognised as an asset is generally accounted for at its acquisition or production cost less any accumulated scheduled depreciation and impairment losses (amortised acquisition or production cost).

Although HVB Group measures its owner-occupied land and buildings using the revaluation model, it was decided in line with IFRS 16.35 that this valuation model would not be applied to the right-of-use assets relating to these asset classes. The valuation of the right-of-use assets from leases recognised under property, plant and equipment is thus carried out on the basis of the cost model. A detailed presentation of this is given in the Note “Lease operations”.

A prerequisite for the application of the revaluation model is that the fair value of the owner-occupied land and buildings can be reliably determined. According to the definition in IAS 16.6, the fair value of property, plant and equipment is the price that would be received for the sale of an asset or paid for the transfer of a debt in an orderly transaction between market participants at the measurement date. The fair value is determined in accordance with the provisions of IFRS 13.

For the revaluation of owner-occupied land and buildings, valuation reports are prepared by independent external experts. Revaluations are made with sufficient regularity to ensure that the carrying amount of a revalued asset does not differ materially from its fair value.

The revalued amount (fair value) determined for the land or buildings at the revaluation date is the new carrying amount. The difference to the previous carrying amount of the asset is recognised as follows, taking account of previous periods:
- If the fair value is higher than the carrying amount due to an increase in value, the difference is generally to be reported in the consolidated statement of total comprehensive income under other comprehensive income (OCI) and accumulated in equity as a revaluation surplus without affecting profit or loss. However, if a revaluation loss was recognised as an expense in the consolidated income statement in previous periods, in exceptional cases a write-up must be recognised in the income statement up to the amortised acquisition or production cost in the event of a new increase in value. All increases in value beyond this are to be recognised through other comprehensive income without affecting profit or loss and thus increase the revaluation surplus in equity. Consequently, a revaluation gain in excess of amortised acquisition or production cost is never recognised in profit or loss.
- By contrast, if the fair value is lower than the carrying amount due to a decrease in value, the carrying amount must be written down to the lower fair value. If there is a revaluation surplus for the asset concerned as a result of revaluation gains in previous periods, it is reversed in the event of a new revaluation loss by recognising the decrease in value through other comprehensive income without affecting profit or loss. Any revaluation loss beyond this is recognised in profit or loss.

Revaluation effects recognised directly in equity are reported in the consolidated statement of comprehensive income under the item “Allocation to/withdrawal from the revaluation surplus for owner-occupied property (IAS 16)” as components of the income and expense items recognised through other comprehensive income that will not be reclassified to the consolidated income statement in future periods (no recycling). The revaluation surplus is recognised under the item “Revaluation surplus for owner-occupied property” as a component of other reserves in equity in the consolidated balance sheet and reported separately in the statement of changes in consolidated shareholders’ equity.

After revaluation, scheduled depreciation is taken on depreciable buildings on a straight-line basis over their expected useful lives upon subsequent measurement. The revalued amount constitutes the new basis of measurement for depreciation. Scheduled depreciation is not taken on land as it is a non-depreciable asset. For all other depreciable items of property, plant and equipment, the acquisition or production cost is subsequently reduced by scheduled straight-line depreciation in line with the expected useful life. The depreciable amount to be offset from the depreciable assets for each period is recognised in profit or loss as a basic rule.

Fixtures in rented buildings are depreciated over the term of the rental contract, taking into account any extension options, if this is shorter than the normal useful life of the asset concerned. The right-of-use assets from leases reported under property, plant and equipment are subject to scheduled depreciation on a straight-line basis over the shorter of the useful life of the leased asset or the term of the lease agreement.

The following economic lives were taken as a basis for determining the depreciation on property, plant and equipment:

PROPERTY, PLANT AND EQUIPMENT	ECONOMIC LIFE
Buildings	25–60 years
Fixtures in buildings not owned	10–25 years
Plant and office equipment	3–25 years

The useful lives and depreciation methods of property, plant and equipment are reviewed once a year and adjusted as appropriate if the current expected useful lives differ from earlier estimates or if significant changes have occurred in the expected future economic use of the assets. The required changes in estimates are taken into account prospectively in accordance with IAS 8.

Unscheduled impairments are taken in accordance with IAS 36 on items of property, plant and equipment whose value is impaired. The revaluation does not replace the test to determine whether there is any indication of an impairment. An item of property, plant and equipment is considered impaired when its carrying amount exceeds its recoverable amount. The recoverable amount is normally determined on the basis of the value in use. The offset of an identified impairment of a revalued asset (land or building) is to be recognised as a revaluation decrease in compliance with the revaluation model pursuant to IAS 16 in line with the procedure described above. An impairment loss is thus recognised through other comprehensive income provided that this does not exceed the amount reported in the revaluation surplus for the same asset. However, the impairment loss of an asset which is not revalued (other property, plant and equipment) is immediately recognised in the consolidated income statement through profit or loss in each case.

If the reasons for unscheduled depreciation cease to apply, a write-up of property, plant and equipment is carried out. In doing so, the carrying amount increased by the impairment reversal may not exceed the (net) carrying amount which would have resulted if no impairment loss had been recognised for the asset in previous periods. Any impairment reversal of a revalued asset is to be treated as an increase in value as a result of revaluation compliant with IAS 16 in line with the above. This means the reversal of the unscheduled depreciation is to be credited to the revaluation surplus through other comprehensive income, unless the impairment was previously recognised in the income statement. By contrast, the impairment reversal of an asset that is not revalued is always recognised directly in the net income for the period.

Scheduled and unscheduled depreciation and write-downs as well as write-ups recognised in the consolidated income statement for property, plant and equipment are generally reported in the item “Amortisation, depreciation and impairment losses on intangible and tangible assets” within operating costs.

The difference between depreciation based on the carrying amount revalued at fair value and depreciation based on the amortised acquisition or production cost is transferred each year within equity from the revaluation surplus to retained earnings. Any revaluation surplus thus corresponds to the difference between the fair value and the amortised acquisition or production costs.

HVB Group adjusts the reported acquisition cost and the accumulated depreciation accrued up to the revaluation date in the statement of changes in non-current assets in proportion to the change in the carrying amount, so that the (net) carrying amount reflects the fair value (restatement approach). For example, if a revaluation increases the carrying amount by 10% to the fair value determined at the revaluation date, both the acquisition costs and the accumulated depreciation are increased by this factor (10%) in the statement of changes in non-current assets.

The carrying amount of an item of property, plant or equipment is derecognised on disposal or when no future economic benefits are expected from its use or sale. In the event of the sale of revalued land or a revalued building, the revaluation excess recognised in and allocable to the revaluation surplus is transferred in full to equity in retained earnings.

Excluded from the application of the revaluation model are owner-occupied properties that are in the process of being sold and are recognised as “Non-current assets or disposal groups held for sale”. The measurement requirements of IFRS 5 are applied to these properties. However, the property must be revalued for the last time at the time of reclassification if the carrying amount differs from the fair value at that time.

Accounting and Valuation (Continued)

17 Lease operations

IFRS 16 rules govern the accounting of lease operations. These rules apply in HVB Group to leases of property, plant and equipment and to investment properties. IFRS 16 does not apply to leases involving licence agreements.

In the case of newly concluded agreements, HVB Group assesses upon commencement of the agreement whether the agreement constitutes or contains a lease. This is the case when the agreement gives the right to control the use of an identified asset (of the underlying asset) for a specified period of time in return for a fee. HVB Group assesses whether the definition of a lease and the related guidelines in IFRS 16 are met primarily on the basis of the following criteria:

- the agreement contains an identified asset which is either explicitly specified in the agreement or implicitly specified by the fact that the asset is made available for use by HVB Group at a certain point in time;
- HVB Group is essentially entitled to derive all the economic benefits associated with the use of the identified asset throughout the period of use, taking into account the rights set out in the agreement;
- HVB Group is entitled to decide on the use of the identified asset throughout the period of use. This is particularly the case if HVB Group has the right to determine how and for what purpose the asset is used.

Furthermore, it is only necessary to reassess whether an agreement constitutes or contains a lease if the terms of the agreement change.

HVB Group as lessee

In the case of agreements which constitute or contain a lease, HVB Group as the lessee generally recognises as an individual lease each lease component separately from the non-lease components of the agreement. In doing so, the contractually agreed consideration is allocated to the individual contractual components on the basis of the relative individual selling prices. HVB Group does not make use of the practical facilitation option, according to which a lessee can decide for individual classes of underlying assets not to separate the non-lease components and instead to account for lease and non-lease components as a single lease component.

Leases are accounted for by the lessee using a uniform accounting model (right-of-use approach). According to this model, HVB Group as the lessee generally recognises an asset for the right granted to use the underlying leased asset and a corresponding lease liability for the obligation to make the outstanding lease payments for each lease at the commencement date of the lease.

However, IFRS 16 provides lessees with the option of exempting short-term lease agreements with a term of up to 12 months and leases of low-value assets from recognition. HVB Group has elected to apply the simplified presentation option to all such leases and recognises the related lease payments on a straight-line basis over the term of the lease as an expense in the consolidated income statement.

The right-of-use assets recognised in the consolidated balance sheet are measured at cost upon addition. Such cost includes the present value of all future lease payments (the amount resulting from the initial measurement of the lease liability), plus payments made on or before the commencement date of the lease, initial direct costs and estimated costs of dismantling or restoring the underlying asset or the site where it is located (to the extent that such dismantling costs give rise to an obligation that is recognised and measured in accordance with IAS 37) less any lease incentives received.

The right-of-use assets reported under property, plant and equipment are subsequently measured using the cost model. In accordance with the depreciation rules of IAS 16, the right-of-use assets are amortised on a straight-line basis over the shorter of the two useful life periods of the underlying asset and the term of the lease. If the lease payments to be taken into account also include the transfer of ownership of the leased asset at the end of the lease term, or if the cost of the right-of-use asset takes into account the fact that the lessee will exercise a purchase option, the write-downs of the right-of-use asset are made over the economic life of the underlying asset. Otherwise, the right-of-use asset is amortised over the term of the lease. Existing term and call options are taken into account if their exercise is deemed sufficiently certain. In addition, the right-of-use asset is continually tested for impairment in accordance with IAS 36, corrected if necessary and adjusted for certain remeasurements of the lease liability. While HVB Group establishes the value of its land and buildings reported under property, plant and equipment in accordance with the revaluation model of IAS 16, it was decided that this valuation model will not be applied to the right-of-use assets relating to these investment classes.

In contrast, the fair value model is applied to right-of-use assets that meet the definition of investment properties in IAS 40 and are reported under investment properties, as this model is also used for the subsequent measurement of investment properties in HVB Group. Consequently, HVB Group measures the right-of-use asset it has to an investment property at fair value and not at the underlying value of the asset.

The initial measurement of the lease liability is based on the present value of the lease payments not yet made on the commencement date. Lease payments comprise fixed payments (including de facto fixed payments), variable lease payments linked to an index or (interest) rate (initially measured at the index or (interest) rate applicable on the commencement date), the amounts expected to be paid under a residual value guarantee and the exercise price of a purchase option if the lessee is reasonably certain to exercise it. Penalties for premature termination of the lease are only included in the lease payments if the lessee is reasonably certain to terminate the lease prematurely. All lease incentives (e.g. rent-free periods) expected to be received are deducted from this.

Lease payments are discounted at the interest rate underlying the lease (interest rate implicit in the lease) if it can be readily determined. Otherwise they are discounted at the lessee's incremental borrowing rate. The latter is the interest rate that a lessee would have to pay to raise funds in a similar economic environment in order to obtain an asset of similar value at comparable conditions. In order to determine the incremental borrowing rate, HVB Group uses a fixed interest rate curve based on a swap rate (base rate) and the Bank's funding premium, which reflects the nature of the lease obligations. According to this method, the lease payments not yet made are discounted to the present value at current interest rates taking into account the internally determined funding premiums. The funding premiums correspond to the parameters that the Bank uses when setting the prices for its own borrowings. As a rule, we apply the incremental borrowing rate for discounting because the interest rate implicit in the lease is generally not available to us.

Variable lease payments that are not linked to an index or (interest) rate and are therefore not taken into account in the measurement of the lease liability are recognised by lessees as an expense in the period in which they arise.

In the course of the subsequent measurement, the lease liability is updated using the effective interest method from accounting mathematics. The carrying amount of the lease liability is compounded and reduced by the amount of the lease payments made with no effect on income.

The lease liability is remeasured if future lease payments change due to a change in the index or (interest) rate, if the estimate of the expected payments under a residual value guarantee is adjusted, if the estimate of the exercise of a purchase, extension or termination option changes or if the de facto fixed lease payment changes. The right-of-use asset is to be adjusted accordingly by the amount resulting from the revaluation of the lease liability. If the reduction in the lease liability exceeds the carrying amount of the right-of-use asset, the resulting residual amount (difference between amount of the reduction in the lease liability and the carrying amount of the right-of-use asset) is recognised in profit or loss.

Disclosure in the consolidated financial statements of HVG Group is as follows:
– In the consolidated balance sheet, right-of-use assets that do not meet the definition of investment property are reported under property, plant and equipment. In contrast, right-of-use assets that meet this definition are presented in the balance sheet as investment properties. Lease liabilities are presented in the balance-sheet item "Deposits from customers" or "Deposits from banks" depending on the contractual partner.
– In the consolidated income statement, scheduled and unscheduled amortisation and write-downs, as well as write-ups on the right-of-use assets contained in property, plant and equipment are generally recognised in the item "Amortisation, depreciation and impairment losses on intangible and tangible assets" within operating costs. A gain or loss arising from a change in the fair value of rights to use investment properties is recognised directly in the income statement item "Net other expenses/income". The accrued interest on the lease liabilities contained in the deposits from customers and deposits from banks is recognised under interest expense. Expenses in connection with short-term lease agreements, leases based on a low-value assets and variable lease payments not taken into account in the measurement of the lease liabilities are shown in the item "Other administrative expenses".

Accounting and Valuation (Continued)

HVB Group acts as seller/lessee in sale-and-leaseback transactions in which it sells assets (properties) to another company (buyer/lessor) which it then leases back from that company. The provisions of IFRS 15 are applied in determining whether the transfer of the assets is to be accounted for as a sale. If the transfer of the asset as a result of the transfer of control constitutes a sale, the seller/lessee must recognise the right-of-use asset relating to the leaseback at that portion of the former carrying amount relating to the right-of-use asset retained by it. Any gain or loss on the transaction is thus recognised only to the extent to which it relates to the rights transferred to the buyer/lessor. The pro rata unrealised gain on the sale resulting from the adjustment of the initial measurement of the right-of-use asset is subsequently recognised as a reduction of the ongoing write-downs of the right-of-use asset over the term of the leaseback.

If the transaction is not carried out at fair value or at standard market conditions but, for example, a purchase price premium is compensated by higher lease payments, the differences are considered to be financing transactions. The acquisition cost of the right-of-use asset is to be reduced by these financing components accordingly in order to recognise the right-of-use asset and the income from the sale of the asset. However, if the transfer of the assets does not constitute a sale because control is not transferred, the transaction is presented in the balance sheet of the seller/lessee as a financing transaction. The seller/lessee continues to recognise the transferred assets and recognises the financial liability in the amount of the income from the transfer in accordance with IFRS 9.

HVB Group as lessor
In the case of agreements that constitute or contain a lease, HVB Group as a lessor reports as a lease each lease component separately from the non-lease components of the agreement and applies the respective regulations of IFRS 15 to the distribution of the contractually agreed compensation between the individual components.

Leases in which HVB Group appears as the lessor are classified as either finance or operating leases on commencement of the lease (dual lessor accounting model). If the terms of the lease essentially transfer all the risks and rewards incidental to ownership to the lessee, the lease is classified as a finance lease. All other leases are classified as operating leases. The classification is only reassessed in the event of a change in the lease agreement.

In the case of a sublease, HVB Group acts as an intermediate lessor and accounts for the principal lease and the sublease as two separate agreements. The classification of the sublease as a finance or operating lease is based on the right-of-use asset and not on the asset from the principal lease underlying the lease. If the principal lease is a short-term lease to which HVB Group applies the above described exemption, the sublease is classified as an operating lease.

– Operating leases
  In the case of operating leases, the lessor, as the beneficial owner, recognises the underlying asset in its consolidated balance sheet. The leased assets are carried under property, plant and equipment or investment properties and measured in accordance with the relevant methods. Lease income from operating leases is recognised on a straight-line basis over the term of the respective lease and shown under other operating income. Initial direct costs incurred in negotiating and agreeing a lease are added to the carrying amount of the leased asset and allocated on a straight-line basis over the term of the lease.
– Finance leases
  If the lessor transfers the underlying asset to the lessee for use under a finance lease, the lessor must derecognise it from its consolidated balance sheet on the commencement date and recognise a finance lease receivable from the lessee. The initial measurement of the finance lease receivable included in the item "Loans and receivables with customers (at cost)" or "Loans and receivables with banks (at cost)" is carried at the net investment in the lease using the lessor's interest rate underlying the lease. Initial direct costs are included in the initial measurement of the net investment in the lease and reduce the income recognised over the lease term. The lease payments to be included in the amount receivable under the lease generally correspond to the payments that must also be taken into account upon the initial measurement of a lessee's lease liability. Subsequently, the lease payments received by the lessee are divided into an interest portion recognised in the income statement and a redemption portion. Interest income is recognised over the term of the lease using the effective interest method; the redemption portion reduces the outstanding receivable as a repayment of the principal. The derecognition and impairment provisions of IFRS 9 are to be applied to the amounts receivable under the lease. If the estimated unguaranteed residual values are used in the calculation of the gross investment in the lease, the lessor shall review these values at regular intervals.

Variable lease payments are recognised as income by the lessor in the period in which they arise.

For more information on leases, please refer to the Note "Information regarding lease operations".

18 Investment properties

Investment properties are real estate (land and buildings) that HVB Group holds to earn rental income and/or for capital appreciation over the long term.

Investment properties are recognised at acquisition or production cost including transaction costs at the time of addition. These are then measured using the fair value model in accordance with IAS 40.33. This also applies to the right-of-use assets under leases that comply with the definition of investment property in IAS 40 and are classified as investment property. There is no scheduled depreciation over the economic life. Gains and losses resulting from changes in the fair value are recognised through profit or loss in the consolidated income statement under the item "Net other expenses/income" in the period in which they arise. Current expenses and rental income for land and buildings held as an investment is also reported in this item.

The fair value of investment properties is determined as follows: the properties to be measured are always unique which means that there are no prices that are observable for these properties. Consequently, the fair value is to be determined on the basis of recognised valuation methods (Level 3). Only in exceptional cases can binding offers or non-binding reliable offers for a property be made in the course of a sale process (such as for investment properties classified as non-current assets or disposal groups held for sale), so that fair value can be determined on the basis of prices observable on the market (Level 2). The valuation is carried out at regular intervals.

The appraisals prepared to calculate the fair values are based on recognised appraisal methods used by independent external assessors, primarily taking the form of comparative-value, asset-value and income approaches. In the income approach, current market rents, management and maintenance costs and property yields are applied in the case of developed land. Where necessary, property-specific considerations are also taken into account when determining the value. Among other things, these property-specific factors include vacancy rates, deviations between current contractual rents and current market rents, the condition of the buildings' technical systems and similar factors. In the case of undeveloped land, figures for sales of nearby land that have been completed are normally taken as a basis; where these are not available, the standard land value is used as a benchmark, with adjustments made for the individual location, size and layout of the plot of land, among other factors.

An investment property is derecognised upon disposal or when it is permanently no longer to be used and future economic benefits from the disposal are no longer expected. The gain or loss on disposal is determined as the difference between the net proceeds on disposal and the carrying amount of the asset and is recognised through profit or loss in the consolidated income statement in the period of disposal.

In some cases, it may prove difficult to classify a property as an investment property rather than property, plant and equipment. Classification is especially difficult if part of the property is held by the Group as an investment while another part is used for the Bank's own purposes as an administration building, and the parts of the property cannot be sold separately or leased out under a finance lease so that the two parts are not accounted for separately. In such cases, HVB Group classifies a mixed usage property in full as an investment property if more than 90% of the property is leased to an external third party and the part of the property used by the Bank is of subordinate importance. The whole property is classified as property, plant and equipment if the part of the property leased externally totals 90% or less.

Accounting and Valuation (Continued)

19 Intangible assets
Intangible assets mainly consist of internally created and separately purchased software. As a basic rule, software is no longer created internally at HVB. Software is supplied to HVB by the UniCredit-wide service provider UniCredit Services S.C.p.A.

Intangible assets are only recognised if it is probable that a future economic benefit will flow to the Bank and the cost of the assets can be reliably measured.

Internally created and separately purchased intangible assets are generally recognised at their acquisition or production cost less any accumulated scheduled amortisation and impairment losses (cost model according to IAS 38.74).

Software has a limited useful life and is measured over an expected useful life of three to five years and other intangible assets with a determinable useful life are amortised on a scheduled straight-line basis over an expected useful life of up to ten years.

Scheduled and unscheduled amortisation, impairments and write-ups on intangible assets are recognised through profit or loss in the consolidated income statement under the item "Amortisation, depreciation and impairment losses on intangible and tangible assets" within operating costs.

The carrying amount of an intangible asset is derecognised on disposal or when no future economic benefits are expected from its use or sale.

20 Non-current assets or disposal groups held for sale
Under IFRS 5, non-current assets or disposal groups held for sale which are expected to be sold within one year are to be recognised as non-current assets or disposal groups held for sale. Upon reclassification, these are generally carried at the lower of the carrying amount or fair value less costs to sell. Upon subsequent measurement following reclassification, the non-current assets or disposal groups held for sale are, if necessary, written down to a lower fair value less costs to sell if this has fallen at subsequent reporting dates. Should the fair value increase, the total may be written up to an amount that is no more than the cumulative impairment loss.

Financial instruments as defined by IFRS°9 and non-current assets measured according to the fair value model in IAS 40, for which the measurement requirements of the respective IFRS apply, are among the items exempt from the IFRS 5 measurement requirements.

21 Liabilities
Deposits from banks and customers, and debt securities in issue that are not hedged items of an effective micro fair value hedge are carried as liabilities at amortised cost. Upon initial recognition, they are disclosed at their fair value including any transaction costs. Interest accruing on the liabilities is calculated using the effective interest method.

In the previous year and in the reporting year, HVB entered into targeted longer-term refinancing operations (TLTRO III) with the ECB. These are recognised in the balance sheet at cost using the effective interest method. The interest conditions are dependent on the fulfilment of certain lending criteria relating to two specific reporting periods defined by the ECB. The lending criteria were met for both periods as expected upon addition (the first period ended on 31 March 2021 and the second period on 31 December 2021). On the assumption that the lending criteria are fulfilled, the resulting interest payments and premiums are taken into account accordingly as expected or estimated future cash inflows or outflows in order to determine the effective interest rate. HVB does not intend to make any premature repayments which means that a term of three years is expected for the funds raised. This interest rate represents a variable interest rate benchmark that the ECB stipulates for the entire term for its TLTRO III programmes, which provide favourable financing to the banking sector in order to stimulate bank lending to the economy. Consequently, the modifications adopted by the ECB in December 2020 are treated as an adjustment of the variable interest rate benchmark for the reference interest period and the effective interest rate has been adjusted accordingly.

22 Financial liabilities held for trading
This item includes the negative fair values of traded derivatives and all other derivatives that are not classified as hedging derivatives (which are recognised separately). Also included here are warrants, certificates and bonds issued by our trading department, liabilities under repurchase agreements as well as delivery obligations arising from short sales of securities held for trading purposes.

Financial liabilities held for trading are carried at fair value. Gains and losses arising from the valuation and realisation of financial liabilities held for trading reported in the consolidated income statement under net trading income. We act as market maker for the structured products we issue.

With interest rate swaps, the two offsetting interest payment flows are aggregated for each swap contract and reported in net terms as interest income or interest expense. In the case of pure derivatives trading portfolios, we report the netted interest payments under net trading income.

23 Financial liabilities at FVTPL
HVB Group designated certain liabilities as financial instruments to be measured at fair value through profit and loss (fair value option) upon initial recognition. In this context, financial instruments issued are designated on the basis of fair value-based management of the portfolios concerned.

Financial liabilities at fair value through profit or loss are disclosed upon initial recognition at their fair value without any transaction costs. Upon subsequent measurement, changes in fair value are recognised through profit or loss in the item "Net gains/losses on financial assets and liabilities at fair value". If part of the change in fair value is attributable to changes in own credit spread, this partial amount is corrected again in the consolidated income statement and then recognised through other comprehensive income. This procedure does not lead to any accounting anomaly in the consolidated income statement.

In equity, the reserve for the own credit spread is shown under "Other reserves". If there are any changes in the financial liabilities at FVTPL in the course of measurement at fair value on account of the own credit spread, these changes are recognised through other comprehensive income. If this reserve still contains amounts on the date of disposal of the liability, the relevant amounts are not recognised in the consolidated income statement and are generally reclassified to retained earnings.

24 Hedge adjustment of hedged items in the portfolio fair value hedge
Net changes in the hedged amount of hedged items are carried in this hedge adjustment of portfolio fair value hedges to be shown separately (see the Note "Hedge adjustment of hedged items in the portfolio fair value hedge").

25 Other liabilities
Compliant with IAS 37, accruals and other items are shown under other liabilities. These reflect future expenditure of uncertain timing or amount, but the uncertainty is less than for provisions. Accruals are liabilities for goods and services received that have been neither paid for nor invoiced by the supplier, nor formally agreed. This also includes current liabilities to employees, such as flexi-time credits and holiday entitlements. HVB Group carries accruals at the amount likely to be used.

Accounting and Valuation (Continued)

26 Provisions
Present legal or constructive obligations as a result of past events involving a probable outflow of resources, and whose amount can be reliably estimated, are recognised as provisions.

When assessing provisions for uncertain liabilities and anticipated losses on onerous transactions, the best estimate compliant with IAS 37.36 ff is taken as a basis. Long-term provisions are discounted.

In accordance with IAS 19, provisions for pensions and similar obligations arising from defined benefit plans are recorded on the basis of external actuarial reports by applying the projected unit credit method, with each pension plan being valued separately. This accrued benefit method pro-rated on service takes into account dynamic considerations when determining the expected pension benefits upon retirement and distributes these over the beneficiaries' entire period of employment. This means that the measurement of the defined benefit obligation is based on an actuarially calculated present value of the future benefit entitlement for services already rendered (vested benefit entitlements), taking into account the expected compensation increases including career trends and forecast pension progression. The actuarial assumptions to be defined when measuring the benefit obligation vary in line with the economic and other underlying conditions in the country in which the plans exist.

The underlying valuation assumptions may differ from the actual developments as a result of changing market, economic and social conditions. The actuarial gains or losses resulting from the change to the valuation parameters may have a significant impact on the amount of the obligations for pensions and similar post-employment benefits.

The discount rate used to discount the defined benefit obligations (actuarial interest rate) is determined by reference to yields recorded on the market at the reporting date for high quality, fixed-rate corporate bonds and with maturities and currencies that match the obligations to be measured. A basket of AA-rated corporate bonds denominated in euros serves as the data basis for determining the discount rate for the obligations. These individual bond data are translated into a yield curve, which forms the basis for determining the actuarial interest rate, using a numerical adjustment calculation.

Funded pension obligations differ from unfunded pension obligations in that plan assets are allocated to cover the entitlements of the beneficiaries. The beneficiaries include active employees, former employees with vested benefit entitlements, and pensioners and their surviving dependants. Both HVB and a number of subsidiaries have set up plan assets in external, restricted-access pension organisations to fund their pension obligations.

If the beneficiaries' benefit entitlements or the Group's benefit obligations are not funded by assets, HVB Group recognises a pension provision in the amount of the present value of the defined benefit obligation (DBO) in its consolidated balance sheet.

However, if these are funded pension obligations, the present value of the defined benefit obligation is set against the fair value of the plan assets to determine the net defined benefit liability or net defined benefit asset from the defined benefit plans. The net amount is recognised in the consolidated balance sheet as a pension provision in the event of an excess of liabilities over assets or under other assets in the event of an excess of assets over liabilities adjusted for any effects of the asset ceiling. In the event of excess allocations to the plan, the amount of the net defined benefit asset recognised in the balance sheet is limited to the present value of the economic benefits associated with the surplus plan assets.

In the case of defined benefit obligations, actuarial gains and losses are recognised immediately and in full through other comprehensive income (OCI) in the period in which they accrue. Consequently, the pension provision or other asset recognised in the consolidated balance sheet corresponds to the actual deficit or surplus for a given commitment.

Under the net interest approach, the net interest to be recognised in profit or loss for the period is calculated by multiplying the net defined benefit liability (asset) under defined benefit plans by the discount rate used to measure the defined benefit obligation. Since the net defined benefit liability (asset) is reduced by any plan assets, this calculation method implicitly assumes a return on the plan assets in the amount of the discount rate.

If the present value of a defined benefit obligation changes as a result of a plan amendment or plan curtailment, the Group recognises the ensuing effects in full as past service cost in the profit or loss for the period. The amount is normally recognised at the date when the plan amendment or plan curtailment occurs. Gains and losses resulting from a plan settlement are also recognised directly in profit or loss when the settlement occurs.

The net pension expense of defined benefit obligations consists of a service cost component, a net interest component and a remeasurement component. This is recognised in the consolidated income statement and consolidated statement of total comprehensive income as follows:

The service cost component consists of the current and past service cost including gains and losses on plan settlements. The net interest component comprises the interest expense from the compounding of the defined benefit obligation, interest income on plan assets and, in the event of excess allocations to the plan, interest on any effects arising from the adjustment of the asset surplus to reflect the asset ceiling. The service cost and net interest components are recognised through profit or loss in the consolidated income statement for the period. HVB Group also recognises the net interest component under expenses for pensions and similar employee benefits in payroll costs alongside the service cost component.

The remeasurement component comprises the actuarial gains and losses from the measurement of the defined benefit obligation, the difference between the typical return on plan assets assumed at the beginning of the period in the amount of the discount rate and the actual return generated from plan assets and, in the event of excess allocations to the plan, any adjustment of the asset surplus to reflect the asset ceiling, excluding amounts already recognised in net interest. This component is recognised immediately in shareholders' equity without affecting profit or loss. The remeasurements recognised in other comprehensive income within the consolidated statement of total comprehensive income may not be reclassified in later periods in profit or loss (no recycling).

The disclosure requirements for defined benefit plans contain a principles-based disclosure concept requiring companies to make company-specific judgements about the level of detail required or any emphasis to be placed on disclosures relating to defined benefit plans. The reporting is intended to meet the information needs of the users of the financial statements and give them a wide-ranging understanding of the risk structure and risk management of the pension plans (pension governance).

In contrast to defined benefit plans, no provisions for pensions and similar obligations are recognised for defined contribution plans. The amounts paid are recognised in the period of the payment taken to the income statement under payroll costs.

The provisions for pensions and similar obligations are described in detail in the Note "Provisions".

Provisions for partial retirement and similar benefits recognised under other provisions are measured on the basis of external actuarial reports in accordance with IAS 19.

The top-up amounts promised under partial-retirement agreements are accounted for as other long-term employee benefits and the associated expenses accrued over their vesting period. HVB Group applies the first-in first-out (FiFo) method for the straight-line accrual of top-up benefits. The benefits are discounted to determine their present value. Remeasurements are recognised in profit or loss in the period in which they arise.

Other long-term employee benefits also include the deferred employee compensation under the Group's bonus programmes, unless these are expected to be settled in full within twelve months after the end of the reporting period. The Group has a net liability in the amount of the future benefits to which the employees are entitled in exchange for the work performed in the current and earlier periods. HVB Group recognises a bonus provision in the amount of the present value of these benefits in its consolidated balance sheet, with the promised bonus amounts being allocated on a pro rata basis over the respective vesting period. Remeasurements of the net liability are recognised directly in profit or loss for the period.

The employee compensation schemes are described in detail in the Note "Operating costs".

Accounting and Valuation (Continued)

27 Foreign currency translation

The consolidated financial statements are prepared in euros, which is the reporting currency of the corporate group. Amounts in foreign currency are translated in accordance with the principles set forth in IAS 21. This standard calls for monetary items not denominated in the respective functional currency (generally the local currency in each case) and cash transactions not completed at the valuation date to be translated into euros at the reporting date using current market rates. Non-monetary items carried at fair value are similarly translated into euros using current market prices at the valuation date. Non-monetary items carried at cost are translated using the historic rate applicable at the time of acquisition.

Income and expense items arising from foreign currency translation at the individual Group companies are stated under net trading income in the consolidated income statement.

Where they are not stated in euros, the assets and liabilities reported by our subsidiaries are translated using current market rates at the reporting date in the consolidated financial statements. Average rates are used to translate the income and expenses of these subsidiaries.

Exchange rate differences resulting from the translation of financial statements of international business units are recognised in shareholders' equity without affecting profit or loss and are only taken to the income statement if the operation is sold in part or in full.

28 Income tax for the period

Income tax for the period is accounted for in accordance with the principles set forth in IAS 12. Current taxes are determined taking into account local laws in the respective tax jurisdictions concerned. Apart from a few exceptions allowed for in the standard, deferred tax assets and liabilities are recognised for all temporary differences between the values stated in accordance with IFRS and the values stated for tax-reporting purposes (balance sheet approach). Deferred tax assets arising from unused losses carried forward for tax-reporting purposes are shown where permitted by IAS 12.

Since the concept is based on the approach using future tax assets and liabilities under the liability method, the assets and liabilities are computed using the relevant local tax rates that are expected to apply when the differences are reversed. Deferred tax assets and liabilities are offset provided the offsetting requirements defined in IAS 12 are met.

Segment Reporting

29 Changes in segment reporting
At the beginning of 2021, the internal management of HVB Group was aligned with UniCredit's management. HVB Group is therefore managed internally on the basis of the same parameters also used to manage HVB Group from UniCredit's perspective. The now uniform management concepts increase the transparency of the HVB subgroup's financial statements, as the information provided in HVB Group's segment reporting is now compatible with the information that UniCredit communicates to the capital market.

The Group Corporate Centre was therefore integrated into the Commercial Banking operating segment in the first half of 2021 so that the Commercial Banking operating segment of HVB Group corresponded to the subarea Commercial Banking Germany reported by UniCredit. This integration was reversed again in the second half of 2021 in agreement with UniCredit. HVB Group is thus divided into the following operating segments at year-end 2021 in line with the previous year:

– Commercial Banking
– Corporate & Investment Banking
– Group Corporate Centre
– Other

The adjustment involves further changes in both recognition and measurement. For internal management purposes, certain income and expenses are recognised or allocated differently to the way this occurs in external financial reporting. Among other items, imputed equity costs are taken into account to economically represent the capital backing. Any external equity required in this connection is procured centrally through UniCredit. Moreover, certain income and expenses are allocated to other items in the income statement for internal management purposes, which means that recognition differs to that in the external financial reports. For example, the scope of net trading income is wider and includes further income and expenses. The general rule is that UniCredit's perspective is authoritative for internal management. Consequently, effects are included that resulted from the initial consolidation of HVB Group by UniCredit in the course of the purchase price allocation (PPA) but which may not be taken into account in the financial statements of HVB Group. These differences are dealt with in greater detail below when comparing the previous structure of the income statements with the new structure valid as of 1 January 2021, whereby significant items are allocated to the operating segments concerned. Due to rounding, minor deviations can occur when calculating totals and percentages.

Segment Reporting (Continued)

Comparison of previous management system with new management system from 1 January to 31 December 2021 (€ millions)

INCOME/EXPENSES	SEGMENTED INCOME STATEMENT (OLD SYSTEM)	SEGMENTED INCOME STATEMENT (NEW SYSTEM)	DIFFERENCE
Net interest	2,516	2,516	—
Dividends and other income from equity investments	28	18	(10)
Net fees and commissions	1,115	1,074	(41)
Net trading income	733	736	3
Net other expenses/income	(144)	112	256
OPERATING INCOME	**4,248**	**4,454**	**206**
Payroll costs	(1,485)	(1,476)	9
Other administrative expenses	(1,196)	(1,106)	90
Amortisation, depreciation and impairment losses on intangible and tangible assets	(119)	(110)	9
Operating costs	**(2,800)**	**(2,692)**	**108**
OPERATING PROFIT/(LOSS)	**1,448**	**1,764**	**316**
Net write-downs of loans and provisions for guarantees and commitments	(114)	(118)	(4)
NET OPERATING PROFIT/(LOSS)	**1,334**	**1,645**	**311**
Provisions for risks and charges	(153)	(408)	(255)
Restructuring costs	(617)	(617)	—
Net income from investments	(19)	(100)	(81)
PROFIT/(LOSS) BEFORE TAX	**545**	**521**	**(24)**
Income tax for the period	(300)	(232)	68
PROFIT/(LOSS) AFTER TAX	**245**	**289**	**44**
Purchase price allocation effect	—	—	—
CONSOLIDATED PROFIT/(LOSS)	**245**	**289**	**44**
attributable to the shareholder of UniCredit Bank AG	244	289	45
attributable to minorities	1	1	—

Net interest

The item “Net interest” is unchanged, with minus €17 million being attributable to imputed costs of equity charged to HVB Group’s operating segments by UniCredit, €12 million to a reallocation of net interest income/interest expense from specific trading positions to the item “Net trading income”, €3 million to the change in recognition for the compounding of provisions now shown as provisions for risks and charges and €1 million to the compounding of provisions for contingent liabilities now reported under the item “Net write-downs of loans and provisions for guarantees and commitments”.

Of the imputed costs of equity of minus €17 million charged to HVB Group’s operating segments by UniCredit, the Commercial Banking operating segment accounts for minus €8 million and the Corporate & Investment Banking operating segment for minus €9 million.

Dividends and other income from equity investments

Dividend income of €10 million from equity holdings at fair value through profit or loss reported under this item in the reporting year according to the old management system is now recognised under the item “Net trading income”.

Net fees and commissions

The difference in the item “Net fees and commissions” totals minus €41 million as the expense for purchased securities services for held-for-trading portfolios is now shown as commission expense and no longer as operating costs.

The decline of €41 million relating to the reallocation of the expense for purchased securities services for held-for-trading portfolios is mainly attributable to the Corporate & Investment Banking operating segment.

Net trading income
The difference in the item “Net trading income” is €3 million, of which an increase of €10 million is attributable to dividends of equity holdings at fair value through profit or loss, €3 million to the reallocation of gains on the disposal of performing financial instruments at cost to the item “Net trading income”, €2 million to the reallocation of the gain on the disposal of financial instruments at fair value through other comprehensive income and a decrease of €12 million to a reallocation from the item “Net interest”.

Net other expenses/income
The difference in the item “Net other expenses/income” comes to €256 million, in which connection an increase of €193 million is attributable to the bank levy, which is now shown under provisions for risks and charges and no longer as other expenses, an increase of €81 million to the reallocation of the write-down to the lower expected sales proceeds (IFRS 5) of UniCredit Leasing GmbH (including subsidiaries) now shown under the item “Net income from investments”, a decline of €16 million to income for services provided by a HVB Group subsidiary to the UniCredit Bank Austria subgroup, which is not allocated to HVB Group from UniCredit’s perspective, a decline of €3 million to the reallocation of the gains on the disposal of performing financial instruments at cost to the item “Net trading income”, and an increase of €1 million to other effects.

Of the increase of €193 million resulting from the reallocation of the bank levy, €73 million is attributable to the Commercial Banking operating segment and €120 million to the Corporate & Investment Banking operating segment. The €81 million increase resulting from the reallocation of the write-down to the lower expected sales proceeds (IFRS 5) of UniCredit Leasing GmbH (including subsidiaries) relates to the Commercial Banking operating segment.

Payroll costs
The difference in the item “Payroll costs” totals €9 million. Of these costs, an increase of €11 million is attributable to the expenses of a HVB Group subsidiary for the UniCredit Bank Austria subgroup that are not allocated to HVB Group from UniCredit’s perspective. Therefore, the related payroll costs are not allocated to HVB Group either. By contrast, there is a decline of €1 million due to other effects.

Other administrative expenses
The difference in the item “Other administrative expenses” comes to €90 million as the contribution to the German deposit guarantee scheme of €58 million is now reported under provisions for risks and charges, the expense for purchased securities services for held-for-trading portfolios of €41 million is now shown as a commission expense, and further expenses of €4 million were incurred for the provision of services by a HVB Group subsidiary to the UniCredit Bank Austria subgroup and are thus not allocated to HVB Group from UniCredit’s perspective. By contrast, expenses increased as depreciation on leasehold improvements of €9 million are recognised under this item instead of as previously under the item “Amortisation, depreciation and impairment losses on intangible and tangible assets” and other effects resulted in an increase of €5 million in expenses.

The decline of €41 million relating to the reallocation of the expense for purchased securities services for held-for-trading portfolios is largely attributable to the Corporate & Investment Banking operating segment, while €44 million of the €58 million decline relating to the reallocation of the contribution to the German deposit guarantee scheme is attributable to the Commercial Banking operating segment and €15 million to the Corporate & Investment Banking operating segment.

Segment Reporting (Continued)

Amortisation, depreciation and impairment losses on intangible and tangible assets
Amortisation, depreciation and impairment losses on intangible and tangible assets is €9 million lower because the depreciation on leasehold improvements is no longer recognised under this item.

Net write-downs of loans and provisions for guarantees and commitments
The difference in net income in the item "Net write-downs of loans and provisions for guarantees and commitments" amounts to minus €4 million as the reversal of €3 million in write-downs on securities measured at cost is now shown under net income from investments and the compounding of provisions for contingent liabilities of €1 million is now shown under this item. By contrast, an amount of €1 million in write-downs on securities measured at fair value through other comprehensive income is now recognised under net income from investments.

Provisions for risks and charges
The difference in the item "Provisions for risks and charges" totals minus €255 million, of which minus €251 million relates to reallocations to this item of the expenses for the bank levy and the German deposit guarantee scheme and minus €3 million to the change in recognition for the compounding of provisions that are now recognised under this item.

Of the increase of €251 million relating to the reallocation of expenses for the bank levy and the German deposit guarantee scheme, €117 million is attributable to the Commercial Banking operating segment and €135 million to the Corporate & Investment Banking operating segment.

Net income from investments
The difference in the item "Net income from investments" amounts to minus €81 million, of which an increase of €3 million relates to the reversal of write-downs on securities measured at cost and of €5 million to other effects. This was offset by the reallocation of €81 million of the write-down to the lower expected sales proceeds (IFRS 5) of UniCredit Leasing GmbH (including subsidiaries), the reallocation of €1 million of write-downs on securities measured at fair value through other comprehensive income from the item "Net write-downs on loans and provisions on guarantees and commitments", the reallocation of €2 million of the gain on the disposal of financial instruments at fair value through other comprehensive income to the item "Net trading income" as well as €4 million due to a subsidiary no longer consolidated for reasons of immateriality and not measured at fair value from UniCredit's perspective.

The decline of €81 million attributable to the reallocation of the write-down to the lower expected sales proceeds (IFRS 5) of UniCredit Leasing GmbH (including subsidiaries) relates to the Commercial Banking operating segment.

Income tax for the period
The difference in the item "Income tax for the period" is €68 million as from UniCredit's perspective deferred taxes of €62 million are not required to be written off and tax effects on the adjustments of the measurements and other reconciliation effects totalling €6 million are recognised.

The decline of €62 million relating to deferred taxes not written off from UniCredit's perspective is attributable to the Group Corporate Centre operating segment.

Consolidated profit/loss
In total, the difference in consolidated profit/loss is €44 million, of which €62 million is attributable to the write-off of deferred taxes not required from UniCredit's perspective, minus €4 million to a subsidiary no longer consolidated for reasons of immateriality and not measured at fair value from UniCredit's perspective and minus €11 million (minus €17 million before tax plus €6 million tax income) to imputed costs of equity charged by UniCredit to HVB Group's operating segments. In addition, this item was affected by the adjustment of €1 million due to services provided to the UniCredit Bank Austria subgroup and rounding differences of €2 million.

Comparison of previous management system with new management system from 1 January to 31 December 2020 (€ millions)

INCOME/EXPENSES	SEGMENTED INCOME STATEMENT (OLD SYSTEM)	SEGMENTED INCOME STATEMENT (NEW SYSTEM)	DIFFERENCE
Net interest	2,413	2,376	(37)
Dividends and other income from equity investments	37	19	(18)
Net fees and commissions	1,007	964	(43)
Net trading income	564	600	36
Net other expenses/income	26	132	106
OPERATING INCOME	**4,047**	**4,091**	**44**
Payroll costs	(1,451)	(1,443)	8
Other administrative expenses	(1,231)	(1,161)	70
Amortisation, depreciation and impairment losses on intangible and tangible assets	(126)	(115)	11
Operating costs	**(2,808)**	**(2,719)**	**89**
OPERATING PROFIT/(LOSS)	**1,239**	**1,373**	**133**
Net write-downs of loans and provisions for guarantees and commitments	(733)	(728)	5
NET OPERATING PROFIT/(LOSS)	**506**	**645**	**138**
Provisions for risks and charges	11	(158)	(169)
Restructuring costs	(35)	(35)	—
Net income from investments	590	543	(47)
PROFIT/(LOSS) BEFORE TAX	**1,072**	**996**	**(76)**
Income tax for the period	(404)	(395)	9
PROFIT/(LOSS) AFTER TAX	**668**	**600**	**(67)**
Purchase price allocation effect	—	(49)	(49)
CONSOLIDATED PROFIT/(LOSS)	**668**	**550**	**(118)**
attributable to the shareholder of UniCredit Bank AG	668	550	(118)
attributable to minorities	—	—	—

Net interest
The difference in the item "Net interest" is minus €37 million. Of this amount minus €40 million is attributable to imputed costs of equity charged to HVB Group's operating segments by UniCredit, €2 million to the change in recognition for the compounding of provisions now shown in the item "Provisions for risks and charges" and €1 million to the compounding of provisions for contingent liabilities now reported under the item "Net write-downs of loans and provisions for guarantees and commitments".

Of the difference of minus €40 million relating to the imputed cost of equity charged by UniCredit, the Commercial Banking operating segment accounts for minus €7 million and the Corporate & Investment Banking operating segment for minus €33 million.

Dividends and other income from equity investments
Dividend income of €18 million from equity holdings at fair value through profit or loss reported previously under this item in 2020 is now recognised under the item "Net trading income".

The decline of €18 million is primarily attributable to the Corporate & Investment operating segment.

Net fees and commissions
The difference in the item "Net fees and commissions" totals minus €43 million as the expense for purchased securities services for held-for-trading portfolios is now shown as commission expense and no longer as operating costs.

The decline of €43 million relating to the reallocation of the expense for purchased securities services for held-for-trading portfolios is mainly attributable to the Corporate & Investment Banking operating segment.

Net trading income
The difference in the item "Net trading income" is €36 million, €19 million of which relates to a reallocation of the gain on the disposal of financial instruments measured at fair value through other comprehensive income, €18 million to dividends on equity holdings measured at fair value through profit or loss and €1 million to the reallocation to the item "Net trading income" of gains on the disposal of performing financial instruments measured at cost.

The increase of €18 million relating to the reallocation from the item "Dividends and other income from equity investments" is primarily attributable to the Corporate & Investment Banking operating segment.

Segment Reporting (Continued)

Net other expenses/income

The difference in the item "Net other expenses/income" comes to €106 million, in which connection an increase of €126 million is attributable to the bank levy, which is now shown under the item "Provisions for risks and charges" and no longer under this item as other expenses, a decline of €14 million to income for services provided by a HVB Group subsidiary to the UniCredit Bank Austria subgroup, which is not allocated to HVB Group from UniCredit's perspective, an increase of €1 million to the reallocation of the gains on the disposal of performing financial instruments measured at cost to the item "Net trading income", and a decline of €6 million due to other effects.

Of the increase of €126 million relating to the reallocation of the bank levy, €44 million is attributable to the Commercial Banking operating segment and €82 million to the Corporate & Investment Banking operating segment.

Payroll costs

The difference in payroll costs totals €8 million, as services provided by a HVB Group subsidiary to the UniCredit Bank Austria subgroup are not allocated to HVB Group from UniCredit's perspective. The payroll costs related to these are thus not allocated to HVB Group either.

Other administrative expenses

The difference in the item "Other administrative expenses" comes to €70 million as the expense for purchased securities services for held-for-trading portfolios of €43 million is now shown as a commission expense, the contribution to the German deposit guarantee scheme of €31 million is now reported under provisions for risks and charges, further expenses of €4 million were incurred for the provision of services by a HVB Group subsidiary to the UniCredit Bank Austria subgroup and thus are not allocated to HVB Group from UniCredit's perspective and there was a decline in expenses of €3 million due to other effects. By contrast, expenses increased as depreciation on leasehold improvements of €10 million are recognised under this item instead of as previously under the item "Amortisation, depreciation and impairment losses on intangible and tangible assets".

The decline of €43 million relating to the reallocation of the expense for purchased securities services for held-for-trading portfolios is largely attributable to the Corporate & Investment Banking operating segment, while €23 million of the €31 million decline relating to the reallocation of the contribution to the German deposit guarantee scheme is attributable to the Commercial Banking operating segment and €8 million to the Corporate & Investment Banking operating segment.

Amortisation, depreciation and impairment losses on intangible and tangible assets

Amortisation, depreciation and impairment losses on intangible and tangible assets is €11 million lower because the depreciation on leasehold improvements of €10 million and other effects of €2 million are no longer recognised under this item.

Net write-downs of loans and provisions for guarantees and commitments

The difference in the net expense in the item "Net write-downs of loans and provisions for guarantees and commitments" amounts to €5 million as write-downs of €9 million on securities holdings measured at cost or at fair value through other comprehensive income are now recognised under the item "Net income from investments". This was offset by an amount of €2 million on account of the inclusion of a UniCredit subsidiary that, from HVB Group's perspective, is not attributable to HVB Group and €1 million for the compounding of provisions for contingent liabilities.

Provisions for risks and charges

The difference in the item "Provisions for risks and charges" amounts to minus €169 million, minus €157 million of which relates to reallocations to this item of the expenses for the bank levy and the German deposit guarantee scheme, another minus €35 million to the recognition as an expense of the irrevocable payment commitments given for both items by the Group and minus €2 million to the change in recognition for the compounding of provisions that are now recognised under this item. This was offset by the change in recognition of a provision of €25 million entered and utilised during the year for the losses assumed by HVB Group from the premature liquidation of a closed-end real estate fund due to damage to the property (the expense is now reported under net income from investments).

Of the decline of €157 million relating to the reallocation of expenses for the bank levy and the German deposit guarantee scheme, €67 million is attributable to the Commercial Banking operating segment and €90 million to the Corporate & Investment Banking operating segment; the recognition as an expense of the irrevocable payment commitments given for these two items totals €35 million, €18 million of which is allocated to the Commercial Banking operating segment and €18 million to the Corporate & Investment Banking operating segment.

Net income from investments
The difference in the item "Net income from investments" amounts to minus €47 million, of which a decline of €25 million relates to the change in recognition of a provision entered and utilised during the year for the losses assumed by HVB Group from the premature liquidation of a closed-end real estate fund due to damage to the property, a decline of €19 million relates to the reallocation of the gain on disposal of financial instruments measured at fair value through other comprehensive income to the item "Net trading income" and a decline of €9 million to the reallocation of net write-downs of loans and provisions for guarantees and commitments to securities. This is offset by a different effect of €4 million: The item "Net income from investments" includes the gain on the sale of the "Am Tucherpark" site, which had to be adjusted on account of the partial lease-back of spaces under a sale-and-lease-back transaction. On account of purchase price accounting effects (for more detailed explanations, see the item "Purchase price allocation effect") the reduction of the gain on the sale is lower for the leased-back part due to the sale-and-lease-back transaction and is thus to be adjusted from UniCredit's perspective.

The change in recognition of a provision entered and utilised during the year for the losses assumed by HVB Group from the premature liquidation of a closed-end real estate fund due to damage to the property of €25 million is attributable to the Commercial Banking operating segment, while the reallocation of €19 million in gains on the disposal of financial instruments at fair value through other comprehensive income relates to the Corporate & Investment operating segment.

Income tax for the period
The difference in the item "Income tax for the period" is €9 million, of which an expense of €8 million relates to a special tax matter. The remaining tax effects of net €17 million are attributable to the adjustments of the measurements and to other reconciliation effects.

Purchase price allocation effect
The new line for the effects of purchase price accounting includes effects attributable to the measurement adjustments made during the first-time consolidation of HVB Group by UniCredit. These have generally been amortised over time for the most part since HVB Group was purchased by UniCredit, which means that only specific individual items are left remaining. For 2020, the effects after tax are reported that resulted from the different measurement approach for the "Am Tucherpark" site sold in 2020. Due to the fair value measurement required by IFRS 3 on purchasing the real estate as a part of HVB Group, UniCredit's purchase costs for this real estate portfolio are higher and the gain realised on the sale is thus lower. Consequently, the line for effects of purchase price accounting contains an adjustment item of minus €49 million after tax in order to adjust the gain on the sale of the real estate portfolio realised by HVB Group under the item "Net income from investments" to UniCredit's lower level.

An adjustment item in the amount of minus €49 million is allocated to the Other operating segment to reflect effects from purchase price accounting.

Consolidated profit/loss
In total, the difference in the item "Consolidated profit/loss" is minus €118 million, of which minus €49 million relates to the effects described above from purchase price accounting, minus €31 million (minus €35 million before tax plus €4 million tax income) to the recognition as an expense of irrevocable payment commitments and minus €27 million (minus €40 million before tax plus €13 million tax income) to imputed costs of equity charged by UniCredit to HVB Group's operating segments, minus €8 million to a special tax matter and €3 million to other matters.

Comparison of volume figures according to the old management system and the new management system
According to the new management system, loans and receivables with banks (at cost) at 31 December 2020 are €13 billion higher than in the old system for the Corporate & Investment Banking operating segment. The difference is fully attributable to a part of the deposits with the European Central Bank that was previously reported in full as cash and cash balances and according to the new management system partly as a receivable with banks in line with the requirements of the Bank of Italy.

When stating the risk-weighted assets according to Basel III (including equivalents for market risk and operational risk) by operating segment, the adjustment made is based on UniCredit's perspective: risk-weighted assets relating to UniCredit-internal matters are not recognised. Therefore, the risk-weighted assets to be shown are €2 billion lower in total as both risk-weighted assets used to back UniCredit-internal transactions and group-internal risk positions for market risk and operational risk are not included. The effects are distributed in roughly equal parts between the Commercial Banking and the Corporate & Investment Banking operating segments.

Segment Reporting (Continued)

30 Method of segment reporting by operating segment

In segment reporting, the activities of HVB Group are divided into the following operating segments:
– Commercial Banking
– Corporate & Investment Banking
– Group Corporate Centre
– Other

Segment reporting is based on the internal organisational and management structure together with internal financial reporting. In accordance with IFRS 8 "Operating Segments", segment reporting thus follows the Management Approach, which requires segment information to be presented externally in the same way as it is reported on a regular basis to the Management Board, as the responsible management body, and is used for the allocation of resources (such as risk-weighted assets compliant with CRR II) to the operating segments and for assessing the profitability. In this context, the segment data are determined in accordance with International Financial Reporting Standards (IFRS). Due to rounding, minor deviations can occur when calculating totals and percentages.

In segment reporting, the operating segments operate as autonomous companies with their own equity resources and responsibility for profits and losses. The operating segments are delimited by responsibility for serving customers. For a description of the customer groups assigned to the individual operating segments and the main components of the segments, please refer to the Note "Components of segment reporting by operating segment".

The income statement items "Net fees and commissions", "Net trading income" and "Net other expenses/income" shown in the operating segments are based almost exclusively on transactions involving external customers. Net interest is assigned to the operating segments in accordance with the market interest calculation method on the basis of the external interest income and interest expenses. For this reason, a separate presentation broken down by external/internal revenues (operating income) has not been included.

The equity capital allocation used to calculate the return on investment for companies assigned to several operating segments is based on a uniform core capital allocation for each operating segment. Pursuant to CRR II, this involves allocating 12.00% (previous year: 12.25%) of core capital from risk-weighted assets to the operating segments. The average tied core capital calculated in this way is used to compute the return on investment, which is disclosed under net interest. The percentage used for the return on the equity capital allocated to the companies of HVB Group equals the base rate plus a premium in the amount of the average spread curve for the medium and long-term lending business of HVB Group. This rate is set for one year in advance as part of each budgeting process. The percentage changed to 0.92% in the 2021 financial year after 0.91% in the previous year. Equity capital is not standardised for the other companies included in the consolidated financial statements.

Operating costs, which include payroll costs, other administrative expenses as well as amortisation, depreciation and impairment losses on intangible and tangible assets, are allocated to the appropriate operating segment according to causation. The Other operating segment and the Group Corporate Centre operating segment are treated as external service providers, charging the remaining operating segments and business units for their services at a price which covers their costs. The method of calculating the costs of general banking services involves employing a weighted allocation key (costs, income, FTEs, base amount) for each operating segment to determine the assigned costs that cannot be allocated directly. The majority of the depreciation and impairment losses taken on property, plant and equipment are posted for the real estate companies of HVB Group included in the Other operating segment.

The profit of €12 million (previous year: €19 million) from shares in associates relates to Comtrade Group B.V., Rotterdam, a company accounted for using the equity method, which generated a gain on the disposal of business divisions in the reporting period and in the previous year. The company is assigned to the Corporate & Investment Banking operating segment. The profit is disclosed under the item "Dividends and other income from equity investments" in the income statement. The carrying amount of the company accounted for using the equity method is €12 million (previous year: €11 million). In the reporting year, a value adjustment of €2 million (previous year: €3 million) was made to the carrying amount of the companies accounted for using the equity method, which is reported under net income from investments.

31 Components of segment reporting by operating segment

Commercial Banking operating segment

The Commercial Banking operating segment serves all customers in Germany with a need for standardised or personalised service and advice. In this context, its Private Clients Bank and Unternehmer Bank business units offer a wide range of banking services. Depending on the service approach, a needs-based distinction is made within Commercial Banking between retail customers, wealth management & private banking clients, business and corporate customers, and commercial real estate customers. At the same time, the Commercial Banking operating segment builds on a shared "HypoVereinsbank" brand and a largely identical sales network.

In line with the universal bank model, the range of products and services of Commercial Banking enables comprehensive customer support to be provided. This extends from payment services, investment products, mortgage loans, consumer loans, savings-and-loan and insurance products and banking services for retail customers 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 as well as liquidity and financial risk management, advisory services for high net worth private customers through to investment banking products for companies requiring capital-market access. The wealth management approach includes not only customised portfolio concepts and financing solutions for high net worth private customers with an entrepreneurial background but also the brokerage of shareholdings.

The Private Clients Bank business unit serves customers in the retail banking, wealth management & private banking business as well as business customers in all areas of demand. In this context, we are continuing along the path already taken towards a root-and-branch modernisation by expanding our digital offering to become a multichannel bank and are thus underlining our positioning as a provider of quality services. Our aspiration is to be the best customer bank in Germany: in terms of quality, innovation and empathy. To achieve this, we set high standards for the quality of advice given and services provided involving a modern approach and an innovative multichannel business model. In the retail customer business, HVB's financial concept promotes a high standard of quality in advisory services and is one of the most innovative forms of personal advice provided in Germany. In the Wealth Management & Private Banking relationship model, very high net worth clients are served by advisors and a network of highly qualified specialists based on a 360-degree advisory approach with the aim of achieving a sustainable increase in the prosperity of our customers and thus maintaining long-term, trusting customer relationships. In the business customer segment, we offer our customers a full range of services in corporate and private financial and asset issues whereby customers benefit even more than before from the modernisation and expansion of our digital offering already embarked upon. In addition, our offerings for special target groups, such as healthcare professionals, are further developed on an ongoing basis.

The Unternehmer Bank business unit bundles the corporate banking business in Germany (with the exception of the customers served in the MNC area due to the high demand for complex CIB products).

The corporate banking business is the place where companies requiring complex advisory services in the Key Account relationship model find the right address for customised solutions, in particular also for large transaction volumes, capital market transactions and international issues.

In the SME (Small and Medium Enterprises) and Corporates relationship models, the product portfolio covers tailored financing offers, for example through the use of subsidies or lease offers as well as solutions for the management of financial risks, in addition to the traditional banking services of payments and lending. Furthermore, the services provided for special target groups, such as insolvency administrators or public sector workers, are being continuously refined.

The distinguishing features of the Real Estate relationship model are individual solutions for commercial real estate customers, institutional investors, residential construction firms, property developers and building contractors. Customers benefit in particular from the specific financing expertise, for example in the Real Estate Structured Finance and Loan Syndication product areas.

The Commercial Banking operating segment is managed by two members of the Management Board as a joint responsibility. Responsibility for business management and support is assumed by a staff unit assigned to each business unit. The mutual cross-servicing ensures that the respective product requirement is only held available once.

The market environment for Commercial Banking is characterised by persistently low interest rates, a fragmented competitive situation with a growing number of digital competitors and rising regulatory costs. In addition, increasing digitalisation is causing a lasting change in customer requirements, which is characterised by greater demand for omni-channel solutions and seamless customer experience. HVB Group is facing up to the challenges posed by this framework in Commercial Banking with a premium positioning and a diverse set of measures of growth and efficiency activities, which also include clearly defined digitalisation initiatives.

Segment Reporting (Continued)

Corporate & Investment Banking (CIB) operating segment
CIB is a global operating segment of UniCredit. It has a matrix organisational structure and has business activities at the three most important Group companies: UniCredit Bank AG (HVB), UniCredit Bank Austria AG and UniCredit S.p.A.

The success of CIB's business stems from the close cooperation and interaction between customer care (CIB & Commercial Banking) and the product units. In addition, intensive cooperation with other operating segments of the UniCredit corporate group, countries (for example CEE) and the relevant units of competence, such as the Credit Risk Office, Compliance or the Chief Operating Office, are key factors for CIB's success.

As CIB acts as a global operating segment, all statements and definitions apply both to CIB within HVB Group and CIB at a global level. Through its CIB operating segment, which acts as a centre of competence for international markets and investment banking operations, HVB Group takes a share in structuring the global strategy of CIB. The member of HVB's Management Board responsible for CIB has decided to apply the global CIB strategy to HVB's CIB business in order to ensure a uniform approach worldwide for our customers.

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

The service units are organised horizontally:
Financial Institutions Group (FIG), Multinational Corporates (MNC), CIB Americas and CIB Asia Pacific.

Vertically, there are three product factories:
Financing & Advisory (F&A) provides customer support worldwide in the areas of Financial Sponsor Solutions (FSS), Infrastructure & Power Project Finance (IPPF), Natural Resources (NR), Securitisation, Receivables & Strategic Asset Financing (SRSAF) and Structured Trade and Export Finance (STEF). Further global business units include Global Syndicate & Capital Markets (GSCM), Corporate Finance Advisory (CFA) and Sustainable Finance Advisory (SFA). The local business units Corporate Structured Finance (CSF) and Real Estate Structured Finance (RESF) cooperate closely with Commercial Banking. The local unit Global Shipping (GLOS) conducts transactions worldwide. Portfolio and Pricing Management & Loans Agency (PPM) is responsible for the management of all LP (leveraged and project finance, covered by the Financial Sponsor Solutions, Infrastructure & Power Project Finance and Natural Resources business lines) portfolio transactions within UniCredit. RESF and CSF portfolios are managed by PPM (CBK and CIB) in cooperation with representatives of the sales channels at the level of UniCredit Bank AG.

Global Transaction Banking (GTB) offers a broad array of innovative products in the areas of cash management, trade finance and working capital, thus meeting customer needs in connection with transactions in the areas of payment services, account information, optimisation of cash flows and operating resources, liquidity management and mainly short-term import and export financing services.

The main product areas in cash management include clearing and foreign currency products, customer access through electronic channels of access, products in payment services and account information, liquidity management with cash pooling and other optimisation procedures, cash innovations with company customer cards and dealer solutions as well as the business with sight deposits.

Trade finance offers conventional international trade products such as guarantees, letters of credit and collection services.

Working capital solutions in CIB offer products and solutions along the customer's entire value chain, such as the financing of receivables and payables, structured working capital solutions and factoring.

Markets is a customer-oriented product area that supports business with UniCredit's corporate and institutional customers as an integral part of the CIB value chain. This product area extends over all asset classes: interest, foreign exchange, commodities and equity derivatives. It offers institutional customers, corporate customers and private investors risk management solutions and investment products through the Group's own or external networks.

To achieve its objectives, CIB has developed and implemented several strategic initiatives in recent years, the basic purpose of which is to provide support to the relationship managers in their customer care tasks:
– industry sector specialists were put in place to significantly improve the quality of the strategic dialogue between the Bank and the top management of companies served. In addition, the initiative improves the level of knowledge in sales units
– shared goals, a structured objective-setting process between customer care units and product lines
– CIB & CBK joint ventures to ensure even better access to the investment banking platform of UniCredit Bank AG for our Mittelstand customers and offer CBK customers CIB investment products
– growing importance of the integrated approach along the value chain beyond team boundaries, such as working capital (operating resources)
– capital structure advisory, a focused and discerning strategic dialogue with customers to diversify their financing funds
– advice on sustainable finance, combined expertise in the field of sustainability topics/ESG with capital market processing
– digital transformation as a key factor for strategic positioning

CIB's strategy aims to further enhance its central role with core CIB customers and seize more opportunities with Mittelstand customers. Efforts are being made to expand and exploit cross-selling opportunities as well as underwriting and sales capacities in order to become the "bank of choice" for corporate customers. Another goal is to gain market shares in the area of trade finance. CIB wishes to leverage its international footprint by selling international services to customers in CIB's core countries, specifically refining its base in countries given special priority as well as unifying and improving its operating platform. CIB is also striving to heighten the service commitment for banks.

CIB maintains close cooperation with Commercial Banking. Realising synergies within the UniCredit corporate group and promoting the "One Bank" approach continue to be one of UniCredit's main growth initiatives and are driven forward by the UniCredit International Centre (UIC). The Head of UIC Germany reports to the Management Board members responsible for CIB and Unternehmer Bank (UBK) in order to ensure an end-to-end and systematic approach to international business. The duties of the International Centre extend from serving inbound customers through to support for and coordination of outbound activities.

Group Corporate Centre operating segment
The Group Corporate Centre operating segment covers profit contributions that do not fall under the responsibility of the individual operating segments. This includes the Chief Financial Office (CFO), Credit Risk Office (CRO) and Chief Executive Office (CEO) business units and, among other items, the profits and losses of consolidated subsidiaries and non-consolidated holdings, provided they are not assigned to other operating segments. Furthermore, this operating segment incorporates the net income from securities portfolios for which the Management Board is responsible. It also contains amounts arising from decisions taken by management with regard to asset/liability management. Profit contributions from securities and money trading activities with UniCredit S.p.A. and its subsidiaries are also reported under this operating segment. In addition, the Group Corporate Centre operating segment incorporates the Real Estate Restructuring customer portfolio.

Other operating segment
The Other operating segment encompasses the Chief Operating Office (COO). It acts as a central internal service provider for customers and employees. COO activities extend to organisation, process and project management, corporate & cyber security, strategic real estate management, logistics, cost management and business support e.g. money market and derivatives, know your customer and accounting. Furthermore, the Data Protection Officer (DPO), the Chief Information Officer (CIO) and the Chief Security Officer (CSO) of HVB report directly to the COO. Payments, securities settlement, IT application development and IT operations, procurement and facility management have been outsourced and are monitored via the retained organisation functions in COO.

Information on products and services at company level
The information required by IFRS 8.32 on income from external customers generated from the products and services of HVB Group are contained under the disclosures regarding the income statement in these notes to the consolidated financial statements.

Segment Reporting (Continued)

32 Income statement, broken down by operating segment

Income statement, broken down by operating segment for the period from 1 January to 31 December 2021 (€ millions)

INCOME/EXPENSES	COMMERCIAL BANKING	CORPORATE & INVESTMENT BANKING	GROUP CORPORATE CENTRE	OTHER	CONSOLIDATION	HVB GROUP
Net interest	1,465	958	100	(7)	—	2,516
Dividends and other income from equity investments	1	12	4	1	—	18
Net fees and commissions	785	290	(1)	—	—	1,074
Net trading income	87	637	12	—	—	736
Net other expenses/income	30	16	11	64	(8)	112
OPERATING INCOME	**2,368**	**1,913**	**126**	**58**	**(8)**	**4,454**
Payroll costs	(592)	(377)	(386)	(121)	—	(1,476)
Other administrative expenses	(1,016)	(618)	353	167	8	(1,106)
Amortisation, depreciation and impairment losses on						
intangible and tangible assets	(10)	(9)	(5)	(86)	—	(110)
Operating costs	**(1,618)**	**(1,004)**	**(38)**	**(40)**	**8**	**(2,692)**
OPERATING PROFIT/(LOSS)	**750**	**909**	**88**	**18**	**—**	**1,764**
Net write-downs of loans and provisions						
for guarantees and commitments	(162)	36	8	—	—	(118)
NET OPERATING PROFIT/(LOSS)	**588**	**945**	**96**	**18**	**—**	**1,645**
Provisions for risks and charges	(167)	(239)	(2)	—	—	(408)
Restructuring costs	(390)	(226)	(1)	—	—	(617)
Net income from investments	(84)	(1)	21	(36)	—	(100)
PROFIT/(LOSS) BEFORE TAX	**(53)**	**479**	**114**	**(18)**	**—**	**521**
Income tax for the period	(35)	(271)	54	20	—	(232)
PROFIT/(LOSS) AFTER TAX	**(88)**	**208**	**168**	**2**	**—**	**289**
Purchase price allocation effect	—	—	—	—	—	—
CONSOLIDATED PROFIT/(LOSS)	**(88)**	**208**	**168**	**1**	**—**	**289**
attributable to the shareholder of UniCredit Bank AG	(88)	208	167	1	—	289
attributable to minorities	—	—	1	—	—	1

Reconciliation of the segmented income statement to the income statement from 1 January to 31 December 2021 (€ millions)

INCOME/EXPENSES	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSIFICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
Net interest	2,516	(16)	16	2,516
Charged imputed cost of equity		—	17	
Reallocation of net interest from specific held-for-trading portfolios		(12)	—	
Compounding of provisions and of provisions for contingent liabilities		(4)	—	
Dividends and other income from equity investments	18	10	—	28
Dividends from assets mandatorily at FVTPL		10	—	
Net fees and commissions	1,074	41	—	1,115
Expense for purchased securities services for held-for-trading portfolios		41	—	
Net trading income	736	(81)	—	655
Financial assets mandatorily at FVTPL		43	—	
Financial liabilities designated at FVTPL		(47)	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		(2)	—	
Hedge accounting effects		(61)	—	
Fair value measurement of equity instruments		(18)	—	
Buy-backs of securities issued – recognised at cost		5	—	
Net gains/(losses) on the sale of performing securities				
(hold-to-maturity business model)		(3)	—	
Dividends from assets mandatorily at FVTPL		(10)	—	
Reallocation of net interest from specific held-for-trading portfolios		12	—	
Net gains/(losses) on financial assets and liabilities at fair value	n/a	85	—	85
Financial assets mandatorily at FVTPL		(43)	—	
Financial liabilities designated at FVTPL		47	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		2	—	
Hedge accounting effects		61	—	
Fair value measurement of equity instruments		18	—	
Net gains/(losses) on derecognition of financial instruments measured at cost	n/a	(9)	—	(9)
Net gains/(losses) on the sale of performing loans and receivables,				
and securities (hold-to-maturity business model)		(4)	—	
Buy-backs of securities issued – recognised at cost		(5)	—	
Net other expenses/income	112	(270)	16	(142)
Net gains/(losses) on the sale of performing loans and receivables				
(hold-to-maturity business model)		7	—	
Income from the valuation/disposal of investment properties		(8)	—	
European bank levy		(193)	—	
Other effects		2	—	
Net gains/(losses) on disposals of investments		5	—	
Adjustment of managerial scope of consolidation		—	16	
UniCredit Leasing GmbH (including subsidiaries): write-down				
to the lower expected sales proceeds (IFRS 5)		(81)	—	
OPERATING INCOME	**4,454**	**(240)**	**34**	**4,248**

Segment Reporting (Continued)

(€ millions)

INCOME/EXPENSES	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSIFICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
Payroll costs	(1,476)	—	(9)	(1,485)
Adjustment of managerial scope of consolidation		—	(11)	
Other administrative expenses	(1,106)	(92)	(4)	(1,202)
Adjustment of managerial scope of consolidation		—	(4)	
Deposit guarantee scheme		(58)	—	
Other effects		(2)	—	
Expense for purchased securities services for held-for-trading portfolios		(41)	—	
Depreciation on leasehold improvements in buildings		9	—	
Amortisation, depreciation and impairment losses on intangible and tangible assets	(110)	(9)	—	(119)
Depreciation on leasehold improvements in buildings		(9)	—	
Operating costs	**(2,692)**	**(101)**	**(13)**	**(2,806)**
OPERATING PROFIT/(LOSS)	**1,764**	**(341)**	**19**	**1,442**
Net write-downs of loans and provisions for guarantees and commitments/				
Credit impairment losses IFRS 9	(118)	4	—	(114)
Impairment/write-backs on securities at cost and at FVTOCI		2	—	
Compounding of provisions for contingent liabilities		1	—	
NET OPERATING PROFIT/(LOSS)	**1,645**	**(337)**	**20**	**1,328**
Provisions for risks and charges	(408)	255	—	(153)
European bank levy and deposit guarantee scheme		251	—	
Compounding of provisions		3	—	
Irrevocable payment commitments provided for bank levy and deposit guarantee				
scheme recognised as an expense		—	—	
Restructuring costs	(617)	—	—	(617)
Net income from investments	(100)	99	1	n/a
Impairment/write-backs on securities at cost and at FVTOCI		(2)	—	
Income from the valuation/disposal of investment properties		8	—	
Net gains/(losses) on disposals of investments		12	1	
UniCredit Leasing GmbH (including subsidiaries): write-down				
to the lower expected sales proceeds (IFRS 5)		81	—	
Net gains/(losses) on disposals of investments	n/a	(17)	4	(13)
Fair value measurement of a deconsolidated subsidiary		—	4	
PROFIT/(LOSS) BEFORE TAX	**521**	**—**	**24**	**545**
Income tax for the period	(232)	—	(68)	(300)
Tax on charged imputed equity costs		—	(6)	
DTA impairment		—	(62)	
PROFIT/(LOSS) AFTER TAX	**289**	**—**	**(44)**	**245**
Purchase price allocation effect	—	—	—	—
CONSOLIDATED PROFIT/(LOSS)	**289**	**—**	**(44)**	**245**
attributable to the shareholder of UniCredit Bank AG	289	—	(45)	244
attributable to minorities	1	—	—	1

Income statement, broken down by operating segment for the period from 1 January to 31 December 2020 **(€ millions)**

INCOME/EXPENSES	COMMERCIAL BANKING	CORPORATE & INVESTMENT BANKING	GROUP CORPORATE CENTRE	OTHER	CONSOLIDATION	HVB GROUP
Net interest	1,456	847	78	(5)	—	2,376
Dividends and other income from equity investments	—	19	—	—	—	19
Net fees and commissions	713	257	(5)	(1)	—	964
Net trading income	76	528	(4)	—	—	600
Net other expenses/income	21	32	27	62	(10)	132
OPERATING INCOME	**2,266**	**1,683**	**96**	**56**	**(10)**	**4,091**
Payroll costs	(598)	(365)	(363)	(117)	—	(1,443)
Other administrative expenses	(1,005)	(643)	331	146	10	(1,161)
Amortisation, depreciation and impairment losses on						
intangible and tangible assets	(14)	(9)	(6)	(86)	—	(115)
Operating costs	**(1,617)**	**(1,017)**	**(38)**	**(57)**	**10**	**(2,719)**
OPERATING PROFIT/(LOSS)	**649**	**666**	**58**	**(1)**	**—**	**1,373**
Net write-downs of loans and provisions for guarantees						
and commitments	(385)	(368)	25	—	—	(728)
NET OPERATING PROFIT/(LOSS)	**264**	**298**	**83**	**(1)**	**—**	**645**
Provisions for risks and charges	(44)	(107)	(10)	3	—	(158)
Restructuring costs	(24)	(3)	(1)	(7)	—	(35)
Net income from investments	(26)	(11)	1	579	—	543
PROFIT/(LOSS) BEFORE TAX	**170**	**177**	**73**	**574**	**—**	**996**
Income tax for the period	(87)	(116)	(1)	(192)	—	(395)
PROFIT/(LOSS) AFTER TAX	**83**	**61**	**72**	**382**	**—**	**600**
Purchase price allocation effect	—	—	—	(49)	—	(49)
CONSOLIDATED PROFIT/(LOSS)	**83**	**61**	**72**	**334**	**—**	**550**
attributable to the shareholder of UniCredit Bank AG	83	61	72	334	—	550
attributable to minorities	—	—	—	—	—	—

Segment Reporting (Continued)

Reconciliation of the segmented income statement to the income statement from 1 January to 31 December 2020 (€ millions)

INCOME/EXPENSES	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSIFICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
Net interest	2,376	(3)	40	2,413
Charged imputed cost of equity		—	40	
Reallocation of net interest from specific held-for-trading portfolios		—	—	
Compounding of provisions		(2)	—	
Dividends and other income from equity investments	19	18	—	37
Dividends from assets mandatorily at FVTPL		18	—	
Net fees and commissions	964	43	—	1,007
Expense for purchased securities services for held-for-trading portfolios		43	—	
Net trading income	600	62	—	662
Financial assets mandatorily at FVTPL		15	—	
Financial liabilities designated at FVTPL		33	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		(19)	—	
Hedge accounting effects		59	—	
Fair value measurement of equity instruments		(10)	—	
Buy-backs of securities issued – recognised at cost		1	—	
Net gains/(losses) on the sale of performing securities				
(hold-to-maturity business model)		1	—	
Dividends from assets mandatorily at FVTPL		(18)	—	
Reallocation of net interest from specific held-for-trading portfolios		—	—	
Net gains/(losses) on financial assets and liabilities at fair value	n/a	(78)	—	(78)
Financial assets mandatorily at FVTPL		(15)	—	
Financial liabilities designated at FVTPL		(33)	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		19	—	
Hedge accounting effects		(59)	—	
Fair value measurement of equity instruments		10	—	
Net gains/(losses) on derecognition of financial instruments measured at cost	n/a	(3)	—	(3)
Net gains/(losses) on the sale of performing loans and receivables,				
and securities (hold-to-maturity business model)		(2)	—	
Buy-backs of securities issued – recognised at cost		(1)	—	
Net other expenses/income	132	456	15	603
Net gains/(losses) on the sale of performing loans and receivables				
(hold-to-maturity business model)		1	—	
Income from the sale of land and buildings		549	—	
Income from the valuation/disposal of investment properties		25	—	
Income from the sale of other assets		1	—	
European bank levy		(126)	—	
Other effects		5	—	
Net gains/(losses) on the disposal of investments		1	—	
Adjustment of managerial scope of consolidation		—	14	

(€ millions)

INCOME/EXPENSES	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSIFICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
OPERATING INCOME	**4,091**	**495**	**55**	**4,641**
Payroll costs	(1,443)	—	(8)	(1,451)
Adjustment of managerial scope of consolidation		—	(9)	
Other administrative expenses	(1,161)	(67)	(3)	(1,231)
Adjustment of managerial scope of consolidation		—	(4)	
Deposit insurance fund		(31)	—	
Other effects		(3)	—	
Expense for purchased securities services for held-for-trading portfolios		(43)	—	
Depreciation on leasehold improvements in buildings		10	—	
Amortisation, depreciation and impairment losses on intangible and tangible assets	(115)	(11)	—	(126)
Depreciation on leasehold improvements in buildings		(10)	—	
Other effects		(2)	—	
Operating costs	**(2,719)**	**(78)**	**(11)**	**(2,808)**
OPERATING PROFIT/(LOSS)	**1,373**	**417**	**43**	**1,833**
Net write-downs of loans and provisions for guarantees and commitments/				
Credit impairment losses IFRS 9	(728)	(8)	3	(733)
Impairment/write-backs on securities at cost and at FVTOCI		(8)	—	
Adjustment of managerial scope of consolidation		—	2	
NET OPERATING PROFIT/(LOSS)	**645**	**409**	**46**	**1,100**
Provisions for risks and charges	(158)	134	35	11
European bank levy and deposit guarantee scheme		157	—	
Compounding of provisions		2	—	
Irrevocable payment commitments provided for bank levy and deposit guarantee				
scheme recognised as an expense		—	35	
Change in the disclosure of a provision posted during the year to the respective				
expense item, provided the provision is utilised in the year of addition		(25)	—	
Restructuring costs	(35)	—	—	(35)
Net income from investments	543	(539)	(4)	n/a
Impairment/write-backs on securities at cost and at FVTOCI		8	—	
Income from the sale of land and buildings		(549)	(4)	
Income from the valuation/disposal of investment properties		(25)	—	
Income from the sale of other assets		(1)	—	
Change in the disclosure of a provision posted during the year to the respective				
expense item, provided the provision is utilised in the year of addition		25	—	
Net gains/(losses) on the disposal of investments		3	—	
Net gains/(losses) on the disposal of investments	n/a	(4)	—	(4)
PROFIT/(LOSS) BEFORE TAX	**996**	**—**	**76**	**1,072**
Income tax for the period	(395)	—	(9)	(404)
PROFIT/(LOSS) AFTER TAX	**600**	**—**	**68**	**668**
Purchase price allocation effect	(49)	—	49	—
Purchase price allocation effect on land and buildings		—	49	
CONSOLIDATED PROFIT/(LOSS)	**550**	**—**	**118**	**668**
attributable to the shareholder of UniCredit Bank AG	550	—	118	668
attributable to minorities	—	—	—	—

Segment Reporting (Continued)

Development of the Commercial Banking operating segment (€ millions)

INCOME/EXPENSES	1/1–31/12/2021	1/1–31/12/2020
Net interest	1,465	1,456
Dividends and other income from equity investments	1	—
Net fees and commissions	785	713
Net trading income	87	76
Net other expenses/income	30	21
OPERATING INCOME	**2,368**	**2,266**
Payroll costs	(592)	(598)
Other administrative expenses	(1,016)	(1,005)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(10)	(14)
Operating costs	**(1,618)**	**(1,617)**
OPERATING PROFIT/(LOSS)	**750**	**649**
Net write-downs of loans and provisions for guarantees and commitments	(162)	(385)
NET OPERATING PROFIT/(LOSS)	**588**	**264**
Provisions for risks and charges	(167)	(44)
Restructuring costs	(390)	(24)
Net income from investments	(84)	(26)
PROFIT/(LOSS) BEFORE TAX	**(53)**	**170**
Income tax for the period	(35)	(87)
PROFIT/(LOSS) AFTER TAX	**(88)**	**83**
Purchase price allocation effect	—	—
CONSOLIDATED PROFIT/(LOSS)	**(88)**	**83**
attributable to the shareholder of UniCredit Bank AG	(88)	83
attributable to minorities	—	—
Cost-income ratio in %[1]	68.3	71.4

1 Ratio of operating costs to operating income.

In the 2021 financial year, the Commercial Banking operating segment generated an operating profit (before net write-downs of loans and provisions for guarantees and commitments) of €750 million, which is thus a sharp €101 million, or 15.6%, higher than the previous year's level.

Operating income, at €2,368 million, was a significant €102 million, or 4.5%, up on the previous year's level of €2,266 million. At €1,465 million, net interest contained in operating income was €9 million or 0.6% higher than the figure of €1,456 million in the previous-year period despite the still extremely low level of interest rates. The persistently ultra-low interest rates continued to weigh heavily on the customer deposit business of the Private Clients Bank and on the consumer credit business which was, however, only partially compensated by a further slight increase in the real estate financing business and an increase in the negative interest rates on deposits. In corporate customer activities, an increase was achieved in income in the lending business. In the deposit-taking operations of the Unternehmerbank, the decline in income due to the persistently low level of market interest rates was compensated by an adjustment in customer interest rates (negative interest rates passed on to a greater extent).

Compared with the previous-year period, net fees and commissions increased significantly by €72 million, or 10.1%, to €785 million. This is primarily attributable to a substantial increase in the securities business in private client activities and to higher income generated with financial and transactional banking services in corporate customer activities.

There was a significant increase of €11 million in net trading income, which was up from €76 million in the previous-year period to €87 million in the reporting period. This is due to higher income generated in the FX business of the Unternehmerbank in particular.

Net other expenses/income reports income of €30 million for the reporting period. This represents a sharp increase of €9 million compared with income of €21 million in the previous-year period.

Compared with the previous-year period, operating costs were up by €1 million, or 0.1%, to €1,618 million in the 2021 financial year. This is largely due to higher other administrative expenses, which were up year on year by a slight €11 million, or 1.1%, to €1,016 million while payroll costs fell slightly by €6 million, or 1.0%, to €592 million. The increase in other administrative expenses is attributable to higher IT expenses whereas a reduction in staffing levels contributed to a decline in payroll costs.

The cost-income ratio fell to 68.3% in the current reporting period compared with 71.4% in the previous-year period.

At €162 million, the item "Net write-downs of loans and provisions for guarantees and commitments" shows a sharp decline of €223 million in net additions compared with the figure of €385 million in the previous-year period. This development is attributable to the significant recovery in economic activity, while the previous-year period was adversely affected by the impact of the COVID-19 pandemic.

Net operating profit of €588 million was €324 million higher than the profit of €264 million generated in the previous-year period.

In the reporting period, there was a net expense of €167 million from provisions for risks and charges after €44 million in the previous-year period. This is mainly due to higher payments to the Single Resolution Fund (SRF)/Deposit Guarantee Scheme (DGS) (European bank levy). In addition, a provision in the low double-digit millions was set aside for the consequences of the BGH judgement on the invalidity of certain clauses contained in general business conditions.

Restructuring costs were up from €24 million in the previous-year period by €366 million to €390 million in the reporting period. These are related to the new "UniCredit Unlocked" strategy.

At minus €84 million, net income from investments deteriorated by €58 million in the current reporting period compared with the minus €26 million reported in the previous-year period. As a result of classifying UniCredit Leasing GmbH and its subsidiaries as non-current assets or disposal groups held for sale, a write-down of €81 million to the lower expected sales proceeds was carried out in compliance with IFRS 5.15.

Overall, the Commercial Banking operating segment generated a loss before tax of €53 million in the reporting period, which is considerably lower than the previous-year figure of €170 million as a result of the required restructuring and other provisions.

At €35 million, income tax for the period shows a sharp decrease in tax expense in the reporting period compared with a tax expense of €87 million in the previous-year period.

The Commercial Banking operating segment reports a loss after tax of €88 million for the reporting year, which is significantly lower than the profit after tax of €83 million reported in the previous-year period.

Segment Reporting (Continued)

Development of the Corporate & Investment Banking operating segment (€ millions)

INCOME/EXPENSES	1/1–31/12/2021	1/1–31/12/2020
Net interest	958	847
Dividends and other income from equity investments	12	19
Net fees and commissions	290	257
Net trading income	637	528
Net other expenses/income	16	32
OPERATING INCOME	**1,913**	**1,683**
Payroll costs	(377)	(365)
Other administrative expenses	(618)	(643)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(9)	(9)
Operating costs	**(1,004)**	**(1,017)**
OPERATING PROFIT/(LOSS)	**909**	**666**
Net write-downs of loans and provisions for guarantees and commitments	36	(368)
NET OPERATING PROFIT/(LOSS)	**945**	**298**
Provisions for risks and charges	(239)	(107)
Restructuring costs	(226)	(3)
Net income from investments	(1)	(11)
PROFIT/(LOSS) BEFORE TAX	**479**	**177**
Income tax for the period	(271)	(116)
PROFIT/(LOSS) AFTER TAX	**208**	**61**
Purchase price allocation effect	—	—
CONSOLIDATED PROFIT/(LOSS)	**208**	**61**
attributable to the shareholder of UniCredit Bank AG	208	61
attributable to minorities	—	—
Cost-income ratio in %[1]	52.5	60.4

1 Ratio of operating costs to operating income.

The Corporate & Investment Banking operating segment generated operating income of €1,913 million in the reporting period, which was thus up a very substantial 13.7% on the income of €1,683 million in the previous-year period.

The key factor driving this development in 2021 is the sharp rise of €111 million to €958 million in net interest compared with the previous-year period. This figure, on the one hand, includes positive non-recurrent effects due to the repayment of interest components from previously impaired lending transactions and, on the other hand, is supported by the increase in earnings generated with interest products in the areas of fixed income, currencies & commodities as well as cross-asset products.

The item “Dividends and other income from equity investments” came to €12 million (previous-year period: €19 million). In the current year, income was generated in connection with a financial investment, which was, however, lower than in the previous-year period.

Net fees and commissions increased significantly by €33 million, or 12.8%, to €290 million in the reporting period compared with the previous-year figure of €257 million. This development is based on higher credit commissions and advisory fees due to greater demand by companies.

There was a sharp rise of €109 million to €637 million in net trading income compared with the previous-year period. This increase is partly due to the fact that the year-ago result was negatively affected by market turbulence surrounding the COVID-19 pandemic and the associated higher valuation adjustments. In addition to the discontinuation of the adverse effects of COVID-19 in the previous year, the rise in net trading income was driven by the distinctly positive contribution to earnings in 2021 from valuation adjustments, which essentially includes credit value adjustments and funding value adjustments, and the largely stable income from the customer business in Markets.

Net other expenses/income shows income of €16 million, which is a substantial €16 million lower than the €32 million reported in the previous-year period.

At €1,004 million, operating costs are a slight €13 million, or 1.3%, lower than the €1,017 million recorded for the same period in the previous year. The marked rise of €12 million, or 3.3%, to €377 million in payroll costs was offset by the significant decline of €25 million in other administrative expenses. At €9 million, depreciation and amortisation remained at the previous year's level.

Due to the higher earnings, the cost-income ratio fell to 52.5% in the reporting period after 60.4% in the previous-year period.

With a net reversal of €36 million, the item "Net write-downs of loans and provisions for guarantees and commitments" improved sharply by €404 million compared with the net addition of €368 million in the previous-year period. The result in the previous year was strongly impacted by the market uncertainty triggered by the COVID-19 pandemic and the related high demand for net write-downs for loans and provisions for guarantees and commitments. These net write-downs for loans and provisions for guarantees and commitments were partially reduced again in the reporting period,

Net operating profit recognised in the current reporting period amounts to €945 million, which is €647 million higher than the profit of €298 million reported in the previous-year period.

There were net provisions for risks and charges of €239 million in the reporting period after €107 million in the previous-year period. This sharp increase is mainly due to the setting aside of a provision for the fine imposed for infringing cartel law in connection with trading in EU government bonds as well as to higher payments to the SRF/DGS (European bank levy).

Restructuring costs were up by €223 million, rising from €3 million in the previous-year period to €226 million in the reporting period, and are related to the new "UniCredit Unlocked" strategy.

At minus €1 million, net income from investments was considerably higher than the figure of minus €11 million posted in the previous-year period. This is due to lower write-downs on securities portfolios.

The Corporate & Investment Banking operating segment generated profit before tax of €479 million in the reporting period, which is thus significantly higher than the previous year's profit of €177 million.

At €271 million, income tax for the period shows a sharp increase in tax expense in the reporting period compared with a tax expense of €116 million in the previous-year period.

The Corporate & Investment Banking operating segment reports profit after tax of €208 million for the reporting year compared with the profit of €61 million in the previous-year period.

Segment Reporting (Continued)

Development of the Group Corporate Centre operating segment (€ millions)

INCOME/EXPENSES	1/1–31/12/2021	1/1–31/12/2020
Net interest	100	78
Dividends and other income from equity investments	4	—
Net fees and commissions	(1)	(5)
Net trading income	12	(4)
Net other expenses/income	11	27
OPERATING INCOME	**126**	**96**
Payroll costs	(386)	(363)
Other administrative expenses	353	331
Amortisation, depreciation and impairment losses on intangible and tangible assets	(5)	(6)
Operating costs	**(38)**	**(38)**
OPERATING PROFIT/(LOSS)	**88**	**58**
Net write-downs of loans and provisions for guarantees and commitments	8	25
NET OPERATING PROFIT/(LOSS)	**96**	**83**
Provisions for risks and charges	(2)	(10)
Restructuring costs	(1)	(1)
Net income from investments	21	1
PROFIT/(LOSS) BEFORE TAX	**114**	**73**
Income tax for the period	54	(1)
PROFIT/(LOSS) AFTER TAX	**168**	**72**
Purchase price allocation effect	—	—
CONSOLIDATED PROFIT/(LOSS)	**168**	**72**
attributable to the shareholder of UniCredit Bank AG	167	72
attributable to minorities	1	—
Cost-income ratio in %[1]	30.2	39.6

1 Ratio of operating costs to operating income.

The Group Corporate Centre operating segment generated operating income of €126 million in the reporting period, which has thus risen sharply by €30 million, or 31.3%, compared with €96 million in the previous-year period.

Net interest improved very significantly by €22 million to €100 million compared with the €78 million in the previous-year period. This is largely due to extraordinary interest income from concluded fiscal court proceedings and a tax refund. Net interest in the reporting period also includes interest income of €155 million in connection with a tax refund, which is offset by interest expense of €44 million in connection with tax provisions. Interest income of €62 million was also posted in connection with a tax refund in the previous-year period.

Dividends and other income from equity investments of €4 million were recognised in the reporting period, whereas no such income was generated in the same period in the previous year.

Net fees and commissions were up by €4 million, or 80.0%, compared with the previous-year period and report a commission expense of €1 million for the current reporting period.

Net trading income improved by a sharp €16 million from a negative result of €4 million in the previous-year period to a positive result of €12 million in the current reporting period on account of IFRS 9 fair value adjustments.

The decline in net other expenses/income of €16 million to €11 million in the reporting period is primarily due to non-recurrent income in the previous year.

With operating costs remaining stable compared with the previous-year period, operating profit came to €88 million after €58 million in the previous-year period, which represents a very significant increase of 51.7%.

There was a marked increase of €23 million in payroll costs from €363 million in the previous-year period to €386 million in the reporting period.

Other administrative expenses post income of €353 million, which is a marked €22 million higher than the income of €331 million in the previous-year period.

There were net reversals of €8 million in the item "Net write-downs of loans and provisions for guarantees and commitments" in the reporting period and of €25 million in the previous-year period. Net operating profit thus totalled €96 million after €83 million in the previous-year period, which represents a very substantial increase of 15.7%.

Net income from investments of €21 million was considerably higher than the figure of €1 million reported in the previous-year period. This rise is primarily due to the measurement of investment properties at fair value through profit or loss.

Profit before tax of €114 million for the Group Corporate Centre operating segment was substantially higher than the profit of €73 million posted in the previous-year period.

Tax income of €54 million was posted under income tax for the period, which is mainly the net result from tax refunds received and the current tax expense. By contrast, there was a tax expense of €1 million in the previous-year period, which was likewise largely the net result from tax refunds received and the current tax expense.

The Group Corporate Centre operating segment reports a profit after tax of €168 million for the reporting period, which is well above the comparative figure of the previous year (€72 million).

The cost-income ratio for the reporting period amounts to 30.2% and is thus significantly lower than the level in the previous-year period (39.6%).

Development of the Other operating segment (€ millions)

INCOME/EXPENSES	1/1–31/12/2021	1/1–31/12/2020
Net interest	(7)	(5)
Dividends and other income from equity investments	1	—
Net fees and commissions	—	(1)
Net trading income	—	—
Net other expenses/income	64	62
OPERATING INCOME	**58**	**56**
Payroll costs	(121)	(117)
Other administrative expenses	167	146
Amortisation, depreciation and impairment losses on intangible and tangible assets	(86)	(86)
Operating costs	**(40)**	**(57)**
OPERATING PROFIT/(LOSS)	**18**	**(1)**
Net write-downs of loans and provisions for guarantees and commitments	—	—
NET OPERATING PROFIT/(LOSS)	**18**	**(1)**
Provisions for risks and charges	—	3
Restructuring costs	—	(7)
Net income from investments	(36)	579
PROFIT/(LOSS) BEFORE TAX	**(18)**	**574**
Income tax for the period	20	(192)
PROFIT/(LOSS) AFTER TAX	**2**	**382**
Purchase price allocation effect	—	(49)
CONSOLIDATED PROFIT/(LOSS)	**1**	**334**
attributable to the shareholder of UniCredit Bank AG	1	334
attributable to minorities	—	—
Cost-income ratio in %[1]	69.0	101.8

1 Ratio of operating costs to operating income

Segment Reporting (Continued)

The Other operating segment generated operating income of €58 million in the reporting period, which is thus a marked €2 million, or 3.6%, higher than the figure of €56 million reported in the previous-year period.

The sharp decline in operating costs of €17 million to €40 million is largely due to the rise in net income reported under other administrative expenses, while payroll costs increased.

The Other operating segment generated operating profit of €18 million in the reporting period, which thus improved by a very substantial €19 million compared with the operating loss of €1 million reported in the previous-year period.

On account of the slight increase in operating income and the considerably lower operating costs, the cost-income ratio fell to 69.0% in the reporting period after 101.8% in the previous-year period.

In the Other operating segment, no expenses arose for net write-downs of loans and provisions for guarantees and commitments in the reporting period or in the previous-year period.

Net operating profit thus comes to €18 million, which is a very substantial €19 million improvement on the net operating loss of €1 million reported in the previous-year period.

Provisions for risks and charges show no expenses in the reporting period in contrast to income of €3 million in the previous-year period.

In the reporting period, no expenses are reported under restructuring costs, which means they are €7 million lower than in the previous-year period.

At minus €36 million, net income from investments posted a sharp year-on-year decline of €615 million. The income recognised under this item in the previous-year period is primarily attributable to the sale of the “Am Tucherpark” site, which was completed in early 2020.

Overall, the Other operating segment generated a loss before tax of €18 million in the reporting period compared with the profit before tax of €574 million in the previous-year period, which was primarily attributable to net income from investments.

On account of the net income from investments generated in the previous-year period, income tax for the period fell sharply to tax income of €20 million in the reporting period after a tax expense of €192 million in the previous-year period.

The effect from the purchase price allocation came to €0 million in the reporting period, thus improving significantly by €49 million, or 100%, compared with the negative effect of €49 million in the previous-year period. The previous year’s expenses arose in connection with the sale of the “Am Tucherpark” site as a result of the reversal of the remaining valuation adjustments that occurred upon UniCredit’s first-time consolidation of HVB Group.

The Other operating segment reported consolidated profit of €1 million for the reporting year, which represents a very substantial decrease of €333 million compared with the previous year’s figure of €334 million.

33 Balance sheet figures, broken down by operating segment

(€ millions)

	COMMERCIAL BANKING	CORPORATE & INVESTMENT BANKING	GROUP CORPORATE CENTRE	OTHER	CONSOLIDATION	HVB GROUP[2]
Loans and receivables with banks (at cost)						
31/12/2021	200	25,136	(330)	—	—	25,005
31/12/2020	308	44,474	345	3	(154)	44,976
Loans and receivables with customers (at cost)[1]						
31/12/2021	87,757	35,894	4,169	(126)	(1,154)	126,539
31/12/2020	86,609	39,679	1,126	(97)	(1,643)	125,674
Deposits from customers						
31/12/2021	100,829	31,480	2,153	(331)	(202)	133,930
31/12/2020	101,233	40,337	2,860	(967)	(156)	143,306
Risk-weighted assets compliant with						
Basel III (including equivalents for						
market risk and operational risk)						
31/12/2021	34,326	40,824	3,407	3,416	—	81,973
31/12/2020	31,597	40,289	2,818	3,901	—	78,606

1 The item "Loans and receivables with customers (at cost)" does not contain any securities holdings for internal management purposes.
2 The balance sheet figures of non-current assets or disposal groups held for sale are shown separately in the Notes "Non-current assets or disposal groups held for sale" and "Liabilities of disposal groups held for sale".

34 Employees, broken down by operating segment[1]

	2021	2020
Commercial Banking	5,531	5,928
Corporate & Investment Banking	1,760	1,827
Group Corporate Centre	3,079	3,211
Other	1,036	1,108
Consolidation	—	—
Total	**11,406**	**12,074**

1 In full-time equivalents (FTEs).

Segment Reporting (Continued)

35 Segment reporting by region

The allocation of amounts to regions is based on the head office of the Group companies or offices involved.

Income statement, broken down by region (€ millions)

	2021		2020	
	OPERATING INCOME	OPERATING PROFIT/(LOSS)	OPERATING INCOME	OPERATING PROFIT/(LOSS)
Germany	4,303	1,156	5,118	2,022
Italy	207	111	66	27
Luxembourg	46	34	55	42
United Kingdom	144	183	160	116
Rest of Europe	18	45	15	49
Americas	98	45	98	45
Asia	42	5	57	19
Consolidation	(610)	(137)	(928)	(487)
HVB Group	**4,248**	**1,442**	**4,641**	**1,833**

Total assets, broken down by region (€ millions)

	2021	2020
Germany	297,814	321,241
Italy	27,449	32,618
Luxembourg	11,808	11,203
United Kingdom	5,680	8,417
Rest of Europe	8,251	8,820
Americas	4,881	5,061
Asia	8,184	7,885
Consolidation	(51,955)	(57,121)
HVB Group	**312,112**	**338,124**

Property, plant and equipment, broken down by region (€ millions)

	2021	2020
Germany	2,235	2,383
Italy	18	19
Luxembourg	70	70
United Kingdom	10	18
Rest of Europe	1	1
Americas	15	23
Asia	7	11
Consolidation	—	—
HVB Group	**2,356**	**2,525**

Investment properties, broken down by region (€ millions)

	2021	2020
Germany	260	250
Italy	—	—
Luxembourg	100	102
United Kingdom	—	—
Rest of Europe	—	—
Americas	—	—
Asia	—	—
Consolidation	—	—
HVB Group	**360**	**352**

Intangible assets, broken down by region (€ millions)

	2021	2020
Germany	4	8
Italy	—	—
Luxembourg	—	—
United Kingdom	—	—
Rest of Europe	—	—
Americas	—	—
Asia	—	—
Consolidation	—	—
Total	**4**	**8**

Employees, broken down by region[1]

	2021	2020
Germany	10,456	11,043
Italy	244	242
Luxembourg	31	30
United Kingdom	266	304
Rest of Europe	178	196
Africa	—	—
Americas	103	115
Asia	128	144
HVB Group	**11,406**	**12,074**

1 In full-time equivalents (FTEs).

Notes to the Income Statement

36 Net interest

(€ millions)

	2021	2020
Interest income	3,299	3,423
from financial assets at cost	2,213	2,442
from financial assets at FVTOCI	40	44
from financial assets at FVTPL and hedging derivatives	526	500
from financial assets held for trading	243	269
other interest income	277	168
Negative interest on financial assets	(376)	(211)
Interest expense	(1,040)	(1,207)
from financial liabilities at cost	(626)	(712)
of which from lease liabilities	(5)	(6)
from financial liabilities at FVTPL and hedging derivatives	(70)	(81)
from financial liabilities held for trading	(258)	(353)
other interest expense	(86)	(61)
Negative interest on financial liabilities	633	408
Net interest	**2,516**	**2,413**

In the reporting year, HVB Group generated €31 million (previous-year period: €24 million) in interest income on impaired financial assets that are valued at cost.

Net interest in the reporting period includes interest income of €155 million in connection with a tax refund, which is offset by an interest expense of €44 million in connection with a tax provision. The previous-year period also included interest income of €62 million in connection with a tax refund.

In addition, the negative interest on financial liabilities contains €261 million relating to the ECB's TLTRO III programme. When calculating the effective interest for these liabilities, expected premiums are included that depend on the increase in net lending of eligible loans (loans to the non-financial sector in the eurozone without private construction finance).

Net interest attributable to related partie

The item "Net interest" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	(59)	(1)
of which:		
UniCredit S.p.A.	(75)	(21)
sister companies	13	20
subsidiaries	3	—
Joint ventures	—	—
Associates	1	1
Other investees	8	10
Total	**(50)**	**10**

37 Dividends and other income from equity investments

(€ millions)

	2021	2020
Dividends and other similar income	16	18
Companies accounted for using the equity method	12	19
Total	**28**	**37**

Companies accounted for using the equity method relates exclusively to Comtrade Group B.V., Rotterdam, an associate accounted for using the equity method, which generated a gain on the sale of divisions in both the reporting year and in the previous year.

38 Net fees and commissions

(€ millions)

	2021	2020
Fee and commission income	1,426	1,346
Securities services for customers	671	632
Payment transactions	299	291
Lending business	160	139
Guarantees	136	127
Distribution of third-party products	100	99
Other commission income	60	58
Fee and commission expense	(311)	(339)
Securities services for customers	(171)	(178)
Payment transactions	(71)	(69)
Lending business	(6)	(9)
Guarantees	(6)	(5)
Distribution of third-party products	—	—
Other commission expense	(57)	(78)
Net fees and commissions	**1,115**	**1,007**

The amount of fee and commission income that may no longer be recognised as income due to the ruling by the German Federal High Court (Bundesgerichtshof – BGH) on the invalidity of certain clauses contained in general business conditions came to a low one-digit million sum in the reporting year. The fee and commission income affected was no longer recognised as of the second quarter of 2021 when the BGH ruling was announced. Depending on the case, this concerns all of the fee or a part of it depending on which adjustment was declared null and void by the BGH ruling (introduction of a fee or merely an increase in the fee). HVB Group has set aside a provision to cover claims for the reimbursement of fee and commission income received on the basis of the now invalid clauses contained in its general business conditions up to and including the first quarter of 2021. The BGH ruling affects business relationships with consumers who did not actively consent to the amendments to the general business conditions affected by the ruling or did so by their implied action. As a result of the BGH ruling, mere silence may no longer be considered consent. Customers were informed of this if they were affected (they were informed that the fees are billed subject to review). In addition, HVB Group has written to almost all of the consumers and requested their consent to the current general business conditions.

Net fees and commissions include fee and commission income of €73 million (previous-year period: €74 million) and no fee and commission expense (previous-year period: €3 million) that relate to financial instruments not measured at fair value through profit or loss.

Fees and commissions charged for individual services are recognised as soon as the service has been provided. In contrast, deferred income is recognised for fees and commissions relating to a specific period (such as fees for financial guarantees).

Notes to the Income Statement (Continued)

Net fees and commissions from related parties

The item "Net fees and commissions" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	(19)	(29)
of which:		
UniCredit S.p.A.	2	(7)
sister companies	(21)	(22)
subsidiaries	—	—
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**(19)**	**(29)**

39 Net trading income

(€ millions)

	2021	2020
Net gains on financial instruments held for trading[1]	655	662
Total	**655**	**662**

1 Including dividends on financial instruments held for trading.

Valuation discounts resulting from the fair value measurement of derivatives, particularly credit value adjustments and funding value adjustments, are recognised under net trading income. In the reporting year, the decrease in aforementioned valuation discounts when determining fair values increased net trading income by €158 million (previous year: down €32 million).

40 Net gains/losses on financial assets and liabilities at fair value

(€ millions)

	2021	2020
Financial assets mandatorily at FVTPL	(43)	(15)
Financial liabilities designated at FVTPL	47	(33)
Derecognition from other comprehensive income	2	19
Hedge accounting effects	61	(59)
Fair value equity	18	10
Total	**85**	**(78)**

(€ millions)

	2021	2020
Fair value hedges	61	(59)
Changes in fair value of hedged items	1,176	(51)
Portfolio fair value hedges	1,390	(251)
Micro fair value hedges	(214)	200
Changes in fair value of hedging instruments	(1,115)	(8)
Portfolio fair value hedges	(1,289)	191
Micro fair value hedges	174	(199)
Cash flow hedges	—	—
Net gains/(losses) on cash flow hedges (only ineffective part)	—	—
Total	**61**	**(59)**

The hedge accounting effects of the main hedge accounting approaches of HVB Group are shown below:

Micro fair value hedge for holdings at FVTOCI

(€ millions)

	REMAINING TERM			CUMULATIVE AMOUNT OF THE HEDGE-RELATED ADJUSTMENT TO THE FAIR VALUE INCLUDED IN THE CARRYING AMOUNT OF THE HEDGED ITEM RECOGNISED IN THE BALANCE SHEET		CARRYING AMOUNTS		CHANGE IN FAIR VALUE USED TO RECOGNISE AN INEFFECTIVENESS IN THE HEDGE FOR THE PERIOD
	LESS THAN 1 YEAR	1 YEAR TO 5 YEARS	MORE THAN 5 YEARS	ASSETS	LIABILITIES	ASSETS	LIABILITIES	
Balance at 31/12/2021								
Nominal								
Hedged items								
EUR	1,383	5,946	1,387	—	—	—	—	—
USD	400	2,536	44	—	—	—	—	—
Hedging transactions								
EUR	1,383	5,935	1,383	—	—	—	—	—
USD	577	2,141	44	—	—	—	—	—
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	(1)	(1)	—	—	—	—	—
USD	—	(1)	—	—	—	—	—	—
Hedging transactions								
EUR	—	1	1	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
Balance sheet values								
Hedged items	—	—	—	59	—	11,941	—	—
Hedging transactions	—	—	—	—	—	7	193	—
Hedge result								(40)
Hedged items	—	—	—	—	—	—	—	(207)
Hedging transactions	—	—	—	—	—	—	—	167
Balance at 31/12/2020								
Nominal								
Hedged items								
EUR	434	6,728	2,250	—	—	—	—	—
USD	94	2,100	—	—	—	—	—	—
Hedging transactions								
EUR	434	6,728	2,250	—	—	—	—	—
USD	94	2,100	—	—	—	—	—	—
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	(2)	(2)	—	—	—	—	—
USD	—	(1)	—	—	—	—	—	—
Hedging transactions								
EUR	—	2	2	—	—	—	—	—
USD	—	1	—	—	—	—	—	—
Balance sheet values								
Hedged items	—	—	—	257	—	12,087	—	—
Hedging transactions	—	—	—	—	—	—	348	—
Hedge result								1
Hedged items	—	—	—	—	—	—	—	200
Hedging transactions	—	—	—	—	—	—	—	(199)

Notes to the Income Statement (Continued)

The table shown earlier compares the nominal amounts of the hedged items and the hedging transactions. In addition, the interest rate sensitivities are stated in basis point values (BPV). This means that if the interest rate changes by one basis point (0.01%), the fair value will change by the amount stated in euro millions. The statement of interest rate sensitivities in BPV is a suitable instrument for describing the effectiveness of a hedge.

Securities holdings, which are allocated to the balance sheet item "Financial assets at FVTOCI", are hedged against interest rate risks separately for each transaction through a hedging transaction. This includes up-front payments on conclusion of the interest rate swaps to compensate for premiums and discounts in the purchase price of the securities, which means that their fair value is not equal to zero at the inception of the hedge. Furthermore, the fair value of the derivatives also contains accrued interest (dirty fair value) whereas accrued interest for the hedged items is allocated to these directly and is thus not included in the cumulative amount of the hedge-related adjustments to the carrying amount of the hedged items. Consequently, the net fair value of the hedging derivatives does not reflect the cumulative amount of the hedge-related adjustments to the carrying amount of the hedged items.

Micro fair value hedge for holdings at cost

The micro fair value hedges for holdings at cost are shown for the first time below:

(€ millions)

	REMAINING TERM			CUMULATIVE AMOUNT OF THE HEDGE-RELATED ADJUSTMENT TO THE FAIR VALUE INCLUDED IN THE CARRYING AMOUNT OF THE HEDGED ITEM RECOGNISED IN THE BALANCE SHEET		CARRYING AMOUNTS		CHANGE IN FAIR VALUE USED TO RECOGNISE AN INEFFECTIVENESS IN THE HEDGE FOR THE PERIOD
	LESS THAN 1 YEAR	1 YEAR TO 5 YEARS	MORE THAN 5 YEARS	ASSETS	LIABILITIES	ASSETS	LIABILITIES	
Balance at 31/12/2021								
Nominal								
Hedged items								
JPY	77	2,761	767	—	—	—	—	—
USD	—	265	—	—	—	—	—	—
Hedging transactions								
JPY	5,741	3,066	963	—	—	—	—	—
USD	—	266	—	—	—	—	—	—
Interest rate sensitivities in BPV								
Hedged items								
JPY	—	—	(1)	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
Hedging transactions								
JPY	—	—	1	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
Balance sheet values								
Hedged items	—	—	—	(2)	—	4,041	—	—
Hedging transactions	—	—	—	—	—	—	—	—
Hedge result								—
Hedged items	—	—	—	—	—	—	—	(7)
Hedging transactions	—	—	—	—	—	—	—	7

The nominal amounts of the hedged items and the hedging transactions are compared in the table above. In addition, the interest rate sensitivities are stated in basis point values (BPV). This means that if the interest rate changes by one basis point (0.01%), the fair value will change by the amount stated in euro millions. The statement of interest rate sensitivities in BPV is a suitable instrument for describing the effectiveness of a hedge. With regard to hedging derivatives, it should be noted that these were concluded with London Clearing House and are therefore subject to the existing offsetting rules (see Note "Disclosures regarding the offsetting of financial assets and liabilities").

Portfolio fair value hedge

(€ millions)

	REMAINING TERM			CUMULATIVE AMOUNT OF THE HEDGE-RELATED ADJUSTMENT TO THE FAIR VALUE INCLUDED IN THE CARRYING AMOUNT OF THE HEDGED ITEM RECOGNISED IN THE BALANCE SHEET		CARRYING AMOUNTS		CHANGE IN FAIR VALUE USED TO RECOGNISE AN INEFFECTIVENESS IN THE HEDGE FOR THE PERIOD
	LESS THAN 1 YEAR	1 YEAR TO 5 YEARS	MORE THAN 5 YEARS	ASSETS	LIABILITIES	ASSETS	LIABILITIES	
Balance at 31/12/2021								
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	3	17	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Hedging transactions								
EUR	—	(3)	(17)	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Balance sheet values								
Hedged items	—	—	—	24	617	—	—	—
Hedging derivatives	—	—	—	—	—	224	307	—
Hedge result								101
Hedged items	—	—	—	—	—	—	—	1,390
Hedging transactions	—	—	—	—	—	—	—	(1,289)
Balance at 31/12/2020								
Interest rate sensitivities in BPV								
Hedged items[1]								
EUR	—	3	11	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Hedging transactions[1]								
EUR	—	(3)	(10)	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Balance sheet values[2]								
Hedged items	—	—	—	70	1,941	—	—	—
Hedging derivatives	—	—	—	—	—	372	386	—
Hedge result								(60)
Hedged items	—	—	—	—	—	—	—	(251)
Hedging transactions	—	—	—	—	—	—	—	191

1 The previous-year figure for JPY was deleted on account of a correction.
2 Previous-year figures for liabilities have been corrected.

HVB Group has exercised the option of continuing to apply the provisions of IAS 39 on hedge accounting. The portfolio fair value hedge will thus be continued.

Notes to the Income Statement (Continued)

In line with the standard bank risk management procedures for the hedging of fixed interest rate risks, the interest rate risks entailed in the hedged items are managed on a cross-item basis in the portfolio fair value hedge. For this purpose, the interest-relevant cash flows of the hedged items are allocated separately by currency to maturity buckets and the net position is determined. The interest rate hedging derivatives concluded thus relate to net interest rate risk positions across several items in the respective maturity buckets and not to specific hedged items. As a hedged item may thus have different effects in the respective maturity bucket, the effects of hedge accounting are presented by reference to interest sensitivity. The statement of interest rate sensitivity by maturity bucket represents an adequate measure for determining the hedged interest rate risks. The table shows the changes in fair value in € millions if the interest rate changes by one basis point (BPV or 0.01%).

41 Net gains/losses on derecognition of financial instruments measured at cost

(€ millions)

	2021	2020
Loans and receivables (performing)	(7)	(1)
Buy-backs of securities issued	(5)	(1)
Promissory notes (assets side)	3	(1)
Total	**(9)**	**(3)**

HVB prematurely repaid the outstanding HVB Funding Trust instruments (carrying amount: €53.3 million before repayment) on 31 December 2021 according to the bond terms. These instruments were able to be recognised as Tier 2 capital in recent years. As provided for in the bond terms, mark-ups were to be paid, meaning that repayment was effected above par. At the same time, the existing hedge relationships were prematurely ended. An expense of €6 million therefore accrued which is reported under the item “Net gains/losses on derecognition of financial instruments measured at cost”.

42 Net other expenses/income

(€ millions)

	2021	2020
Other income	257	843
Sale of land and buildings	—	549
Rental income	61	72
Valuation/disposals of investment properties	42	44
Other	154	178
Other expenses	(399)	(240)
Sale of land and buildings	—	—
Valuation/disposals of investment properties	(16)	(26)
Expenses of investment properties	(9)	(15)
Bank levy	(193)	(126)
UniCredit Leasing GmbH (including subsidiaries): write-down to the lower expected sales proceeds (IFRS 5)	(81)	—
Other	(100)	(73)
Total	**(142)**	**603**

Income from the sale of land and buildings recognised in the previous-year period is mainly from the sale of the “Am Tucherpark” site, which was completed at the beginning of 2020.

The line item “Valuation/disposals of investment properties” includes either income from valuation gains or disposals or expenses due to valuation losses or disposals. Due to the measurement at fair value through profit or loss of investment properties, such measurement generally has to be adjusted to the anticipated gain on disposal even before derecognition of the asset because a certain amount of time elapses between the receipt of a binding offer for purchase/conclusion of a purchase agreement and the transfer of rights and obligations for the property (derecognition) in which the measurement must be adjusted through profit or loss. Therefore, both items are shown in a single line.

In line with the Team 23 strategic plan, HVB Group adjusted its range of lease and hire-purchase products in the previous year: These products have been provided by an external cooperation partner since mid-2020. The subsidiary UniCredit Leasing GmbH and its subsidiaries subsequently discontinued the distribution of these products with effect from 1 August 2020. Since this time, existing contracts are merely being wound up. At year-end 2021, HVB Group decided to sell UniCredit Leasing GmbH with its subsidiaries and classified these afterwards as non-current assets or disposal groups held for sale. Compliant with IFRS 5.15, the disposal group of assets and liabilities of UniCredit Leasing GmbH and its subsidiaries were written down to the lower expected sales proceeds. An important factor in determining the expected sales proceeds is that distribution has already been discontinued. In this context, non-current assets, which are mainly operating leases, and finance lease receivables (IFRS 16.78) are to be written down. Although other financial instruments pursuant to IFRS 9 are classified as non-current assets or disposal groups held for sale, they will continue to be measured in accordance with the measurement rules of IFRS 9 compliant with IFRS 5.5.

As HVB Group recognises its write-downs for operating leases based on use under other expenses, unscheduled write-downs for these are also to be recognised here. With regard to finance lease receivables, it should be noted that the write-downs to the lower sales proceeds entered here are not attributable to debtors' credit losses and are thus not shown as credit impairment losses IFRS 9. Disclosure as other expenses is also appropriate in this case. This means that the complete write-down of €81 million to the lower expected sales proceeds in accordance with IFRS 5 is shown as other expenses.

Net other expenses/income attributable to related parties

The item "Net other expenses/income" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	92	72
of which:		
UniCredit S.p.A.	15	16
sister companies	76	56
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**92**	**72**

43 Operating costs

(€ millions)

	2021	2020
Payroll costs	(1,485)	(1,451)
Wages and salaries	(1,187)	(1,151)
Social security costs	(182)	(178)
Expenses for pensions and similar employee benefits	(116)	(122)
Other administrative expenses	(1,202)	(1,231)
Amortisation, depreciation and impairment losses	(119)	(126)
on property, plant and equipment	(65)	(69)
on software and other intangible assets, excluding goodwill	(3)	(8)
on right-of-use assets (leases)	(51)	(49)
Total	**(2,806)**	**(2,808)**

Wages and salaries includes payments of €4 million (previous-year period: €3 million) made upon the termination of employment contracts. The expenses for similar payments in the context of restructuring measures are recognised under restructuring costs in the income statement and explained in the Note "Restructuring costs".

Notes to the Income Statement (Continued)

Operating costs of related parties

The item "Operating costs" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	(605)	(611)
of which:		
UniCredit S.p.A.	(21)	(22)
sister companies	(572)	(589)
subsidiaries	(12)	—
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**(605)**	**(611)**

Share-based payment compliant with IFRS 2

Share-based payments were granted primarily under the Group Incentive System in the reporting period. In addition, UniCredit has two further schemes under which shares are granted that are also accounted for in accordance with IFRS 2: the employee share ownership plan (Let's Share) and the Long-term Incentive Plans (LTI 2017–2019, LTI 2020–2023).

Group Incentive System

The Group Incentive System has governed variable remuneration payable to selected employees since the 2010 financial year. This system is built around the principle that the variable remuneration is granted partially in shares and scheduled for disbursement over a number of years.

Employees whose duties have a significant impact on the Bank's risk profile are beneficiaries of the Group Incentive System. Under the Group Incentive System, the bonus granted for the respective reporting period is split into a cash component and a share component. The cash component is accounted for in accordance with IAS 19, whereas the share component is compliant with IFRS 2.

The cash component is disbursed in tranches over a period of up to seven years. Accordingly, this group of employees received 20% to 30% of the bonus for 2020 in cash with the commitment at the beginning of 2021, and a further 5% to 20% will be disbursed after financial year-end 2021, 2022, 2023, 2024 and 2025.

At the beginning of 2021, the beneficiaries received for the remaining bonus amount a commitment for an allocation of shares in UniCredit S.p.A. as part of the bonus for 2020, to be transferred to the beneficiaries after financial year-end 2021 to financial year-end 2026.

The deferred payment after financial year-end 2021, 2022, 2023, 2024 and 2025 and the allocation of shares after financial year-end 2021 to financial year-end 2026 to the beneficiaries is subject to the provision that, as part of a malus arrangement, it is ensured that no loss has been recorded at the level of UniCredit or at the level of the individual beneficiary, or a significant reduction in the results achieved. This deferral of the allocation therefore also determines the length of the vesting period of the individual tranches.

The fair value of the granted shares is calculated using the average stock market price of UniCredit S.p.A. shares in the month prior to the resolution by the Board of Directors in March 2021 regarding the granted shares, adjusted for a discount for expected dividends during the vesting period.

In the reporting period, 1.6 million UniCredit S.p.A. shares were committed as a component of the bonus granted for 2020, with a fair value of €12.7 million. If a capital measure is implemented after the grant date, the number of shares granted will be adjusted accordingly. The shares granted in 2021 as part of the bonus for 2020 will be transferred in 2022, 2023, 2024, 2025, 2026 and 2027.

The following table shows the fair values per share at the time of granting the shares::

	2021
Fair value of the shares to be transferred in 2022 (€ per share)	8.441
Fair value of the shares to be transferred in 2023 (€ per share)	8.003
Fair value of the shares to be transferred in 2024 (€ per share)	7.440
Fair value of the shares to be transferred in 2025 (€ per share)	6.760
Fair value of the shares to be transferred in 2026 (€ per share)	6.078
Fair value of the shares to be transferred in 2027 (€ per share)	5.395

The granted bonuses are recognised in the income statement on a pro rata basis over the respective vesting period.

Cash component bonuses for the 2021 financial year falling due for disbursement in 2022 are recognised in full as an expense. Where cash payments are made at a later date, such payments are subject to the condition that the eligible employees remain employed by UniCredit or partly subject to further performance targets. Accordingly, the vesting period for the promised bonus consists of several financial years (target achievement plus waiting period) and is to be deferred over this period compliant with IAS 19.153 in conjunction with IAS 19.68. Thus, deferred cash payments under the bonus promised for 2021 are recognised as expense in the respective period (starting with the 2021 financial year to the end of the financial year in which the waiting period for the respective tranche ends) on a pro rata basis.

UniCredit S.p.A. delivers shares to the employees for commitments made by HVB Group once the conditions for granting shares have been met. HVB Group reimburses the expenses accruing in this regard to UniCredit S.p.A. The expense for the shares transferred corresponds to the fair value of the shares at the grant date.

Long-term Incentive Plans (LTI 2017–2019 and LTI 2020–2023)

The performance period of the Long-term Incentive Plan 2017–2019 ended on 31 December 2019. A review showed that a degree of target attainment of 93.33% was achieved on the basis of the underlying performance criteria and the number of the conditionally granted shares was reduced accordingly.

As a result, a subsequent Long-term Incentive Plan (LTI 2020–2023) was introduced in the 2020 financial year. Analogously to the LTI 2017–2019 that had ended previously, the plan constitutes a component of the remuneration system in place at UniCredit for top management (Executive Vice Presidents and above) and key players at UniCredit Bank AG. This means that a portion of the variable remuneration of top management is not specified until after an assessment period of several years. The plan consists of a performance period of four years followed by a four-year retention period with an additional obligatory holding period. The granting is wholly based on shares of UniCredit S.p.A. The respective tranches are subject to malus terms and a claw back arrangement which makes it possible to reclaim each individual share tranche up to five years after vesting.

Altogether, 1.4 million UniCredit S.p.A. shares with a fair value of €12.0 million were conditionally granted for the first time in the reporting period as a component of the LTI 2020–2023. If a capital measure is carried out after the date of grant, the number of shares granted are adjusted accordingly.

The fair value of the conditionally granted shares is calculated using the average stock market price of UniCredit S.p.A. shares in the month prior to the resolution by the Board of Directors in January 2020 regarding the granting of shares, adjusted for a discount for expected dividends during the vesting period.

Notes to the Income Statement (Continued)

The decision on the scope to which these shares are actually granted is made at the end of the performance period, i.e. after the end of the 2023 financial year. UniCredit Bank AG bears the costs of implementation of the Long-term Incentive Plan within HVB.

	2021
Fair value of the shares to be transferred in 2025 (€ per share)	9.869
Fair value of the shares to be transferred in 2026 (€ per share)	8.920
Fair value of the shares to be transferred in 2027 (€ per share)	7.972
Fair value of the shares to be transferred in 2028 (€ per share)	7.028
Fair value of the shares to be transferred in 2029 (€ per share)	6.089

UniCredit S.p.A. delivers shares to the employees for commitments made by HVB Group once the conditions for granting shares have been met. HVB Group reimburses the expenses accruing in this regard to UniCredit S.p.A. The expense for the shares transferred corresponds to the fair value of the shares at the grant date.

Analysis of outstanding shares (Group Incentive System: LTI 2017–2019; LTI 2020–2023):

	2021		2020	
	TOTAL	AVERAGE MATURITY	TOTAL	AVERAGE MATURITY
Outstanding at start of period	**8,289,459**	**January 2023**	**7,135,138**	**August 2021**
Additions				
Neu gewährte Aktien	1,596,790	April 2023	1,954,869	May 2022
From corporate transfers	155,384	November 2023	122,336	June 2021
Conditionally granted shares	—	n/a	1,387,925	August 2026
Releases				
Forfeited shares	82,930	July 2025	123,107	May 2022
Transferred shares	3,075,528	May 2021	1,951,258	May 2020
From corporate transfers	389,647	June 2023	206,756	September 2022
Expired shares	5,323	July 2026	29,688	September 2026
Total at end of period	**6,488,205**	**November 2023**	**8,289,459**	**January 2023**

In the 2021 financial year, prorated expenses of €19 million (previous-year period: €19 million) accrued for the share component arising from the bonuses promised for 2017 to 2021 in the form of share-based payments compliant with IFRS 2. These expenses are recognised under payroll costs. The provision set up totalled €67 million (previous-year period: €113 million).

44 Credit impairment losses IFRS 9

(€ millions)

	2021	2020
Additions	(993)	(1,354)
Allowances for losses on loans and receivables at cost	(681)	(982)
Allowances for losses on loans and receivables at FVTOCI	(4)	(3)
Allowances for losses on guarantees and indemnities	(308)	(369)
Reversals	825	570
Allowances for losses on loans and receivables at cost	531	410
Allowances for losses on loans and receivables at FVTOCI	3	—
Allowances for losses on guarantees and indemnities	291	160
Gains/(losses) from non-substantial modification	1	2
Recoveries from write-offs of loans and receivables	48	49
Gains/(losses) on the disposal of impaired loans and receivables	5	—
Total	**(114)**	**(733)**

In the reporting period, credit impairment losses IFRS 9 came to €114 million after an expense of €733 million in the previous-year period. The €619 million decrease is primarily attributable to the marked recovery in economic activity in the reporting year whereas the previous-year period was weighed down by the default on a few larger credit exposures, which is also to be seen in the light of the COVID-19 pandemic.

In the reporting period, net additions to specific valuation allowances come to €85 million compared with €510 million in the previous-year period. Additions to specific valuation allowances as a result of defaults were largely compensated for by reversals of existing specific valuation allowances. The expected wave of defaults due to the COVID-19 pandemic has not occurred to date, partly as a result of an improved macroeconomic environment. In contrast, an addition of €510 million to specific valuation allowances was necessary in the previous-year period on account of a few larger individual cases.

Furthermore, the addition to portfolio valuation allowances was reduced to €29 million in the reporting year compared with €223 million in the previous-year period. In the reporting period, there were net charges from the adjustment of model parameters, which were largely offset by a positive development in the portfolio of performing loans and the macroeconomic environment. In the previous-year period, the pandemic-related adjustment of the assumptions reflecting future economic conditions had a negative impact and in total resulted in an addition of €223 million to portfolio valuation allowances.

Credit impairment losses IFRS 9 attributable to related parties

The item "Credit impairment losses IFRS 9" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	—	—
of which:		
UniCredit S.p.A.	—	—
sister companies	—	—
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**—**	**—**

45 Provisions for risks and charges

In the reporting period, net expenses from provisions for risks and charges amounted to €153 million. This is offset by net income of €11 million reported in the previous-year period from the reversal of provisions. Individual items of significance in the reporting period relate to the setting aside of a provision of €69 million in penalty payments to the EU Commission, which imposed these in the second quarter for cartel law infringements in connection with EU government bonds. In addition, a provision in the low double-digit millions was set aside for the consequences of the BGH judgement on the invalidity of certain clauses in the General Business Conditions.

46 Restructuring costs

Restructuring costs, which arose from the implementation of the three-year UniCredit Unlocked 2022-24 strategic plan, came to €617 million in the reporting year. Restructuring costs of €35 million accrued in the previous-year period.

Restructuring costs in the reporting year are based on measures resulting from the implementation of the three-year UniCredit Unlocked 2022-24 strategic plan, which aims at driving forward further digitalisation, automation and process optimisation within HVB Group. In this context, there will be a further reduction of staff at HVB by 2024. Most of the restructuring costs are intended for the scheduled socially compatible reduction in staffing levels, which is to be achieved above all by natural fluctuation, partial and early retirement solutions as well as severance packages. The existing restructuring provision was increased appropriately for this purpose as the three-year UniCredit Unlocked 2022-24 strategic plan builds on the previous Team 23 strategic plan. Another part of the restructuring costs relates to the optimisation and reduction of areas used by HVB Group so that, among other things, rights of use to buildings were subject to unscheduled depreciation.

In the reporting year, this item also includes income from the passing on of expenses to UniCredit Services S.C.p.A. in the single-digit millions. This is due to the fact that areas made available to UniCredit Services S.C.p.A. by HVB Group are affected by area optimisation measures and the restructuring costs incurred for such areas will be paid by UniCredit Services S.C.p.A. along with the costs for use of the areas.

Notes to the Income Statement (Continued)

47 Net gains/losses on disposals of investments

(€ millions)

	2021	2020
Shares in affiliates	(11)	(1)
Disposal of companies accounted for using the equity method	—	—
Write-downs	(2)	(3)
Total	**(13)**	**(4)**

In the reporting year, losses on shares in affiliates primarily contain the losses generated on the deconsolidation of immaterial subsidiaries. In the reporting year and in the previous year, the write-downs are mainly attributable to the associate Comtrade Group B.V., Rotterdam, accounted for using the equity method.

48 Income tax for the period

(€ millions)

	2021	2020
Current taxes	(274)	(325)
Deferred taxes	(26)	(79)
Total	**(300)**	**(404)**

The current tax expense for the reporting period includes income totalling €54 million for previous years (previous-year period: €87 million).

The deferred tax expense in the reporting period contains an expense totalling €18 million from value adjustments made to deferred tax assets on tax losses carried forward and temporary differences. The additional deferred tax expense of €8 million results overall from the occurrence and reversal of temporary differences and the utilisation of tax losses. The deferred tax expense of the previous year is due to income from the value adjustment made to deferred tax assets on tax losses carried forward and temporary differences as well as an expense from the occurrence and reversal of temporary differences and the utilisation of tax losses.

The differences between computed and recognised income tax are shown in the following reconciliation.

(€ millions)

	2021	2020
Profit before tax	545	1,072
Applicable tax rate	31.8%	31.8%
Computed income taxes	(173)	(340)
Tax effects		
arising from previous years and changes in tax rates	29	(19)
arising from foreign income	22	—
arising from non-taxable income	31	14
arising from different tax laws	(23)	(11)
arising from non-deductible expenses	(171)	(86)
arising from value adjustments and the non-recognition of deferred taxes	(18)	40
arising from amortisation of goodwill	—	—
arising from other differences	3	(2)
Recognised income taxes	**(300)**	**(404)**

An applicable tax rate of 31.76% (previous-year period: 31.76%) has been assumed in the tax reconciliation. This comprises the current rate of corporate income tax in Germany of 15.0%, the solidarity surcharge of 5.5% and an average trade tax rate of 15.93% (previous-year period: 15.93%). This reflects the fact that the consolidated profit is dominated by profits generated in Germany, meaning that it is subject to German corporate income tax and trade tax.

The effects arising from tax on foreign income are in particular a result of different tax rates applicable in other countries.

The item “Tax effects arising from different tax laws” comprises the municipal trade tax modifications applicable to domestic companies and other local peculiarities.

The deferred tax assets and deferred tax liabilities are allocated to the following items: (€ millions)

	2021	2020
Deferred tax assets		
Other financial instruments at FVTPL	81	113
Financial instruments at FVTOCI	4	3
Loans and receivables with banks (at cost)/customers (at cost)/ Deposits from banks/customers	135	133
Hedging derivatives and hedge adjustment of hedged items (P&L)	362	377
Property, plant and equipment/intangible assets	139	112
Other assets/other liabilities	54	83
Provisions, pension fund and similar	565	706
Losses carried forward/tax credits	17	65
Other	2	3
Total deferred tax assets	**1,359**	**1,595**
Offsetting effect	(616)	(652)
Recognised deferred tax assets	**743**	**943**
Deferred tax liabilities		
Other financial instruments at FVTPL	58	194
Financial instruments at FVTOCI	17	17
Loans and receivables with banks (at cost)/customers (at cost)/ Deposits from banks/customers	40	5
Hedging derivatives and hedge adjustment of hedged items (P&L)	368	293
Hedging derivatives and hedge adjustment of hedged items (OCI)	6	6
Property, plant and equipment/intangible assets	512	490
Other assets/other liabilities	39	67
Other	25	16
Total deferred tax liabilities	**1,065**	**1,088**
Offsetting effect	(616)	(652)
Recognised deferred tax liabilities	**449**	**436**

Deferred taxes are normally measured using the local tax rates of the respective tax jurisdiction. German corporations use the uniform corporate income tax rate including the solidarity surcharge of 15.8% that is not dependent on any dividend distribution and the municipal trade tax rate dependent on the applicable municipal trade tax multiplier. This resulted in an unchanged overall valuation rate for deferred taxes of 31.76% for HVB in Germany compared with the previous year. The applicable local tax rates are applied analogously for other domestic and foreign units. Changes in tax rates have been taken into account, provided they had already been enacted by the end of the reporting period.

All in all, deferred tax assets of €25 million (previous-year period: €217 million) were recorded directly in equity. On the one hand, these mainly arise from deferred tax assets of €468 million (previous-year period: €651 million) in connection with the accounting for pension commitments in accordance with IAS 19, which are included in the item "Provisions, pension fund and similar" and have been offset against reserves. On the other hand, they are the result of deferred tax liabilities of €445 million in connection with the valuation of real estate in accordance with IAS 16.31 and are recognised under the item "Property, plant and equipment/intangible assets". Further deferred taxes are listed separately in the above items "Financial instruments at FVTOCI" and "Hedging derivatives and hedge adjustment of hedged items in the portfolio fair value hedge (OCI)".

Notes to the Income Statement (Continued)

In the 2021 financial year, value adjustments to deferred tax balances of €132 million (€1 million of which relates to foreign branches) are recognised in the income statement, while value adjustments to deferred taxes of €301 million are made in other comprehensive income.

Compliant with IAS 12, no deferred tax assets have been recognised for further corporate tax losses carried forward of HVB Group of €796 million (previous-year period: €916 million), most of which do not expire, and trade tax carried forward of €938 million (previous year period: €1,130 million), as well as for deductible temporary differences of €1,364 million (previous-year period: €920 million).

The deferred tax assets were calculated using plans of the individual business areas, which are based on segment-specific and general macroeconomic assumptions. The amounts were measured taking into account appropriate valuation discounts. The planning horizon remained unchanged at five years. Measurement was carried out taking into account possible restrictions of local regulations regarding timing and any rules on minimum taxation for tax losses carried forward. Estimation uncertainties are inherent in the assumptions used in any multi-year plan. Where changes are made to the multi-year plan over time, this may have an impact on the valuation of the volume of deferred tax assets already capitalised or to be capitalised.

49 Earnings per share

	1/1–31/12/2021	1/1–31/12/2020
Consolidated profit attributable to the shareholder (€ millions)	244	668
Average number of shares	802,383,672	802,383,672
Earnings per share (€) (undiluted and diluted)	0.30	0.83

Notes to the Balance Sheet

50 Cash and cash balances

(€ millions)

	2021	2020
Cash on hand	6,006	6,020
Balances with central banks	21,686	41,511
Total	**27,692**	**47,531**

51 Financial assets held for trading

(€ millions)

	2021	2020
On-balance sheet financial instruments	37,863	26,353
Fixed-income securities	9,085	6,799
Equity instruments	7,746	6,559
Other financial assets held for trading	21,032	12,995
Positive fair values of derivative financial instruments	48,051	56,352
Total	**85,914**	**82,705**
of which subordinated assets	9	4

Financial assets held for trading include in particular securities held for trading purposes and the positive fair values of derivatives other than hedging derivatives that are disclosed in hedge accounting (shown separately in the balance sheet). Provided they are held for trading purposes, other financial instruments such as receivables from repurchase transactions, promissory notes and registered bonds are also reported under other financial assets held for trading within financial assets held for trading.

Financial assets held for trading of related parties

The item "Financial assets held for trading" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	14,178	16,897
of which:		
UniCredit S.p.A.	11,200	12,564
sister companies[1]	2,978	4,333
Joint ventures	—	—
Associates	39	86
Other investees	3	3
Total	**14,220**	**16,986**

1 Mostly derivative transactions involving UniCredit Bank Austria AG.

52 Financial assets at FVTPL

(€ millions)

	2021	2020
Fixed-income securities	6,376	10,295
Equity instruments	135	122
Loans and promissory notes	932	973
Other	91	54
Total	**7,534**	**11,444**
of which:		
subordinated loans and receivables	23	23
past-due loans and receivables	—	1

53 Financial assets at FVTOCI

(€ millions)

	2021	2020
Fixed-income securities	12,006	12,471
Total	**12,006**	**12,471**

Notes to the Balance Sheet (Continued)

Changes in carrying amounts

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**12,421**	**50**	**—**	**—**	**12,471**
Transfers to another stage due to deterioration in credit quality	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	—	—	—	—	—
Changes due to modification not leading to derecognition	—	—	—	—	—
Changes within the stage (net)[1]	(465)	—	—	—	(465)
Derecognition (due to incollectibility)	—	—	—	—	—
Other changes	—	—	—	—	—
Balance at 31/12/2021	**11,956**	**50**	**—**	**—**	**12,006**
Balance at 1/1/2020	**14,673**	**—**	**—**	**—**	**14,673**
Transfers to another stage due to deterioration in credit quality	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	—	—	—	—	—
Changes due to modification not leading to derecognition	—	—	—	—	—
Changes within the stage (net)[1]	(2,252)	50	—	—	(2,202)
Derecognition (due to incollectibility)	—	—	—	—	—
Other changes	—	—	—	—	—
Balance at 31/12/2020	**12,421**	**50**	**—**	**—**	**12,471**

1 Changes within the stage (net) include additions from purchases and disposals from sales and repayments.

Fixed-income securities and collateral, broken down by rating class

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
31/12/2021					
Not rated	—	—	—	—	—
Rating class 1–4	11,956	—	—	—	11,956
Rating class 5–8	—	50	—	—	50
Rating class 9–10	—	—	—	—	—
Fair value at 31/12/2021	**11,956**	**50**	**—**	**—**	**12,006**
Impairment recognised in other comprehensive income for these instruments	—	4	—	—	4
31/12/2020					
Not rated	508	—	—	—	508
Rating class 1–4	11,913	—	—	—	11,913
Rating class 5–8	—	50	—	—	50
Rating class 9–10	—	—	—	—	—
Fair value at 31/12/2020	**12,421**	**50**	**—**	**—**	**12,471**
Impairment recognised in other comprehensive income for these instruments	—	3	—	—	3

The impairment of securities holdings amounts to €4 million (previous year: €3 million). The change in impairment comes to €1 million (previous year: €3 million).

As in the previous year, no modifications were made to fixed-income securities in the reporting period.

No collateral was provided for assets held at FVTOCI in the reporting period or in the previous year.

54 Loans and receivables with banks (at cost)

(€ millions)

	2021	2020
Current accounts	1,881	1,419
Cash collateral and pledged credit balances	5,979	8,295
Reverse repos	10,081	19,189
Securities	2,947	1,929
Other loans to banks	3,732	3,141
Non-performing loans and receivables	—	—
Total	**24,620**	**33,973**
of which subordinated assets	—	—

Other loans to banks consist mostly of term deposits and bonds.

Changes in gross carrying amounts

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**33,970**	**5**	**1**	**—**	**33,976**
Addition due to new business	13,835	30	—	—	13,865
Change in carrying amount within the stage	(1,266)	(4)	—	—	(1,270)
Transfers to another stage due to deterioration in credit quality	(78)	78	—	—	—
from Stage 1 to Stage 2	(78)	78	—	—	—
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	4	(4)	—	—	—
from Stage 2 to Stage 1	4	(4)	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase reported directly in equity in gross carrying amounts for interest					
claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals due to repayments/sales	(21,919)	—	—	—	(21,919)
Disposals due to write-offs/write downs of loans and receivables	—	—	—	—	—
Foreign currency movements and other changes	(25)	(1)	—	—	(26)
Balance at 31/12/2021	**24,521**	**104**	**1**	**—**	**24,626**
Balance at 1/1/2020	**31,809**	**38**	**1**	**—**	**31,848**
Addition due to new business	23,520	3	—	—	23,523
Change in carrying amount within the stage	9,480	(65)	—	—	9,415
Transfers to another stage due to deterioration in credit quality	(37)	37	—	—	—
from Stage 1 to Stage 2	(37)	37	—	—	—
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	3	(3)	—	—	—
from Stage 2 to Stage 1	3	(3)	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase reported directly in equity in gross carrying amounts for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals due to repayments/sales	(30,810)	(6)	—	—	(30,816)
Disposals due to write-offs/write downs of loans and receivables	—	—	—	—	—
Foreign currency movements and other changes	5	1	—	—	6
Balance at 31/12/2020	**33,970**	**5**	**1**	**—**	**33,976**

Notes to the Balance Sheet (Continued)

Changes in allowances (€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**2**	**—**	**1**	**—**	**3**
Addition due to new business	3	—	—	—	3
Change in carrying amount within the same stage	—	—	—	—	—
Transfers to another stage due to deterioration in credit quality	—	—	—	—	—
from Stage 1 to Stage 2	—	—	—	—	—
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	—	—	—	—	—
from Stage 2 to Stage 1	—	—	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase in impairment reported directly in equity for					
interest claims not previously recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals (reversal due to disposal of receivable)	—	—	—	—	—
Disposals (utilisation of impairments)	(1)	—	—	—	(1)
Reversal of the discounted amount and recognition of					
interest claims not previously recognised in profit or loss	—	—	—	—	—
Foreign currency movements and other changes	—	1	—	—	1
Balance at 31/12/2021	**4**	**1**	**1**	**—**	**6**
Balance at 1/1/2020	**5**	**—**	**1**	**—**	**6**
Addition due to new business	1	—	—	—	1
Change in carrying amount within the same stage	1	—	—	—	1
Transfers to another stage due to deterioration in credit quality	—	1	—	—	1
from Stage 1 to Stage 2	—	1	—	—	1
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—	—
Transfers to another stage due to improvement in credit quality	—	(1)	—	—	(1)
from Stage 2 to Stage 1	—	(1)	—	—	(1)
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase in impairment reported directly in equity for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals (reversal due to disposal of receivable)	—	—	—	—	—
Disposals (utilisation of impairments)	(4)	—	—	—	(4)
Reversal of the discounted amount and recognition of					
interest claims not previously recognised in profit or loss	—	—	—	—	—
Foreign currency movements and other changes	(1)	—	—	—	(1)
Balance at 31/12/2020	**2**	**—**	**1**	**—**	**3**

Breakdown by rating class

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	COLLATERAL	TOTAL
31/12/2021						
Not rated	1,214	—	—	—	534	1,214
Rating class 1–4	22,541	67	—	—	9,477	22,608
Rating class 5–8	766	37	—	—	153	803
Rating class 9–10	—	—	1	—	—	1
Gross carrying amount at 31/12/2021	**24,521**	**104**	**1**	**—**	**10,164**	**24,626**
Impairment	(4)	(1)	(1)	—	—	(6)
Net carrying amount at 31/12/2021	**24,517**	**103**	**—**	**—**	**10,164**	**24,620**
31/12/2020						
Not rated	272	—	—	—	—	272
Rating class 1–4	33,010	1	—	—	19,145	33,011
Rating class 5–8	688	4	—	—	101	692
Rating class 9–10	—	—	1	—	—	1
Gross carrying amount at 31/12/2020	**33,970**	**5**	**1**	**—**	**19,246**	**33,976**
Impairment	(2)	—	(1)	—	—	(3)
Net carrying amount at 31/12/2020	**33,968**	**5**	**—**	**—**	**19,246**	**33,973**

There were no assets written off in the reporting period that are subject to an enforcement measure.

Loans and receivables with related parties

The item "Loans and receivables with banks (at cost)" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	5,042	11,044
of which:		
UniCredit S.p.A.	4,314	10,226
sister companies[1]	728	818
Joint ventures	—	—
Associates	7	17
Other investees	31	7
Total	**5,080**	**11,068**

1 Mainly due from UniCredit Bank Austria AG.

55 Loans and receivables with customers (at cost)

(€ millions)

	2021	2020
Current accounts	6,372	5,307
Cash collateral and pledged cash balances	3,337	3,279
Reverse repos	1,023	4,877
Mortgage loans	50,784	49,947
Finance lease receivables	39	1,561
Securities	21,077	19,405
of which asset-backed securities (ABS)	14,002	11,716
Other loans and receivables	62,368	57,871
Non-performing loans and receivables	1,794	2,000
Total	**146,794**	**144,247**
of which subordinated assets	2	4

Other loans and receivables largely comprise miscellaneous other loans, instalment loans, term deposits and refinanced special credit facilities.

The item "Loans and receivables with customers (at cost)" include an amount of €4,836 million (previous year: €5,087 million) funded under the fully consolidated Arabella conduit programme. This essentially involves buying short-term trade receivables and medium-term receivables under lease agreements from customers and funding them by issuing commercial paper on the capital market. The securitised loans and receivables essentially reflect loans and receivables of European borrowers, with the majority of the loans and receivables relating to German borrowers.

Notes to the Balance Sheet (Continued)

In the course of the COVID-19 pandemic, a raft of instruments and measures were created across all sectors as of spring 2020 to support the real economy, in particular moratoria as well as loans with government guarantees. In the meantime, the moratoria have expired and as at 31 December 2021 there were no more loans and receivables that are part of a moratorium (previous year: €6 million).

Loans that were provided with guarantees by the German government relate to aid measures at federal level, implemented by the KfW, as well as regional aid measures by various development banks. These programmes were launched in 2020 and continue to run. The KfW programmes are of special importance in this connection. The carrying amount of the loans raised under KfW programmes and regional programmes totalled around €1.5 billion at 31 December 2021 (previous year: around €1.2 billion).

Changes in gross carrying amounts (€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**119,903**	**22,903**	**3,324**	**27**	**146,157**
Addition due to new business	30,976	3,158	5	—	34,139
Change in carrying amount within the stage	(449)	(1,994)	(107)	(13)	(2,563)
Transfers to another stage due to deterioration in credit quality	(14,969)	14,448	521	—	—
from Stage 1 to Stage 2	(14,743)	14,743	—	—	—
from Stage 2 to Stage 3	—	(295)	295	—	—
from Stage 1 to Stage 3	(226)	—	226	—	—
Transfers to another stage due to improvement in credit quality	13,271	(13,197)	(74)	—	—
from Stage 2 to Stage 1	13,253	(13,253)	—	—	—
from Stage 3 to Stage 2	—	56	(56)	—	—
from Stage 3 to Stage 1	18	—	(18)	—	—
Increase reported directly in equity in gross carrying amounts for					
interest claims not recognised in profit or loss	—	—	74	—	74
Changes due to modification of assets not leading to derecognition	(1)	3	(3)	—	(1)
Disposals due to repayments/sales	(23,579)	(3,065)	(679)	(11)	(27,334)
Disposals due to write-offs/write downs of loans and receivables	—	—	—	—	—
Foreign currency movements and other changes	(1,349)	(524)	(45)	1	(1,917)
Balance at 31/12/2021	**123,803**	**21,732**	**3,016**	**4**	**148,555**
Balance at 1/1/2020	**127,733**	**11,060**	**2,669**	**—**	**141,462**
Addition due to new business	34,074	3,766	1	26	37,867
Change in carrying amount within the stage	4,071	(1,495)	(322)	—	2,254
Transfers to another stage due to deterioration in credit quality	(18,051)	16,231	1,820	—	—
from Stage 1 to Stage 2	(17,161)	17,161	—	—	—
from Stage 2 to Stage 3	—	(930)	930	—	—
from Stage 1 to Stage 3	(890)	—	890	—	—
Transfers to another stage due to improvement in credit quality	3,663	(3,514)	(149)	—	—
from Stage 2 to Stage 1	3,624	(3,624)	—	—	—
from Stage 3 to Stage 2	—	110	(110)	—	—
from Stage 3 to Stage 1	39	—	(39)	—	—
Increase reported directly in equity in gross carrying amounts					
for interest claims not recognised in profit or loss	—	—	201	—	201
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals due to repayments/sales	(31,534)	(3,138)	(868)	(1)	(35,541)
Disposals due to write-offs/write downs of loans and receivables	—	—	—	—	—
Foreign currency movements and other changes	(53)	(7)	(28)	2	(86)
Balance at 31/12/2020	**119,903**	**22,903**	**3,324**	**27**	**146,157**

Changes in allowances

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**112**	**447**	**1,351**	**—**	**1,910**
Addition due to new business	116	52	2	—	170
Change in carrying amount within the same stage	(19)	30	253	—	264
Transfers to another stage due to deterioration in credit quality	(28)	87	111	—	170
from Stage 1 to Stage 2	(27)	96	—	—	69
from Stage 2 to Stage 3	—	(9)	97	—	88
from Stage 1 to Stage 3	(1)	—	14	—	13
Transfers to another stage due to improvement in credit quality	75	(191)	(16)	—	(132)
from Stage 2 to Stage 1	70	(202)	—	—	(132)
from Stage 3 to Stage 2	—	11	(11)	—	—
from Stage 3 to Stage 1	5	—	(5)	—	—
Increase in impairment reported directly in equity for					
interest claims not recognised in profit or loss	—	—	74		74
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals (reversal due to disposal of receivables)	(27)	(96)	(273)	—	(396)
Disposals (utilisation of impairments)	—	—	(218)	—	(218)
Reversal of the discounted amount and recognition of					
interest claims not previously recognised in profit or loss	—	—	(58)	—	(58)
Foreign currency movements and other changes	(3)	(20)	—	—	(23)
Balance at 31/12/2021	**226**	**309**	**1,226**	**—**	**1,761**
Balance at 1/1/2020	**139**	**237**	**1,454**	**—**	**1,830**
Addition due to new business	66	237	1	—	304
Change in carrying amount within the same stage	33	(2)	376	—	407
Transfers to another stage due to deterioration in credit quality	(116)	186	361	—	431
from Stage 1 to Stage 2	(110)	240	—	—	130
from Stage 2 to Stage 3	—	(54)	311	—	257
from Stage 1 to Stage 3	(6)	—	50	—	44
Transfers to another stage due to improvement in credit quality	75	(151)	(22)	—	(98)
from Stage 2 to Stage 1	71	(152)	—	—	(81)
from Stage 3 to Stage 2	—	1	(18)	—	(17)
from Stage 3 to Stage 1	4	—	(4)	—	—
Increase in impairment reported directly in equity					
for interest claims not recognised in profit or loss	—	—	201	—	201
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals (reversal due to disposal of receivables)	(85)	(63)	(414)	—	(562)
Disposals (utilisation of impairments)	—	—	(461)	—	(461)
Reversal of the discounted amount and recognition of		—			
interest claims not previously recognised in profit or loss	—	—	(106)	—	(106)
Foreign currency movements and other changes	—	3	(39)	—	(36)
Balance at 31/12/2020	**112**	**447**	**1,351**	**—**	**1,910**

Notes to the Balance Sheet (Continued)

In 2021, total portfolio valuation allowances (Stage 1 and Stage 2) fell from €559 million at year-end 2020 by a slight €24 million. The adjustment of the assumptions used to reflect future economic conditions had a positive effect here, particularly the adjustment of the growth rates for the gross domestic product based on the economic recovery that is setting in. HVB Group expects the major economies to be on a path of solid growth for 2021 and beyond. A significant contributing factor was the adjustment of the growth rates for the annual real gross domestic product in the baseline scenario in Germany to 5.0% for 2022, 2.2% for 2023 and 1.7% for 2024 (assumptions as at 31 December 2020: 4.8% for 2021, 2.7% for 2022 and 2.2% for 2023). This effect was largely compensated for by introducing new PD models for retail and business customers. The key driver for adjusting PD values is the application of current time series and the new calibration to the average probability of default in the long term based on the latest regulatory requirements. In addition, further adjustments in methods such as changes in level allocation methods (from one-year PD to the lifetime PD) or the expansion of the qualitative stage transfer criteria have resulted in an increase in portfolio valuation allowances. These were offset by positive effects from rating adjustments and transfers between Stages 1 and 2. The effects of the adjustments to model parameters cannot be determined separately and are included in the changes in allowances shown.

Furthermore, there was a decline in total specific valuation allowances of net €125 million, to €1,226 million, in the reporting period. Additions to specific valuation allowances on account of defaults were partly compensated for by reversals of existing specific valuation allowances. The feared wave of defaults related to the COVID-19 pandemic has not occurred to date, partly as a result of an improved macroeconomic environment. Moreover, the utilisation of specific valuation allowances had an effect on the total amount which resulted in a net decrease.

Breakdown by rating class (€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	COLLATERAL	TOTAL
31/12/2021						
Not rated	6,600	20	—	—	545	6,620
Rating class 1–4	88,050	9,800	—	—	30,524	97,850
Rating class 5–8	29,153	11,912	—	1	24,947	41,066
Rating class 9–10	—	—	3,016	3	889	3,019
Gross carrying amount at 31/12/2021	**123,803**	**21,732**	**3,016**	**4**	**56,905**	**148,555**
Impairment	(226)	(309)	(1,226)	—	—	(1,761)
Net carrying amount at 31/12/2021	**123,577**	**21,423**	**1,790**	**4**	**56,905**	**146,794**
31/12/2020						
Not rated	11,298	204	—	—	1,063	11,502
Rating class 1–4	98,981	3,593	—	—	43,527	102,574
Rating class 5–8	9,624	19,106	—	—	15,335	28,730
Rating class 9–10	—	—	3,324	27	942	3,351
Gross carrying amount at 31/12/2020	**119,903**	**22,903**	**3,324**	**27**	**60,867**	**146,157**
Impairment	(112)	(447)	(1,351)	—	—	(1,910)
Net carrying amount at 31/12/2020	**119,791**	**22,456**	**1,973**	**27**	**60,867**	**144,247**

The amount outstanding from assets written off in the reporting period that are subject to an enforcement measure totals €109 million (previous year: €348 million).

Loans and receivables with related parties

The item “Loans and receivables with customers (at cost)” includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	41	42
of which:		
sister companies	33	41
subsidiaries	8	1
Joint ventures	—	—
Associates	45	51
Other investees	328	382
Total	**414**	**475**

Amounts receivable from customers under lease agreements (finance lease receivables)

The amounts receivable under finance lease agreements contained in the item “Loans and receivables with customers (at cost)” are described in more detail in the Note “Information regarding lease operations”.

56 Forbearance

The European Banking Authority (EBA) defines forborne exposures as debt contracts in respect of which forbearance measures have been extended. Forbearance measures consist of concessions towards a debtor facing or about to face difficulties in meeting its financial commitments that the lender would not have been prepared to grant under other circumstances. Possible measures range from deferrals and temporary moratoriums, longer periods allowed for repayment, reduced interest rates and rescheduling, and even a partial debt waiver. It should be noted, however, that not every modification of a lending agreement is due to financial difficulties on the part of the borrower and represents forbearance.

Forborne exposures may be classified as performing or non-performing under the EBA definition. The non-performing portfolio encompasses exposures for which the counterparty is listed at Stage 3 and exposures that do not yet satisfy the EBA’s strict criteria for returning to the performing portfolio. The following table shows the breakdown of the forborne exposure portfolio at the reporting date:

(€ millions)

	2021			2020		
	CARRYING AMOUNT BEFORE ALLOWANCES	ALLOWANCES	CARRYING AMOUNT	CARRYING AMOUNT BEFORE ALLOWANCES	ALLOWANCES	CARRYING AMOUNT
Performing exposures	391	(30)	361	161	(3)	158
Non-performing exposures	1,563	(498)	1,065	1,433	(550)	883
Total	**1,954**	**(528)**	**1,426**	**1,594**	**(553)**	**1,041**

The exposures considered to be forborne are included under loans and receivables with customers at an amount of €1,409 million (previous year: €1,041 million) and under non-current assets or disposal groups held for sale at an amount of €17 million (previous year: €– million). As in the previous year, no securities were held with forbearance measures.

If allowances have not already been set up for forborne exposures, the loans involved are exposed to increased default risk as they have already become conspicuous. They are thus allocated to Stage 2. Such exposures are closely tracked by the restructuring units or subject to strict monitoring by the back-office units.

Notes to the Balance Sheet (Continued)

57 Hedging derivatives

(€ millions)

	2021	2020
Micro fair value hedge	7	7
Portfolio fair value hedge[1]	224	365
Total	**231**	**372**

1 The cross-currency interest rate swaps used in hedge accounting are carried at their aggregate fair value in the portfolio fair value hedge.

58 Investments in associates and joint ventures accounted for using the equity method

(€ millions)

	2021	2020
Associates accounted for using the equity method	12	11
of which goodwill	—	—
Joint ventures accounted for using the equity method	—	—
Total	**12**	**11**

For materiality reasons, one joint venture and one associate accounted for using the equity method were not included in the consolidated financial statements.

Change in portfolio of investments in associates accounted for using the equity method

(€ millions)

	ASSOCIATES ACCOUNTED FOR USING THE EQUITY METHOD	
	2021	2020
Carrying amounts at 1/1	**11**	**10**
Additions	3	4
Purchases[1]	—	—
Write-ups	—	—
Changes from currency translation	—	—
Other additions[2]	3	4
Disposals	(2)	(3)
Sales	—	—
Impairments	(2)	(3)
Changes from currency translation	—	—
Non-current assets or disposal groups held for sale	—	—
Other disposals[2]	—	—
Carrying amounts at 31/12	**12**	**11**

1 Also including capital increases.
2 Also including changes in the group of companies included in consolidation.

Comtrade Group B.V., Rotterdam, a company accounted for using the equity method, generated a profit from the sale of a division in the reporting year and in the previous year.

The following table shows in aggregate form the main items in the income statement of the company accounted for using the equity method: (€ millions)

	2021	2020
Net interest	(1)	(1)
Net gains/losses on financial assets and liabilities at fair value	—	—
Net other expenses/income	74	72
Operating costs	(47)	(61)
Net gains/(losses) on disposals of investments	24	46
Profit/(loss) before tax	**50**	**56**
Income tax	(5)	(2)
Consolidated profit/(loss)	**45**	**54**
Other comprehensive income	**—**	**7**
Total comprehensive income	**45**	**61**

There were no effects from changes in the value of other comprehensive income and other equity items at companies accounted for using the equity method (previous year: €1 million). There was no prorated loss during the reporting period or the previous year from companies accounted for using the equity method. Furthermore, there were no prorated cumulative losses in the reporting period or the previous year from companies accounted for using the equity method.

There are no material commitments arising from contingent liabilities of associates.

59 Property, plant and equipment

(€ millions)

	2021	2020
Land	1,148	1,045
Buildings	905	947
Plant and office equipment	121	263
Right-of-use assets (leases)	182	270
of which land and buildings	175	260
Total	**2,356**	**2,525**

At year-end 2019, the measurement of the land and buildings used by the Bank itself that are shown under property, plant and equipment was changed prospectively to the revaluation model. Consequently, the revaluation is to be reviewed at the reporting date to ensure that the carrying amount does not deviate significantly from the fair value of the land and buildings. To this end, current valuation reports were prepared to determine the fair values of the owner-occupied real estate as at 31 December 2021. The revaluation was carried out on this basis.

Notes to the Balance Sheet (Continued)

Changes in property, plant and equipment (€ millions)

	LAND	BUILDINGS	PLANT AND OFFICE EQUIPMENT	RIGHT-OF-USE ASSETS (LEASES)	TOTAL INTERNALLY USED PROPERTY, PLANT AND EQUIPMENT	OTHER PROPERTY, PLANT AND EQUIPMENT	TOTAL PROPERTY, PLANT AND EQUIPMENT[1]
Acquisition costs at 1/1/2021	**1,045**	**2,554**	**765**	**358**	**4,722**	**—**	**4,722**
Write-downs and write-ups from previous years	—	(1,607)	(502)	(88)	(2,197)	—	(2,197)
Carrying amounts at 1/1/2021	**1,045**	**947**	**263**	**270**	**2,525**	**—**	**2,525**
Additions							
Acquisition/production costs	—	59	12	15	86	—	86
Adjustment due to revaluation in reporting period (OCI)	145	37	—	—	182	—	182
Write-ups	—	9	—	5	14	—	14
Changes from currency translation	—	—	—	3	3	—	3
Other additions[2]	—	1	7	2	10	—	10
Disposals							
Sales	(1)	(22)	(10)	(21)	(54)	—	(54)
Adjustment due to revaluation in reporting period (OCI)	(40)	(47)	—	—	(87)	—	(87)
Depreciation and write-downs	—	(31)	(38)	(51)	(120)	—	(120)
Impairments	—	(43)	(20)	(39)	(102)	—	(102)
Changes from currency translation	—	—	—	—	—	—	—
Non-current assets or disposal groups held for sale	—	—	(86)	—	(86)	—	(86)
Other disposals[2]	(1)	(5)	(7)	(2)	(15)	—	(15)
Carrying amounts at 31/12/2021	**1,148**	**905**	**121**	**182**	**2,356**	**—**	**2,356**
Write-downs and write-ups from previous years							
plus the reporting period	—	1,623	509	165	2,297	—	2,297
Acquisition costs at 31/12/2021	**1,148**	**2,528**	**630**	**347**	**4,653**	**—**	**4,653**
Acquisition costs at 1/1/2020 (before adjustment)	**121**	**1,463**	**861**	**352**	**2,797**	**—**	**2,797**
Adjustment due to change to revaluation model	830	981	—	—	1,811	—	1,811
Acquisition costs at 1/1/2020 (after adjustment)	**951**	**2,444**	**861**	**352**	**4,608**	**—**	**4,608**
Write-downs and write-ups from previous years							
(before adjustment)	—	(886)	(554)	(67)	(1,507)	—	(1,507)
Adjustment due to change to revaluation model	—	(594)	—	—	(594)	—	(594)
Write-downs and write-ups from previous years							
(after adjustment)	—	(1,480)	(554)	(67)	(2,101)	—	(2,101)
Carrying amounts at 1/1/2020	**951**	**964**	**307**	**285**	**2,507**	**—**	**2,507**
Additions							
Acquisition/production costs	—	28	36	53	117	—	117
Adjustment due to revaluation in reporting period (OCI)	96	37	—	—	133	—	133
Write-ups	—	23	1	8	32	—	32
Changes from currency translation	—	—	—	—	—	—	—
Other additions[2]	2	2	2	9	15	—	15
Disposals							
Sales	—	(1)	(10)	(19)	(30)	—	(30)
Adjustment due to revaluation in reporting period (OCI)	(4)	(54)	—	—	(58)	—	(58)
Depreciation and write-downs	—	(32)	(43)	(49)	(124)	—	(124)
Impairments	—	(18)	(3)	(2)	(23)	—	(23)
Changes from currency translation	—	—	—	(4)	(4)	—	(4)
Non-current assets or disposal groups held for sale	—	—	—	—	—	—	—
Other disposals[2]	—	(2)	(27)	(11)	(40)	—	(40)
Carrying amounts at 31/12/2020	**1,045**	**947**	**263**	**270**	**2,525**	**—**	**2,525**
Write-downs and write-ups from previous years							
plus the reporting period	—	1,607	502	88	2,197	—	2,197
Acquisition costs at 31/12/2020	**1,045**	**2,554**	**765**	**358**	**4,722**	**—**	**4,722**

1 Including leased assets.
2 Including changes in the group of companies included in consolidation.

60 Investment properties

Investment properties are measured at fair value. As each property is unique and the fair value is determined by expert opinions that take into account the special features of the property being valued, all fair values for investment properties reported in this balance sheet item are allocated to Level 3.

The net carrying amount of right-of-use assets from lease agreements classified as investment properties under this balance sheet item is €72 million at the reporting date (previous year: €67 million).

Changes in investment properties (€ millions)

	2021	2020
Carrying amounts at 1/1	**352**	**353**
Additions		
Acquisitions	1	29
Valuation gains	42	43
Subsequent expenses	—	—
Changes from currency translation	—	—
Other additions[1]	—	1
Disposals		
Sales	(1)	(2)
Valuation losses	(16)	(26)
Changes from currency translation	—	—
Non-current assets or disposal groups held for sale	(8)	(46)
Other disposals[1]	(10)	—
Carrying amounts at 31/12	**360**	**352**

1 Also including changes in the group of companies included in consolidation.

61 Intangible assets

(€ millions)

	2021	2020
Internally generated intangible assets	2	6
Other intangible assets	2	2
Total	**4**	**8**

HVB no longer generates any software internally. Software is provided to HVB by the UniCredit-wide service provider UniCredit Services S.C.p.A.

At year-end 2021, HVB Group decided to sell UniCredit Leasing GmbH, Hamburg, with its consolidated subsidiaries and classified it subsequently as non-current assets or disposal groups held for sale. In this context, the software previously reported under intangible assets in the amount of €3 million was also reclassified to the balance sheet item “Non-current assets or disposal groups held for sale”.

Notes to the Balance Sheet (Continued)

62 Non-current assets or disposal groups held for sale

(€ millions)

	2021	2020
Cash and cash balances	—	—
Financial assets at FVTPL	207	179
Financial assets at FVTOCI	—	—
Loans and receivables with banks (at cost)	2	9
Loans and receivables with customers (at cost)	1,870	188
Investments in associates and joint ventures accounted for using the equity method	—	—
Property, plant and equipment	88	2
Investment properties	31	47
Intangible assets	8	3
Tax assets	8	12
Inventories (IAS 2)	183	292
Other assets	122	46
Total	**2,519**	**778**

As at 31 December 2021, non-current assets or disposal groups held for sale include the following selling activities:
– Planned sale of the subsidiary Wealth Management Capital Holding GmbH, Munich, which was already classified as assets or disposal groups held for sale at 31 December 2020. The sale is expected to be completed in the second half of 2022.
– Planned sale of UniCredit Leasing GmbH: At year-end 2021, HVB Group decided to sell this subsidiary and then classified it as non-current assets or disposal groups held for sale at 31 December 2021. The operative sale of lease products was discontinued in the previous year as part of the Team 23 strategic plan. The sale is planned for the second half of 2022.
– Sale of a non-strategic property.

The planned sale of the subsidiary Wealth Management Capital Holding GmbH, Munich, mainly relates to the following assets: Minority interests in placed real asset funds are recognised under financial assets at FVTPL. The increase in financial assets at FVTPL is based on changes in measurement totalling €18 million and additions of new units of €11 million. Real estate that was purchased in order to either contribute it to funds and place the fund units with investors or to resell it directly to institutional investors is reported under inventories. The decline of €109 million in inventory assets in 2021 is primarily attributable to the contribution of real estate to funds that were placed with investors. Consequently, this decline is based on the normal course of business of the subsidiary Wealth Management Capital Holding GmbH, which HVB is aiming to sell.

The planned sale of UniCredit Leasing GmbH, Hamburg, and its consolidated subsidiaries mainly relates to lease agreements (operating lease agreements accounted for as property, plant and equipment and finance lease receivables) as well as lease purchase receivables. Impairments of €81 million were recognised in connection with non-current assets or disposal groups held for sale for the first time as at 31 December 2021. The impairments related to finance lease receivables recognised as loans and receivables with customers (at cost) and property, plant and equipment of UniCredit Leasing GmbH, Hamburg, that were written down based on the expected sales proceeds. The carrying amounts of finance lease receivables were reduced by a pro-rata write-down as a result of their classification as non-current assets or disposal groups held for sale but without being recognised in the notes to lease agreements as impairments of finance lease receivables due to a deterioration in creditworthiness.

In the previous year, non-strategic real estate (investment properties, allocated to Level 2) of €24 million was also reported as non-current assets or disposal groups held for sale, which was sold in the first half of 2021. In the second half of 2021, an investment property (allocated to Level 2) was classified as non-current assets or disposal groups held for sale with a carrying amount of €8 million, which was sold in January 2022.

In the previous year, no impairments were required to be recognised for non-current assets or disposal groups held for sale.

Changes in investment properties, classified as non-current assets or disposal groups held for sale (€ millions)

	2021	2020
Carrying amounts at 1/1	**47**	**229**
Additions		
Purchases	—	—
Valuation gains	—	—
Subsequent expenses	—	—
Changes from currency translation	—	—
Other additions[1]	8	46
Disposals		
Sales	(24)	(228)
Valuation losses	—	—
Changes from currency translation	—	—
Non-current assets or disposal groups held for sale	—	—
Other disposals[1]	—	—
Carrying amounts at 31/12	**31**	**47**

1 Also including changes in the group of companies included in consolidation.

Fair value level hierarchy

Assets or liabilities whose valuation is derived from input data (valuation parameters) that is directly observable (prices) or indirectly observable (derived from prices) are generally shown in Level 2. A price cannot be observed on an active market for the assets or liabilities concerned themselves. As real estate represents a unique item, there can be no trading for the same property or any observable price for it on an active market. However, offers submitted in the course of a selling process constitute observable input data for determining a fair value, as the real estate may be sold at this price on the basis of binding or reliable non-binding offers.

Level 3 fundamentally relates to assets or liabilities whose fair value is not calculated exclusively on the basis of observable market data (non-observable input data). External valuation reports are based on generally recognised valuation procedures that refer to parameters for the property that are determined by external assessors (such as the current market rent assumed for the property). The respective fair values therefore feature valuation parameters that are based on model assumptions.

The following table shows the allocation of the investment properties measured at fair value to the respective fair value level hierarchy: (€ millions)

	FAIR VALUE BASED ON VALUATION PARAMETERS OBSERVED ON THE MARKET (LEVEL 2)		FAIR VALUE BASED ON VALUATION PARAMETERS NOT OBSERVED ON THE MARKET (LEVEL 3)	
	2021	2020	2021	2020
Investment properties, classified as non-current assets or disposal groups held for sale	8	24	23	23

Changes in investment properties allocated to Level 3: (€ millions)

	2021	2020
Carrying amount at 1/1	**23**	**—**
Additions to the portfolio (classified as Level 3)	—	23
Additions due to reclassification from Level 2 to Level 3	—	—
Disposals from the portfolio (classified as Level 3)	—	—
Disposals due to reclassification from Level 3 to Level 2	—	—
Carrying amount at 31/12	**23**	**23**

There were no reclassifications from Level 2 to Level 3.

The financial assets at FVTPL shown here are allocated to Level 3 as the fair values are based on individual valuation reports. There were no reclassifications to other levels in the reporting year or in the previous year.

Notes to the Balance Sheet (Continued)

63 Other assets
Other assets include prepaid expenses of €135 million (previous year: €123 million).

64 Own securitisation
HVB has securitised its own loan receivables for the purpose of obtaining favourable funding terms on the capital market and generating securities for use as collateral in repurchase agreements.

This involves structuring the cash flows of the underlying loan portfolio, meaning that at least two hierarchical positions (tranches) are formed when dividing up the risks and cash flows. In the case of traditional securitisations (true sale), receivables are sold to a special purpose entity, which in turn issues securities.

HVB's true sale transactions consist of Rosenkavalier 2008 (€3.2 billion securitisation of retail real estate loans), Rosenkavalier 2015 (€3.8 billion securitisation of corporate loans), Rosenkavalier 2020 (€0.8 billion securitisation of KomfortKredit loans) and Geldilux 2015 (€2.1 billion securitisation of corporate loans of the Luxembourg branch). In the reporting year, Rosenkavalier 2015 was restructured and the transaction volume increased by €0.3 billion.

In all of the transactions, HVB retained the tranches issued by the special purpose entities. The senior positions (or senior tranches) of securities generated in this way are available as collateral for repurchase agreements with the Bundesbank and as collateral for TLTRO III. The underlying receivables continue to be recognised by HVB and the special purpose entities set up for this purpose are fully consolidated in accordance with IFRS 10. The risk-weighted assets have not been reduced.

65 Deposits from banks

(€ millions)

	2021	2020
Deposits from central banks	32,052	28,333
Deposits from banks	29,198	45,174
Current accounts	1,789	2,088
Cash collateral and pledged credit balances	7,883	9,964
Repos	4,190	15,987
Term deposits	889	2,781
Other liabilities	14,447	14,354
Total	**61,250**	**73,507**

Deposits from central banks were affected by the participation in the TLTRO III programme in the amount of €32.2 billion at 31 December 2021. After borrowing funds of €25.7 billion in the first half of 2020, HVB borrowed a further €5.9 billion in a new tranche in the first half of 2021.

Amounts payable to related parties
The item "Deposits from banks" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	3,124	4,951
of which:		
UniCredit S.p.A.	1,928	2,200
sister companies[1]	1,196	2,751
Joint ventures	—	—
Associates	130	189
Other investees	18	18
Total	**3,272**	**5,158**

1 Largest single items relate to UniCredit Bank Austria AG

66 Deposits from customers

(€ millions)

	2021	2020
Current accounts	95,677	93,227
Cash collateral and pledged credit balances	6,067	7,720
Savings deposits	14,986	13,573
Repos	1,928	9,024
Term deposits	13,054	17,448
Promissory notes	1,059	1,273
Lease liabilities	410	496
Other liabilities	1,159	1,042
Total	**134,340**	**143,803**

Amounts payable to related parties

The item "Deposits from customers" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	263	312
of which:		
sister companies	245	309
subsidiaries	18	3
Joint ventures	—	3
Associates	—	1
Other investees	274	264
Total	**537**	**580**

67 Debt securities in issue

(€ millions)

	2021	2020
Debt instruments	32,180	28,963
of which:		
registered Mortgage Pfandbriefe	3,737	4,272
registered Public Pfandbriefe	1,634	2,041
Mortgage Pfandbriefe	15,899	14,543
Public Pfandbriefe	697	697
registered bonds	2,308	4,616
Other securities	—	2,780
Total	**32,180**	**31,743**

Debt securities in issue, payable to related parties

The item "Debt securities in issue" includes the following amounts attributable to related parties:

(€ millions)

	2021	2020
Non-consolidated affiliates	3,315	1,814
of which:		
UniCredit S.p.A.	3,315	1,814
sister companies	—	—
Joint ventures	—	—
Associates	—	—
Other investees	2	—
Total	**3,317**	**1,814**

Notes to the Balance Sheet (Continued)

68 Financial liabilities held for trading

(€ millions)

	2021	2020
Negative fair values of derivative financial instruments	44,053	47,647
Other financial liabilities held for trading	9,606	9,304
Total	**53,659**	**56,951**

The negative fair values from derivative financial instruments are carried as financial liabilities held for trading. In addition, warrants, certificates and bonds issued by our trading department as well as delivery obligations from short sales of securities, insofar as they serve trading purposes, are included here under other financial liabilities held for trading.

69 Financial liabilities at FVTPL

This item in the amount of €5,510 million (previous year: €5,736 million) primarily contains own structured issues.

The difference between the carrying amount and the contractual amount payable amounts to €136 million (previous year: €159 million).

70 Hedging derivatives

(€ millions)

	2021	2020
Micro fair value hedge	193	348
Portfolio fair value hedge[1]	307	386
Total	**500**	**734**

1 The cross-currency interest rate swaps used in hedge accounting are carried at their aggregate fair value in the portfolio fair value hedge.

71 Hedge adjustment of hedged items in the portfolio fair value hedge

The hedge adjustment of interest rate hedged receivables and liabilities in the portfolio fair value hedge totals €617 million net (previous year: €1,941 million). The fair value of the netted portfolio fair value hedge derivatives represents a net comparable amount resulting from a countermovement.

72 Liabilities of disposal groups held for sale

(€ millions)

	2021	2020
Deposits from banks	575	146
Deposits from customers	302	311
Tax liabilities	16	8
Other liabilities	151	160
Provisions	24	6
Total	**1,068**	**631**

At 31 December 2021, the liabilities of disposal groups held for sale relate to the liabilities of Wealth Management Capital Holding GmbH, Munich and its consolidated subsidiaries as well as to the liabilities of UniCredit Leasing GmbH, Hamburg and its consolidated subsidiaries. At 31 December 2020, this item relates almost exclusively to the liabilities of Wealth Management Capital Holding GmbH, Munich and its consolidated subsidiaries.

73 Other liabilities

Other liabilities totalling €1,565 million (previous year: €1,152 million) essentially encompass deferred income and accruals compliant with IAS 37. Accrued liabilities include, notably, commitments arising from accounts payable with invoices outstanding, as well as short-term liabilities to employees.

74 Provisions

(€ millions)

	2021	2020
Provisions for pensions and similar obligations	755	1,387
Allowances for losses on guarantees and commitments and irrevocable credit commitments	454	432
Restructuring provisions	682	288
Other provisions	843	771
Payroll provisions	298	341
Provisions related to tax disputes (without income taxes)	158	89
Provisions for rental guarantees and dismantling obligations	99	98
Provisions for legal risks and similar risks	178	150
Other provisions	110	93
Total	**2,734**	**2,878**

Provisions set aside for interest on expected and accrued tax is reported for the first time under provisions as other provisions (tax provisions (excluding income tax)). As interest payments depend on the amount and the time of the tax payment concerned, these interest payments are also subject to some uncertainty regarding the amount and time of the payment. These are therefore to be reported as provisions and not as previously as other liabilities. Due to the dependence of interest payments on tax, we have allocated these to other provisions and, within this item, to tax provisions (excluding income tax). The disclosure was also changed retroactively for the previous year: provisions for interest on tax payments of €116 million are recognised as provisions as at 31 December 2021 (previous year: €55 million). The presentation of the changes in provisions has also been adjusted.

The effects of changes in the discount rate and compounding led to an increase of €2 million in provisions recognised in the income statement in the reporting period (previous year: €2 million). The effect of changes in the discount rate used for pension provisions is recognised in other comprehensive income.

Provisions for pensions and similar obligations

HVB Group grants its employees post-employment benefits that are structured as defined benefit plans or defined contribution plans.

In the case of defined benefit plans, the Bank undertakes to pay a defined future pension. The financial resources required to do so in the future can be accrued within the Bank (internal financing) or by payment of specific amounts to external pension funds (external financing).

In the case of defined contribution plans, the Bank undertakes to pay defined contributions to external pension funds which will later make the pension payments. Apart from paying the periodic contributions, the Bank has de facto no further obligations.

Notes to the Balance Sheet (Continued)

Defined benefit plans

Characteristics of the plans

The provisions for pensions and similar obligations include the direct commitments to HVB Group employees under company pension plans. These defined benefit plans are based in part on final salaries and in part on building-block schemes involving dynamic adjustment of vested rights. Fund-linked plans with a guaranteed minimum rate of interest of 2.75% have been granted in Germany since 2003.

The obligations financed by Pensionskasse der HypoVereinsbank VVaG (HVB Pensionskasse) are included in the disclosures regarding pension obligations (the total includes the obligations of HVB Unterstützungskasse e.V. reinsured by HVB Pensionskasse). The standard HVB Group valuation parameters are used when calculating these obligations. Any plan surplus is subject to the rules governing the asset ceiling, as the assets belong to the members of HVB Pensionskasse.

HVB Group set up plan assets in the form of contractual trust arrangements (CTA). This involved transferring the assets required to fund its pension obligations to legally independent trustees, including HVB Trust e.V., which manage the assets in line with the respective trustee contracts.

There are no legal or regulatory minimum funding requirements in Germany.

HVB Group reorganised its company plans for pensioners (direct commitments) in 2009. HVB Trust Pensionsfonds AG (pension fund) was set up in this process. Both the pension obligations to pensioners who in October 2009 had already received pension benefits from the Bank and the assets required to cover these obligations were transferred to the pension fund. In December 2016, pension commitments and obligations of the Bank were again transferred to the pension fund for further beneficiaries who in October 2016 had already received pension benefits as well as the corresponding plan assets to cover the beneficiaries' claims. The pensioners' pension claims are not affected by the transfer; HVB continues to guarantee the pension. The pension fund is a legally independent institution regulated by the German Federal Financial Supervisory Authority (BaFin).

HVB Group is exposed to various risks in connection with its defined benefit plans. Potential pension risks exist with regard to both the benefit obligations (liabilities side) and the plan assets allocated to cover the beneficiaries' claims (assets side). The defined benefit obligations are exposed to actuarial risks such as interest rate risk, longevity risk, salary- and pension-adjustment risk and inflation risk. In the case of fund-linked pension obligations, there is the risk that it will prove impossible in the long run to generate the guaranteed interest rate of 2.75% from the funds allocated to the pension commitments, given persistently low interest rates. With regard to the capital investment, the assets are primarily exposed to market risk such as price risks in securities holdings or changes in the value of real estate investments.

The major pension risk is thus expressed as a deterioration in the funded status as a result of unfavourable developments of defined benefit obligations and/or plan assets, since the sponsoring companies are required to act to service the beneficiaries' claims in the event of any plan deficits. No unusual, company-specific or plan-specific risks or material risk concentrations that could affect the Group's pension plans are currently identifiable.

Reconciliations

The amounts arising under defined benefit plans for post-employment benefits recognised in the consolidated balance sheet can be derived as follows:

(€ millions)

	2021	2020
Present value of funded pension obligations	5,730	5,931
Fair value of plan assets	(4,979)	(4,552)
Funded status	**751**	**1,379**
Present value of unfunded pension obligations	4	8
Net defined benefit liability (net asset)	**755**	**1,387**
Asset ceiling	—	—
Capitalised excess cover of plan assets	—	—
Recognised pension provisions	**755**	**1,387**

The following tables show the changes in the present value of the total (funded and unfunded) pension obligations, the fair value of the plan assets and the net defined benefit liability (net asset) resulting from the offsetting of these totals. Since a change in the net liability (net asset) is shown here, the signs in the following table are derived from the effect on this net liability (net asset): for example, an increase in the present value of pension obligations is shown with a positive sign or an increase in the fair value of plan assets with a negative sign and vice versa. The tables also show the changes in the effects of the asset ceiling during the reporting period and the reconciliations from the opening to the closing balance of the capitalised excess cover of plan assets and the recognised provisions for pensions and similar obligations:

(€ millions)

	PRESENT VALUE OF PENSION OBLIGATIONS	FAIR VALUE OF PLAN ASSETS	NET LIABILITY (NET ASSET) OF DEFINED BENEFIT PLANS	ASSET CEILING	CAPITALISED EXCESS COVER OF PLAN ASSETS	RECOGNISED PENSION PROVISIONS
Balance at 1/1/2021	**5,939**	**(4,552)**	**1,387**	**—**	**—**	**1,387**
Service cost component						
Current service cost	82	—	82	—	—	82
Past service cost	—	—	—	—	—	—
Gains and losses on settlement	—	—	—	—	—	—
Net interest component						
Interest expense/income	51	(39)	12	—	—	12
Service costs and net interest of defined						
benefit plans recognised in profit						
or loss for the period	**133**	**(39)**	**94**	**—**	**—**	**94**
Remeasurement component						
Gains/(losses) on plan assets excluding						
amounts included in net interest on the						
net defined benefit liability (asset)	—	9	9	—	—	9
Actuarial gains/(losses)						
from changes in demographic assumptions	(8)	—	(8)	—	—	(8)
Actuarial gains/(losses)						
from changes in financial assumptions	(189)	—	(189)	—	—	(189)
Actuarial gains/(losses)						
from experience adjustments	(9)	—	(9)	—	—	(9)
Changes due to asset ceiling excluding						
amounts included in net interest on the						
net defined benefit liability (asset)	—	—	—	—	—	—
Remeasurements component of defined						
benefit plans recognised in OCI	**(206)**	**9**	**(197)**	**—**	**—**	**(197)**
Other changes						
Excess cover of plan assets	—	—	—	—	—	—
Exchange differences	8	(10)	(2)	—	—	(2)
Contributions to the plan:						
Employer	—	(504)	(504)	—	—	(504)
Plan participants	8	(8)	—	—	—	—
Pension payments	(155)	132	(23)	—	—	(23)
Business combinations, disposals and other	7	(7)	—	—	—	—
Balance at 31/12/2021	**5,734**	**(4,979)**	**755**	**—**	**—**	**755**

Notes to the Balance Sheet (Continued)

(€ millions)

	PRESENT VALUE OF PENSION OBLIGATIONS	FAIR VALUE OF PLAN ASSETS	NET LIABILITY (NET ASSET) OF DEFINED BENEFIT PLANS	ASSET CEILING	CAPITALISED EXCESS COVER OF PLAN ASSETS	RECOGNISED PENSION PROVISIONS
Balance at 1/1/2020	**5,653**	**(4,314)**	**1,339**	**—**	**—**	**1,339**
Service cost component						
Current service cost	75	—	75	—	—	75
Past service cost	—	—	—	—	—	—
Gains and losses on settlement	—	—	—	—	—	—
Net interest component						
Interest expense/income	68	(52)	16	—	—	16
Service costs and net interest of						
defined benefit plans recognised in profit						
or loss for the period	**143**	**(52)**	**91**	**—**	**—**	**91**
Remeasurement component						
Gains/(losses) on plan assets excluding						
amounts included in net interest on the						
net defined benefit liability (asset)	—	(107)	(107)	—	—	(107)
Actuarial gains/(losses)						
from changes in demographic assumptions	—	—	—	—	—	—
Actuarial gains/(losses)						
from changes in financial assumptions	314	—	314	—	—	314
Actuarial gains/(losses)						
from experience adjustments	(6)	—	(6)	—	—	(6)
Changes due to asset ceiling excluding						
amounts included in net interest on the						
net defined benefit liability (asset)	—	—	—	—	—	—
Remeasurements component of defined						
benefit plans recognised in OCI	**308**	**(107)**	**201**	**—**	**—**	**201**
Other changes						
Excess cover of plan assets	—	—	—	—	—	—
Exchange differences	(7)	9	2	—	—	2
Contributions to the plan:						
Employer	—	(219)	(219)	—	—	(219)
Plan participants	7	(7)	—	—	—	—
Pension payments	(157)	136	(21)	—	—	(21)
Business combinations, disposals and other	(8)	2	(6)	—	—	(6)
Balance at 31/12/2020	**5,939**	**(4,552)**	**1,387**	**—**	**—**	**1,387**

At the end of the reporting period, 33% (previous year: 34%) of the present value of the defined benefit obligations of €5,734 million (previous year: €5,939 million) was attributable to active employees, 24% (previous year: 25%) to former employees with vested benefit entitlements and 43% (previous year: 41%) to pensioners and surviving dependants.

Actuarial assumptions

The main actuarial assumptions used to determine the present value of the defined benefit obligation are listed below.
The summarised disclosure for several plans takes the form of weighted average factors:

(in %)

	2021	2020
Actuarial interest rate	1.25	0.85
Rate of increase in pension commitments	1.75	1.40
Rate of increase in future compensation and over career	2.00	2.00

The mortality rate underlying the actuarial calculation of the present value of defined benefit obligations is based on the modified Heubeck 2018 G tables (generation tables) that allow for the probability of mortality to fall to 95% for women (previous year: 95%) and 80% for men (previous year: 80%).

HVB Group similarly reduces the probability of disability based on these guidance tables to 80% for women and men equally (previous year: 80%). Since any changes in the actuarial assumptions regarding disability fundamentally only have a minor impact on the present value of the defined benefit obligation, HVB Group does not calculate any sensitivities for this valuation parameter.

In addition, the present value of defined benefit obligations is influenced by assumptions regarding future inflation rates. Inflation effects are normally taken into account in the assumptions listed above.

Sensitivity analyses

The sensitivity analyses discussed below are intended to show how the present value of defined benefit obligations would change given a change to an actuarial assumption in isolation with the other assumptions remaining unchanged compared with the original calculation. Possible correlation effects between the individual assumptions are not taken into account in this context. The sensitivity analyses are based on the changes to the actuarial assumptions expected by HVB Group at the reporting date for the subsequent reporting period.

An increase or decrease in the significant actuarial assumptions in the amount of the percentage points shown in the table would have had the following impact on the present value of the defined benefit obligations at the reporting date:

	CHANGES IN THE ACTUARIAL ASSUMPTIONS	IMPACT ON THE PRESENT VALUE OF PENSION OBGLIATIONS		
		PRESENT VALUE OF LIABILITY	ABSOLUTE CHANGES	RELATIVE CHANGES
		€ millions	€ millions	in %
Sensitivities at 31/12/2021				
	Basic value of the calculation of sensitivity	5,734		
Actuarial interest rate	Increase of 25 basis points	5,486	(248)	(4.3)
	Decrease of 25 basis points	5,998	264	4.6
Rate of increase in pension commitments	Increase of 25 basis points	5,904	170	3.0
	Decrease of 25 basis points	5,572	(162)	(2.8)
Rate of increase in future compensation/career trend	Increase of 25 basis points	5,738	4	0.1
	Decrease of 25 basis points	5,729	(5)	(0.1)
Sensitivities at 31/12/2020				
	Basic value of the calculation of sensitivity	5,939		
Actuarial interest rate	Increase of 25 basis points	5,672	(267)	(4.5)
	Decrease of 25 basis points	6,225	286	4.8
Rate of increase in pension commitments	Increase of 25 basis points	6,118	179	3.0
	Decrease of 25 basis points	5,768	(171)	(2.9)
Rate of increase in future compensation/career trend	Increase of 25 basis points	5,944	5	0.1
	Decrease of 25 basis points	5,934	(5)	(0.1)

Notes to the Balance Sheet (Continued)

The observable decline in mortality rates is associated with an increase in life expectancy depending on the individual age of each beneficiary. In order to determine the sensitivity of the mortality or longevity, the lifetime for all beneficiaries was increased by one year. The present value of the defined benefit obligations at 31 December 2021 would rise by €211 million (3.7%) to €5,945 million (previous year: by €221 million (3.7%) to €6,160 million) as a result of this change. HVB Group considers an opposite trend, that is an increase in mortality or a decrease in life expectancy, to be unlikely and has therefore not calculated a sensitivity for this case in the reporting period (or in the previous year).

When determining the sensitivities of the defined benefit obligations for the main actuarial assumptions, the same method has been applied (projected unit credit method) as has been used to calculate the pension provisions recognised in the consolidated balance sheet. Increases and decreases in the various valuation assumptions do not entail the same absolute amount in their impact when the defined benefit obligation is calculated, due mainly to the compound interest effect when determining the present value of the future benefit. If several assumptions change at the same time, the combined effect does not necessarily correspond to the sum total of the individual effects. Furthermore, the sensitivities only reflect a change in the present value of the defined benefit obligation for the actual extent of the change in the assumptions (such as 0.25%). If the assumptions change to a different extent, this does not necessarily have a straight-line impact on the present value of the defined benefit obligation. Since the sensitivity analyses are based on the average duration of the expected pension obligations, and consequently the expected disbursement dates are not taken into account, they only result in indicative information or trends.

Asset Liability Management

The plan assets are managed by a trustee with a view to ensuring that the present and future pension obligations are settled by applying an adequate investment strategy, thus minimising the risk of the trustors or sponsoring companies having to provide additional capital.

Under the CTA, the capital investment decisions are taken by an institutionalised body, the Investment Committee, which defines the investment strategy and policies for the plan assets. The concept calls for the assets to be invested in line with the structure of the pension obligations in particular and an appropriate return to be generated taking into account the associated risks. In order to optimise the risk/return ratio, the Investment Committee sets strategic allocation ranges and investment limits for the asset classes in the plan assets, which can be exploited flexibly within the agreed risk budget. The bodies and processes required by law have been set up as appropriate for HVB Pensionskasse and the pension fund.

In order to allow for an integral view of plan assets and defined benefit obligations (asset liability management), the pension risks are monitored regularly with the aid of a specially developed risk model and included in the Bank's risk calculation. Since HVB Group employs various methods involving legally independent entities to implement the company pension plans, risk management concepts including stress tests and analysis of risk-taking capacity are also applied in specific instances.

Alongside the actuarial risks mentioned above, the risks associated with the defined benefit obligations relate primarily to financial risks in connection with the plan assets. The capital investment risk in the funding of the pension obligations encompasses notably potential liquidity, credit, concentration, market and real estate risks.

Liquidity risk can result from non-existent or limited marketability of the capital investments, which may result in losses when the assets are sold to settle payment obligations. HVB is not currently exposed to this risk as the expected incoming payments are sufficient to meet the payment obligations. In addition, an appropriate proportion of the capital investments is invested in assets classified as liquid (cash and cash equivalents/term deposits). Liquidity projections are prepared at regular intervals with a view to continue avoiding this risk.

Credit risk stems from anything from a deterioration in the solvency of individual debtors through to insolvency. This risk is mitigated by deliberately spreading the capital investments and complying with specific investment policies regarding the creditworthiness of issuers. The relevant ratings are monitored constantly.

Concentration risk arises from excessive investment in an individual asset class, individual industry, individual security or individual property. This risk is countered by means of a broad diversification in line with investment policies, an ongoing review of the capital investment policy and specific parameters for asset managers. Among other things, targeted investment in mixed investment funds is used to reduce concentration risk by diversifying the composition of the fund assets.

Market risk has its roots in the risk of declining fair values caused by negative changes in market prices, equity prices and changes in interest rates. Here, too, compliance with the parameters specified for the composition and diversity of the capital investments is ensured and risk-limiting investment policies are defined for asset managers.

Real estate risk exists with both directly held real estate and special-purpose real estate funds. It results from factors like possible unpaid rents, loss of property value, high maintenance costs and declining location attractiveness. To minimise these risks, a limit is set for the proportion that may be invested in real estate and the greatest possible diversification is sought. In addition, the conclusion of short-term rental contracts is avoided for directly owned real estate.

Disaggregation of plan assets

The following table shows a disaggregation of the plan assets used to fund the defined benefit obligations by asset class: **(€ millions)**

	2021	2020
Participating interests	204	55
Debt securities	302	269
Properties	22	217
Mixed investment funds	3,856	3,276
Property funds	558	512
Cash and cash equivalents/term deposits	21	220
Other assets	16	3
Total	**4,979**	**4,552**

Quoted market prices in an active market were observed for most of the fixed-income securities held directly and almost all the types of asset held in the mixed investment fund. As a general rule, the fixed-income securities have an investment grade rating.

In terms of amount, the investment in mixed investment funds represents the lion's share of the asset allocation for the plan assets. The deliberate investment in various asset classes and the general restriction to traditional investment instruments serve to ensure a risk-mitigating minimum diversification and also reflect a conservative underlying strategy. The high proportion of bonds with a medium- to long-term benchmark (such as government and corporate bonds, and Pfandbriefe) held in the fund implies low volatility with the intention of balancing the development in the value of the long-term pension commitments that follows general interest rates.

Notes to the Balance Sheet (Continued)

The following table shows a detailed breakdown of the mixed investment fund:

(in %)

	2021	2020
Equities	7.7	10.8
German equities	0.5	2.1
European equities	4.1	5.5
Other equities	3.1	3.2
Government bonds	31.0	36.1
Pfandbriefe	5.5	8.7
Corporate bonds	28.7	33.0
German corporate bonds	3.7	3.9
European corporate bonds	16.9	19.2
Other corporate bonds	8.1	9.9
Fund certificates	10.6	7.5
Cash and cash equivalents/term deposits	16.5	3.9
Total	**100.0**	**100.0**

The plan assets comprised the Group's own financial instruments, property occupied by HVB Group companies and other assets at the reporting date:

(€ millions)

	2021	2020
Participating interests	—	—
Debt securities	35	9
Properties	—	—
Mixed investment funds	170	177
Property funds	—	—
Cash and cash equivalents/term deposits	21	220
Other assets	—	—
Total	**226**	**406**

Future cash flows

There are financing agreements at HVB Group that contain measures to fund defined benefit plans. The minimum funding requirements included in the agreements may have an impact on future contribution payments. In the case of HVB Trust Pensionsfonds AG, HVB Group is liable for calls for additional capital should the assets fall below the minimum cover provision. For HVB Pensionskasse, the Bank is required to make an additional contribution if the permanent financing of the obligations is no longer ensured. No such requirement for calls for additional capital exists for the CTA.

HVB Group intends to make contributions totalling €22 million (previous year: €22 million) to defined benefit plans in the 2022 financial year.

The weighted average duration of HVB Group's defined benefit obligations at the reporting date amounted to 17.9 years (previous year: 19.0 years).

Multi-employer plans
HVB Group is a member of Versorgungskasse des Bankgewerbes e.V. (BVV), which also includes other financial institutions in Germany in its membership. BVV provides company pension benefits for eligible employees of the sponsoring companies. The BVV tariffs allow for fixed pension payments with profit participation. On account of the employer's statutory subsidiary liability applicable in Germany (Section 1 (1) 3 of the German Occupational Pensions Act (Betriebsrentengesetz – BetrAVG)), HVB Group classifies the BVV plan as a multi-employer defined benefit plan.

Since the available information is not sufficient to allow this plan to be accounted for as a defined benefit plan by allocating to the individual member companies the assets and the pension obligations relating to active and former employees, HVB Group accounts for the plan as if it were a defined contribution plan.

In the event of a plan deficit, the Group may be exposed to investment risk and actuarial risk. In addition, a need for adjustment might arise from compensating the beneficiaries for inflation. HVB Group does not currently expect that the statutory subsidiary liability will be used.

HVB Group expects to book employer contributions of €21 million for this pension plan in the 2022 financial year (previous year: €22 million). Due to the current interest rate environment, BVV reduced the payment for the future pension rights in 2016. To exempt the Bank's employees from this reduction in payment, the Bank, as the employer, pays an additional contribution so that employees do not suffer any disadvantage in their future pension rights. This additional contribution amounts to €5 million in the 2022 financial year (previous year: €6 million).

Defined contribution plans
HVB Group companies pay fixed amounts for each period to independent pension funds for the defined contribution pension commitments. The contributions for the defined contribution plans recognised as current expense under payroll costs totalled €23 million during the reporting period (previous year: €24 million).

The employer contributions to the statutory pension scheme and the alternative professional pension schemes, which qualify as defined contribution state plans, are similarly included in payroll costs. Such contributions amounted to €86 million in the reporting period (previous year: €84 million).

Allowances for losses on financial guarantees and irrevocable credit commitments, restructuring provisions and other provisions **(€ millions)**

	ALLOWANCES FOR LOSSES ON FINANCIAL GUARANTEES AND COMMITMENTS AND IRREVOCABLE CREDIT COMMITMENTS		RESTRUCTURING PROVISIONS[1]		OTHER PROVISIONS	
	2021	2020	2021	2020	2021	2020
Balance at 1/1	**432**	**225**	**288**	**378**	**771**	**826**
Changes in consolidated group	—	—	—	—	—	—
Changes arising from foreign						
currency translation	4	(3)	—	—	—	(1)
Transfers to provisions	303	366	525	23	341	143
Reversals	(285)	(156)	(24)	(7)	(76)	(106)
Reclassifications	—	—	—	—	53	45
Amounts used	—	—	(22)	(27)	(241)	(129)
Non-current assets or disposal						
groups held for sale	—	—	—	—	(2)	—
Other changes	—	—	(85)	(79)	(3)	(7)
Balance at 31/12	**454**	**432**	**682**	**288**	**843**	**771**

1 The transfers and reversals are included in the income statement in the item "Restructuring costs" together with other restructuring costs accruing during the reporting period.

Notes to the Balance Sheet (Continued)

Changes in provisions for financial guarantees and irrevocable credit commitments (allowances) (€ millions)

	STAGE 1	STAGE 2	STAGE 3	TOTAL
Balance at 1/1/2021	**55**	**56**	**321**	**432**
Addition due to new business	30	27	—	57
Change in carrying amount within the same stage	8	10	75	93
Transfers to another stage due to deterioration in credit quality	(6)	12	—	6
from Stage 1 to Stage 2	(6)	12	—	6
from Stage 2 to Stage 3	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—
Transfers to another stage due to improvement in credit quality	16	(35)	—	(19)
from Stage 2 to Stage 1	16	(35)	—	(19)
from Stage 3 to Stage 2	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—
Increase in impairment reported directly in equity for				
interest claims not recognised in profit or loss	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—
Disposals (reversal due to disposal of receivable)	(14)	(21)	(84)	(119)
Disposals (utilisation of impairments)	—	—	—	—
Reversal of the discounted amount and recognition of				
interest claims not previously recognised in profit or loss	—	—	1	1
Foreign currency movements and other changes	—	—	3	3
Balance at 31/12/2021	**89**	**49**	**316**	**454**
Balance at 1/1/2020	**47**	**22**	**156**	**225**
Addition due to new business	22	25	—	47
Change in carrying amount within the same stage	16	6	240	262
Transfers to another stage due to deterioration in credit quality	(14)	43	—	29
from Stage 1 to Stage 2	(14)	43	—	29
from Stage 2 to Stage 3	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—
Transfers to another stage due to improvement in credit quality	12	(23)	—	(11)
from Stage 2 to Stage 1	12	(23)	—	(11)
from Stage 3 to Stage 2	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—
Increase in impairment reported directly in equity for				
interest claims not recognised in profit or loss	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—
Disposals (reversal due to disposal of receivable)	(28)	(17)	(72)	(117)
Disposals (utilisation of impairments)	—	—	—	—
Reversal of the discounted amount and recognition of				
interest claims not previously recognised in profit or loss	—	—	1	1
Foreign currency movements and other changes	—	—	(4)	(4)
Balance at 31/12/2020	**55**	**56**	**321**	**432**

Restructuring provisions

The restructuring provisions are based on measures resulting from the implementation of the three-year UniCredit Unlocked 2022-24 strategic plan, which aims at driving forward further digitalisation, automation and process optimisation within HVB Group. In this context, there will be a further reduction of staff at HVB by 2024. Most of the restructuring provisions are intended for the scheduled socially compatible reduction in staffing levels, which is to be achieved above all by natural fluctuation, partial and early retirement solutions as well as severance packages. The restructuring provisions reported in the previous year were increased appropriately for this purpose as the three-year UniCredit Unlocked 2022-24 strategic plan builds on the previous Team 23 strategic plan.

Other provisions

Changes in other provisions

(€ millions)

	PAYROLL PROVISIONS	PROVISIONS RELATED TO TAX DISPUTES (WITHOUT INCOME TAXES)	PROVISIONS FOR RENTAL GUARANTEES AND DISMANTLING OBLIGATIONS	PROVISIONS FOR LEGAL RISKS AND SIMILAR RISKS	OTHER PROVISIONS	TOTAL OTHER PROVISIONS
Balance at 1/1/2021	**341**	**89**	**98**	**150**	**93**	**771**
Changes in consolidated group	—	—	—	—	—	—
Changes arising from foreign currency translation	—	—	—	—	—	—
Transfers to provisions	19	78	43	128	73	341
Reversals	(1)	(4)	(37)	(10)	(24)	(76)
Reclassifications	49	4	—	—	—	53
Amounts used	(110)	(6)	(6)	(90)	(29)	(241)
Non-current assets or disposal groups held for sale	—	(2)	—	—	—	(2)
Other changes	—	(1)	1	—	(3)	(3)
Balance at 31/12/2021	**298**	**158**	**99**	**178**	**110**	**843**
Balance at 1/1 2020	**356**	**63**	**95**	**217**	**95**	**826**
Changes in consolidated group	—	—	—	—	—	—
Changes arising from foreign currency translation	—	—	—	—	(1)	(1)
Transfers to provisions	16	36	20	20	51	143
Reversals	—	—	(10)	(59)	(37)	(106)
Reclassifications	45	—	—	—	—	45
Amounts used	(76)	(1)	(6)	(28)	(18)	(129)
Non-current assets or disposal groups held for sale	—	—	—	—	—	—
Other changes	—	(9)	(1)	—	3	(7)
Balance at 31/12 2020	**341**	**89**	**98**	**150**	**93**	**771**

The payroll provisions carried under other provisions encompass long-term obligations to employees such as provisions for service anniversary awards, early retirement or partial retirement. In addition, payroll provisions cover the parts of the bonus that are disbursed on a deferred basis, or transferred in cases where the bonus is granted in the form of shares, with the waiting period exceeding one year. The disbursement of these bonuses is additionally dependent upon the achievement of pre-defined targets. The bonus commitments for the 2016, 2017, 2018, 2019, 2020 and 2021 financial years to be disbursed as of 2022 are included here accordingly. The bonus provisions included here have been taken to the income statement in both the reporting period and the previous financial years. It is considered highly probable that the bonus will be disbursed. For details of the bonus plan, please refer to the Note "Operating costs".

The amount of the respective provisions reflects the best estimate of the amount required to settle the obligation at the reporting date. Nevertheless, estimating the amounts of these provisions is subject to uncertainties. In the case of rental guarantees in particular, cost estimates are validated on a regular basis in addition to the assumptions regarding terms.

Notes to the Balance Sheet (Continued)

75 Shareholders' equity

The shareholders' equity of HVB Group at 31 December 2021 consisted of the following:

Subscribed capital

At 31 December 2021, the subscribed capital of HVB totalled €2,407 million (previous year: €2,407 million) and consisted of 802,383,672 no par shares of common bearer stock (previous year: 802,383,672 no par shares).

The proportionate amount of share capital attributable to the share amounts to €3.00 per no par share. The shares are fully paid in.

Additional paid-in capital

The additional paid-in capital results from premiums generated on the issuance of shares; the total at 31 December 2021 amounted to €9,791 million (previous year: €9,791 million).

Other reserves

Other reserves of €3,508 million (previous year: €3,528 million) mainly contain retained earnings. The slight decline is partly due to payments on additional equity instruments of €68 million, valuation allowances for financial liabilities at FVTPL due to own credit spread of minus €31 million and the allocation of €66 million to the revaluation surplus for owner-occupied real estate.

Change in valuation of financial instruments

The hedge reserve shows a year-on-year decline of €2 million to €19 million.

The FVTOCI reserve of €32 million (previous year: €29 million) includes the difference between the amortised cost and fair value of the securities allocated to this category. In the reporting year, an amount of €3 million after tax was transferred through other comprehensive income to the consolidated statement of total comprehensive income.

Additional equity instruments

In October 2020, HVB issued regulatory own funds in the form of two additional Tier 1 issues (AT1 bonds), which were fully subscribed by UniCredit S.p.A. The Bank is optimising its capital structure with the issues, also against the backdrop of the changes in regulatory requirements by the European Banking Authority (EBA). The AT1 bonds meet the criteria set out in the Capital Requirements Regulation (CRR II) and can be used to meet MREL requirements (SRMR II).

The AT1 bonds, which have a volume of €1,000 million and €700 million respectively and an indefinite term, are unsecured and subordinate. AT1 bonds can only be terminated by the issuer. As the issuer, HVB has the right to waive interest in whole or in part at its discretion. The bond terms stipulate a temporary write-down in the event that the Bank's CET 1 ratio falls below the 5.125% mark on a stand-alone basis or consolidated basis pursuant to the CRR. Under certain conditions, a (re-)write-up is possible at HVB's discretion.

In addition, the issues have the following features:
– The issue of €1,000 million can be called in for the first time after five years and initially bears 5.794% interest for five years; from 20 October 2025 the interest rate corresponds to the 5-year EUR mid-market swap rate of +6.250% p.a. until the next interest rate adjustment date after five years.
– The issue of €700 million can be called in for the first time after six years and initially bears 5.928% interest for six years; from 20 October 2026 the interest rate corresponds to the 5-year EUR mid-market swap rate of +6.350% p.a. until the next interest rate adjustment date after five years.

In October 2021, interest of €99 million was paid on both instruments. As interest payments are tax deductible, this results in a charge of €68 million after tax to shareholders' equity.

The AT1 bonds are shown as additional Tier 1 capital (AT1) under regulatory own funds; the interest is recognised as appropriation of profit based on a resolution of HVB's Management Board.

76 Subordinated capital

The following table shows the breakdown of subordinated capital included in the balance sheet items “Deposits from banks”, “Debt securities in issue” and “Shareholders’ equity”:

(€ millions)

	2021	2020
Subordinated liabilities	1,108	1,193
Hybrid capital instruments	1,700	1,750
Total	**2,808**	**2,943**

In October 2020, HVB issued regulatory own funds in the form of two **additional Tier 1 issues (AT1 bonds**), which were fully subscribed by UniCredit S.p.A. The Bank is optimising its capital structure with the issues, also against the backdrop of the changes made in regulatory requirements by the European Banking Authority (EBA). The AT1 bonds meet the criteria specified in the Capital Requirements Regulation (CRR II) and can be used to meet MREL requirements (SRMR II). The instruments are presented in detail in the note on shareholders’ equity

At the end of June 2020, HVB issued regulatory own funds in the form of a **Tier 2 capital bond (Tier 2 bond)**, which was fully subscribed by UniCredit S.p.A. The Bank is optimising its capital structure with the issue, also against the backdrop of the changes made in regulatory requirements by the European Banking Authority (EBA). The subordinated bond meets the criteria for Tier 2 capital specified in the Capital Requirements Regulation (CRR II) and can also be used to meet MREL requirements (SRMR II).

The subordinated bond has a volume of €800 million and a maturity of ten years with a call provision after five years. The bond has a fixed interest rate of 3.469% per annum for the first five years, which is re-determined after five years based on the valid five-year swap rate plus a 380 basis point spread, as long as the bond has not been repaid after five years. The conditions at the time of issuance (at arm’s length) are in line with the market.

In this context, subordinated liabilities have been classified as Tier 2 capital for banking supervisory purposes in accordance with the provisions of Articles 62 (1a), 63 to 65, 66 (1a) and 67 CRR. Only the AT1 bonds issued in the amount of €1,700 million are recognised as additional Tier 1 capital instruments pursuant to Article 51 ff CRR for banking supervisory purposes.

The HVB Funding Trust instruments still outstanding were repaid prematurely on 31 December 2021 in accordance with the bond terms.

Notes to the Balance Sheet (Continued)

The following table shows the breakdown of subordinated capital by balance sheet item: (€ millions)

	2021	2020
Deposits from customers	—	—
Deposits from banks	228	313
Debt securities in issue	880	930
Shareholders' equity	1,700	1,700
Total	**2,808**	**2,943**

We have incurred interest expenses of €20 million (previous year: €9 million) in connection with this subordinated capital. Subordinated capital includes pro rata interest of €14 million (previous year: €15 million).

Subordinated liabilities

The borrowers cannot be obliged to make early repayments in the case of subordinated liabilities. In the event of insolvency or liquidation, subordinated liabilities can only be repaid after the claims of all primary creditors have been settled.

There were subordinated liabilities of €228 million payable to related parties in the reporting period (previous year: €313 million).

Hybrid capital instruments

Hybrid core capital instruments include two AT1 bonds issued in 2020 totalling €1,700 million, which are accounted for under regulatory own funds as additional Tier 1 capital. These bonds are wholly held by UniCredit S.p.A. Please refer to the note on shareholders' equity for further details.

The HVB Funding Trust instruments still outstanding were repaid prematurely on 31 December 2021 in accordance with the bond terms.

Notes to the Cash Flow Statement

77 Notes to the items in the cash flow statement

The cash flow statement shows the cash flows for the reporting period, divided into the areas “operating activities”, “investing activities” and “financing activities”. Operating activities are defined broadly enough to allow the same breakdown as for operating profit.

The cash and cash equivalents shown correspond to the “Cash and cash balances” item in the balance sheet, comprising both cash on hand and balances at central banks repayable on demand.

The “Change in other non-cash positions” item comprises the changes in the measurement of financial instruments and investment properties, net additions to deferred taxes, changes in provisions, changes in prorated and deferred interest, the reversal of premiums and discounts, changes from measurement using the equity method, deconsolidation results and minority interests in net income.

All proceeds and payments from transactions relating to shareholders’ equity and subordinated capital are allocated to cash flows from financing activities. The portfolios of subordinated and hybrid capital included as financing liabilities in the cash flows from financing activities were down by net €147 million in the reporting period (previous year: up €1.691 million).

There were no gains on the disposal of shares in fully consolidated companies in the 2021 and 2020 financial years.

There were no significant acquisitions of subsidiaries or associates in the 2021 and 2020 financial years.

As in the previous year, no fully consolidated subsidiaries were sold in the financial year.

Other Information

78 Events after the reporting period

Prof Dr Annette G. Köhler resigned from the Supervisory Board as shareholder representative with effect from the end of 28 February 2022. In her place, Ms Sabine Eckhardt was elected as member of the Supervisory Board with effect from 1 March 2022 at the Extraordinary Shareholders' Meeting of UniCredit Bank AG on 24 February 2022.

War has been raging in Ukraine since the end of February. In view of this fact, a number of countries (including the USA and the EU) have imposed sanctions on Russia that have already come into effect. This might have negative consequences for HVB Group's exposure to Russia. With regard to the amount of exposure, we refer to the table "Development of credit default risk exposure by country/region outside the eurozone" in the description of credit risk in the Risk Report. In recent years, the exposure to Russian counterparties was conservatively managed with a significant portion of our commercial exposure covered by ECA guarantees. Derivative transactions with Russian financial institutions have been conducted within adequate limits. Whilst the full impact cannot be assessed at this point, the extent of potential losses resulting from the failure of Russian counterparties to honour their obligations is not expected to materially affect the financial status of HVB Group.

79 Information regarding lease operations

HVB Group as lessee

Under IFRS 16 the accounting of leases by the lessee is carried out on the basis of a uniform accounting model (referred to as right-of-use approach).

The rental and lease agreements entered into by HVB Group as the lessee relate to real estate (land and buildings) on the one hand and movables (plant and office equipment including vehicles) on the other hand. The lease agreements for real estate are generally concluded for a non-cancellable basic term of ten years for a new lease and usually include extension options with periods of between three and five years. These agreements also contain price adjustment clauses in the form of graduated rent or index clauses; termination or purchase options are not usually agreed. The extension options are used to give HVB Group the maximum operational flexibility in relation to the assets used by the Bank. Most of these contractual options can only be exercised by HVB Group as the lessee and not by the respective lessor. The lease agreements for movables have been concluded at customary market terms for lease periods of between three and nine years. No variable lease payments were agreed for any of the lease agreements concluded by HVB Group as the lessee. The Bank's obligations under lease agreements are secured by the ownership rights of the respective lessor to the leased assets. Leased items may therefore not be used as security for borrowing.

Amounts recognised in the consolidated balance sheet
In the consolidated balance sheet the following items were recognised in connection with lease agreements where HVB Group is lessee.

The following table shows the carrying amount of the right-of-use assets reported under property, plant and equipment at the reporting date by class of underlying asset:

(€ millions)

	2021	2020
Right-of-use assets (property, plant and equipment)		
Leased land and buildings	175	260
Leased plant and office equipment	7	10
Carrying amount 31/12	**182**	**270**

Additions to the right-of-use assets recognised under property, plant and equipment amounted to €26 million during the reporting year (previous year: €70 million).

The carrying amount of the lease liabilities reported under the items "Deposits from customers" and "Deposits from banks" at the reporting date is as follows:

(€ millions)

	2021	2020
Lease liabilities	429	515
Carrying amount 31/12	**429**	**515**

The following table contains a maturity analysis for the lessee's lease liabilities and shows the undiscounted lease payments to be made after the reporting date:

(€ millions)

	2021	2020
up to 1 year	83	85
from 1 year to 2 years	79	82
from 2 years to 3 years	59	77
from 3 years to 4 years	30	60
from 4 years to 5 years	116	31
from 5 years and over	85	210
Total	**452**	**545**

HVB Group sees no significant liquidity risk with regard to lease liabilities. The lease liabilities are monitored by the Bank's Treasury unit.

Other Information (Continued)

Amounts recognised in the consolidated income statement
The consolidated income statement contains the following amounts in connection with leases in which HVB Group is the lessee.

The following table shows the depreciation charge on the right-of-use assets contained in property, plant and equipment for the financial year by class of underlying assets. The write-downs are recognised under the item "Amortisation, depreciation and impairment losses on intangible and tangible assets" within operating costs:

(€ millions)

	2021	2020
Depreciation expense from right-of-use assets (property, plant and equipment)		
Leased land and buildings	77	34
Leased plant and office equipment	8	9
Total	**85**	**43**

The depreciation charge on the right-of-use assets reported under property, plant and equipment totalling €85 million (previous year: €43 million) consists of scheduled depreciation of €51 million recognised as disposals (previous year: €49 million), non-scheduled depreciation (impairments) of €39 million (previous year: €2 million) and write-ups (impairment reversals) of €5 million recognised as additions (previous year: €8 million).

The effect recognised in interest expense from the accrued interest added to lease liabilities for the financial year is as follows:

(€ millions)

	2021	2020
Interest expense from lease liabilities	5	6

The following table shows other expenses and income in connection with lease agreements of the lessee that were recognised in the consolidated income statement during the financial year. Expenses in connection with short-term lease agreements and leases based on low-value assets are recognised under the item "Other administrative expenses", whereas income from subleasing the right-of-use assets is shown as other operating income under property, plant and equipment:

(€ millions)

	2021	2020
Expense from short-term leases	6	5
Expense from leases for low-value assets (excl. expense from short-term		
leases based on an asset of low value)	—	—
Income from subleases of rights of use (property, plant and equipment)	1	1

Right-of-use assets that meet the definition of an investment property and are reported as investment properties were not included in the above disclosures on the carrying amount, additions, depreciation charge or income from the subleasing of right-of-use assets. Disclosures on such right-of-use assets can generally be found in the Note "Investment properties".

In the reporting year, cash outflows from leases totalled €99 million (previous year: €98 million).

HVB Group as lessor

The range of lease and hire-purchase products was changed within the framework of the “Team 23” strategic plan: Instead of the HVB subsidiary UniCredit Leasing GmbH, Hamburg, offering its own range of products, these are provided by an external cooperation partner. UniCredit Leasing GmbH and its subsidiaries thus discontinued selling lease and hire-purchase products with effect from 1 August 2020. Existing agreements are being continued and existing liabilities are being settled in full. As a result of the discontinuation of these sales, the number of lease agreements has decreased as agreements falling due are not replaced by new business.

According to IFRS 16, the lessor is required to classify leases either as operating leases or finance leases (dual lessor accounting model).

Operating leases

HVB Group acts as lessor in operating leases. These lease agreements mainly include real estate (land and buildings) and movable assets such as plant and office equipment, motor vehicles and industrial machinery. The lease agreements for real estate have terms of between three and five years. These agreements are based on customary market terms and include extension options and price adjustment clauses in the form of graduated rent or index clauses; termination options are not agreed. If the lessee exercises its right to extend the lease agreement, market review clauses are used. By contrast, lease agreements for the lessee do not usually include any option to purchase the leased property at the end of the lease period. Unguaranteed residual values do not represent a significant risk for HVB Group, as these relate to properties that have exhibited a steadily increasing trend in market values over many years. The Bank sees no indication of any future change in this trend. Lease agreements for movable assets are generally concluded for terms of between four and ten years and include an additional purchase option; they do not include extension or price adjustment clauses. No variable lease payments were agreed by HVB Group as lessor in the concluded operating lease agreements.

The following table shows the lease income from lessor operating leases in the consolidated income statement during the financial year:

(€ millions)

	2021	2020
Income from operating leases	68	80

The following table contains a maturity analysis of undiscounted payments from operating leases that the lessor will receive in the future:

(€ millions)

	2021	2020
up to 1 year	36	33
from 1 year to 2 years	23	30
from 2 years to 3 years	20	21
from 3 years to 4 years	15	17
from 4 years to 5 years	14	14
from 5 years and over	79	84
Total	**187**	**199**

At the end of the reporting period, the carrying amount of the assets that are the subject of an operating lease amounts to €85 million (previous year: €104 million). These were recognised under property, plant and equipment in the previous year and under the item “Non-current assets or disposal groups held for sale” in the reporting year.

Other Information (Continued)

Finance leases

HVB Group acts as lessor under finance leases and leases out mobile assets. These mainly include plant and office equipment, aircraft, motor vehicles and industrial machinery. As a general rule, the lease agreements stipulate lease periods of between four and ten years and possibly a pre-emptive right in favour of the lessor; they do not contain any extension or premature termination options or price adjustment clauses. The residual risk for these leased assets is insignificant because there is a secondary market. No variable lease payments were agreed by HVB Group as lessor in the finance leases concluded.

The following table shows the amounts recognised in the consolidated income statement for finance leases held by the lessor during the financial year:

(€ millions)

	2021	2020
Gains/losses on finance leases	4	1
Finance income from the net investment in the lease (interest income from finance lease receivables)	13	19

The following table contains a maturity analysis of the lessor's existing loans and receivables with customers or banks (at cost) from the lease operations (finance lease receivables) and shows the undiscounted lease payments to be received after the reporting date. The subsequent reconciliation to the net investment in the lease makes the unguaranteed residual value and the still unrealised finance income transparent in relation to the lease receivables:

(€ millions)

	2021	2020
up to 1 year	419	553
from 1 year to 2 years	280	411
from 2 years to 3 years	181	279
from 3 years to 4 years	97	179
from 4 years to 5 years	88	95
from 5 years and over	85	170
Total amount of undiscounted lease payments to be received	**1,150**	**1,687**
+ Unguaranteed residual value	—	—
= Gross investment in the lease	**1,150**	**1,687**
– Unrealised finance income	(48)	(72)
= Net investment in the lease (finance lease receivables)	**1,102**	**1,615**

The overall amount of undiscounted lease payments encompasses the payments to be made by the lessee to the lessor under the finance lease including any residual value guarantees.

The unguaranteed residual value is that part of the residual value of the underlying asset whose realisation is not secured by the lessor.

The gross investment in the lease is the sum of the lease payments and the unguaranteed residual value.

Unrealised finance income is the difference between the gross investment in the lease and its present value (net investment). It corresponds to the return implicit in the lease between the reporting date and the end of the lease.

The net investment in the lease (finance lease receivables) is therefore determined by discounting the gross investment at the interest rate on which the lease is based.

For finance lease receivables included in the item “Loans and receivables from customers (at cost)”, the changes in gross carrying amounts and impairments as well as the breakdown by rating class are shown below (see also Note “Loans and receivables from customers (at cost)”):

Changes in gross carrying amounts

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**565**	**1,017**	**33**	**—**	**1,615**
Addition due to new business	40	2	—	—	42
Change in carrying amount within the stage	(324)	(203)	(12)	—	(539)
Transfers to another stage due to deterioration					
in credit quality	(59)	56	3	—	—
from Stage 1 to Stage 2	(58)	58	—	—	—
from Stage 2 to Stage 3	—	(2)	2	—	—
from Stage 1 to Stage 3	(1)	—	1	—	—
Transfers to another stage due to improvement					
in credit quality	618	(618)	—	—	—
from Stage 2 to Stage 1	618	(618)	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase reported directly in equity in gross carrying amounts for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals due to repayments/sales	(15)	—	—	—	(15)
Disposals due to write-offs/write downs of loans and receivables	—	—	(1)	—	(1)
Foreign currency movements and other changes	—	—	—	—	—
Balance at 31/12/2021	**825**	**254**	**23**	**—**	**1,102**
Balance at 1/1/2020	**1,127**	**654**	**35**	**—**	**1,816**
Addition due to new business	161	307	—	—	468
Change in carrying amount within the stage	(299)	(352)	(5)	—	(656)
Transfers to another stage due to deterioration					
in credit quality	(473)	457	16	—	—
from Stage 1 to Stage 2	(462)	462	—	—	—
from Stage 2 to Stage 3	—	(5)	5	—	—
from Stage 1 to Stage 3	(11)	—	11	—	—
Transfers to another stage due to improvement					
in credit quality	49	(49)	—	—	—
from Stage 2 to Stage 1	49	(49)	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase reported directly in equity in gross carrying amounts for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals due to repayments/sales	—	—	—	—	—
Disposals due to write-offs/write downs of loans and receivables	—	—	(13)	—	(13)
Foreign currency movements and other changes	—	—	—	—	—
Balance at 31/12/2020	**565**	**1,017**	**33**	**—**	**1,615**

Other Information (Continued)

Changes in impairments

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance at 1/1/2021	**2**	**19**	**13**	**—**	**34**
Addition due to new business	—	—	—	—	—
Change in balance within the same stage	(12)	2	(3)	—	(13)
Transfers to another stage due to deterioration					
in credit quality	(2)	2	—	—	—
from Stage 1 to Stage 2	(2)	2	—	—	—
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—	—
Transfers to another stage due to improvement					
in credit quality	15	(15)	—	—	—
from Stage 2 to Stage 1	15	(15)	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase in impairment reported directly in equity for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets, not leading to derecognition	—	—	—	—	—
Changes in model	—	—	—	—	—
Disposals (reversal due to disposal of receivable)	—	—	—	—	—
Disposals (utilisation of impairments)	—	—	(2)	—	(2)
Reversal of the discounted amount and recognition of interest					
claims not previously recognised in profit or loss	—	—	—	—	—
Foreign currency movements and other changes	—	—	—	—	—
Balance at 31/12/2021	**3**	**8**	**8**	**—**	**19**
Balance at 1/1/2020	**5**	**8**	**14**	**—**	**27**
Addition due to new business	1	3	—	—	4
Change in balance within the same stage	10	(1)	(2)	—	7
Transfers to another stage due					
to deterioration in credit quality	(14)	9	5	—	—
from Stage 1 to Stage 2	(10)	10	—	—	—
from Stage 2 to Stage 3	—	(1)	1	—	—
from Stage 1 to Stage 3	(4)	—	4	—	—
Transfers to another stage due					
to improvement in credit quality	—	—	—	—	—
from Stage 2 to Stage 1	—	—	—	—	—
from Stage 3 to Stage 2	—	—	—	—	—
from Stage 3 to Stage 1	—	—	—	—	—
Increase in impairment reported directly in equity for					
interest claims not recognised in profit or loss	—	—	—	—	—
Changes due to modification of assets,					
not leading to derecognition	—	—	—	—	—
Changes in model	—	—	—	—	—
Disposals (reversal due to disposal of receivable)	—	—	—	—	—
Disposals (utilisation of impairments)	—	—	(4)	—	(4)
Reversal of the discounted amount and recognition of interest					
claims not previously recognised in profit or loss	—	—	—	—	—
Foreign currency movements and other changes	—	—	—	—	—
Balance at 31/12/2020	**2**	**19**	**13**	**—**	**34**

Breakdown by rating class

(€ millions)

	STAGE 1	STAGE 2	STAGE 3	POCI	COLLATERAL	TOTAL
31/12/2021						
Not rated	—	—	—	—	—	—
Rating class 1–4	716	121	—	—	515	837
Rating class 5–8	109	133	—	—	156	242
Rating class 9–10	—	—	23	—	10	23
Gross carrying amount at 31/12/2021	**825**	**254**	**23**	**—**	**681**	**1,102**
Impairment	(3)	(8)	(8)	—	—	(19)
Net carrying amount at 31/12/2021	**822**	**246**	**15**	**—**	**681**	**1,083**
31/12/2020						
Not rated	—	—	—	—	—	—
Rating class 1–4	534	790	—	—	836	1,324
Rating class 5–8	31	227	—	—	163	258
Rating class 9–10	—	—	33	—	15	33
Gross carrying amount at 31/12/2020	**565**	**1,017**	**33**	**—**	**1,014**	**1,615**
Impairment	(2)	(19)	(13)	—	—	(34)
Net carrying amount at 31/12/2020	**563**	**998**	**20**	**—**	**1,014**	**1,581**

Other Information (Continued)

80 Fair value hierarchy

The changes in financial instruments measured at fair value and recognised at fair value in the balance sheet are described below, notably with regard to the fair value hierarchy.

This fair value hierarchy is divided into the following levels:

Level 1 contains financial instruments measured using prices of identical assets or liabilities listed on active markets. These prices are incorporated unchanged. We have assigned mostly listed equity instruments, bonds and exchange-traded derivatives to this category.

Assets and liabilities whose valuation is derived from directly observable (prices) or indirectly observable (derived from prices) input data (valuation parameters) are shown in Level 2. No price can be observed on an active market for the assets and liabilities concerned themselves. As a result of this, we notably show the fair values of interest rate and credit derivatives in this level together with the fair values of ABS bonds, provided a liquid market exists for the asset class in question.

Financial assets or liabilities of €418 million (previous year: 318 million) were transferred between Level 1 and Level 2. At the same time, financial assets or liabilities of €2,846 million (previous year: €1,878 million) were transferred between Level 2 and Level 1. Most of the transfers relate to securities and result from an increase or decrease in the actual trading taking place in the securities concerned and the associated change in the bid-offer spreads.

The following table shows transfers between Level 1 and Level 2 for financial instruments where fair value is determined on a recurring basis:

(€ millions)

	TO LEVEL 1	TO LEVEL 2
Financial assets held for trading		
Transfer from Level 1	—	264
Transfer from Level 2	177	—
Financial assets at FVTPL		
Transfer from Level 1	—	64
Transfer from Level 2	1,300	—
Financial assets at FVTOCI		
Transfer from Level 1	—	29
Transfer from Level 2	1,368	—
Financial liabilities held for trading		
Transfer from Level 1	—	61
Transfer from Level 2	1	—
Financial liabilities at FVTPL		
Transfer from Level 1	—	—
Transfer from Level 2	—	—

1 January is considered the transfer date for instruments transferred between the levels in the reporting period (1 January to 31 December).

Level 3 relates to assets or liabilities for which the fair value cannot be calculated exclusively on the basis of observable market data (non-observable input data). The amounts involved are stated in Level 2 if the impact of the non-observable input data on the determination of fair value is insignificant. Thus, the respective fair values also incorporate valuation parameters based on model assumptions. This includes derivatives and structured products that contain at least one “exotic” component, such as foreign currency or interest rate derivatives on illiquid currencies, derivatives without standard market terms, structured products with an illiquid underlying as reference and ABS bonds of an asset class for which no liquid market exists.

If the value of a financial instrument is based on non-observable valuation parameters, the value of these parameters may be selected from a range of possible appropriate alternatives at the reporting date. Appropriate values, which are calibrated according to the principle of prudent evaluation, are determined for these non-observable parameters and applied for valuation purposes, upon valuation as at 31 December 2021. In addition, individual parameters that cannot be incorporated separately as standalone valuation parameters are taken into account by applying a model reserve.

The following measurement methods are applied for the individual classes of financial instrument depending on the product type. The measurements of financial instruments in fair value Level 3 depend upon the following significant parameters that cannot be observed on the market:

PRODUCT TYPE	MEASUREMENT METHOD	SIGNIFICANT NON-OBSERVABLE PARAMETERS	RANGE
Fixed-income securities and other debt instruments	Market approach	Price	1bps–100bps
Equities	Market approach	Price	0%–3%
Asset-backed securities (ABS)	DCF method	Credit spread curves	30bps–1,835bps
		Residual value	0%–27%
		Default rate	0%–1%
		Prepayment rate	0%–6%
Commodity/equity derivatives	Option price model	Commodity price volatility/equity volatility	3%–15%
		Correlation between commodities/equities	2%–29%
	DCF method	Dividend yields	1%–26%
Interest rate derivatives	DCF method	Swap interest rate	0bps–141bps
		Inflation swap interest rate	3bps–12bps
	Option price model	Inflation volatility	1%–3%
		Interest rate volatility	0%–29%
		Correlation between interest rates	0%–20%
Credit derivatives	Hazard rate model	Credit spread curves	1bps–29bps
		Residual value	0%–5%
Currency derivatives	DCF method	Yield curves	0bps–141bps
	Option price model	FX volatility	0%–66%

The impact of changing possible appropriate alternative parameter values on the fair value of the financial instruments classified as Level 3 is shown in the sensitivity analysis presented below. The level of variation of the non-observable parameters reflects the prevailing market conditions regarding the valuation of sensitivities. For portfolios at fair value through profit or loss, the positive and negative fair value changes would amount to a plus or minus of €46 million respectively at the reporting date (previous year: a plus or minus of €32 million respectively).

The following table shows the significant sensitivity effects, broken down by the individual classes of financial instrument for the various product types:

(€ millions)

	31/12/2021		31/12/2020	
	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
Fixed-income securities and other debt instruments	—	—	—	—
Equities	—	—	—	—
Asset-backed securities	—	—	—	—
Commodity/equity derivatives	42	(42)	29	(29)
Interest rate derivatives	4	(4)	—	—
Credit derivatives	—	—	3	(3)
Currency derivatives	—	—	—	—
Total	**46**	**(46)**	**32**	**(32)**

Other Information (Continued)

For fixed-income securities and other debt instruments as well as asset-backed securities, the credit spread curves were changed within the scope of the sensitivity analyses in line with the ratings. For equities, the spot price is varied using a relative value.

The following non-observable parameters were varied for the sensitivity analysis for equity derivatives included in Level 3: spot prices for hedge funds, implicit volatility, dividends, implicit correlations and the assumptions regarding the interpolation between individual parameters observable on the market, such as volatilities. For interest rate products, interest rates, interest rate correlations and implicit volatilities were varied as part of the sensitivity analysis. For credit derivatives, shifts in the risk premium curves for credit risk were assumed together with changes in implicit correlations and increases in default rates. Foreign currency derivatives were varied in terms of the implicit volatility.

Where trades are executed for which the trade price deviates from the fair value at the trade date and non-observable parameters are employed to a considerable extent in valuation models, the financial instrument concerned is recognised at the trade price. This difference between the trade price and the fair value of the valuation model is defined as the trade date gain/loss. Corresponding gains and losses determined at the trade date are deferred and recognised in the income statement over the term of the trade. As soon as a reference price can be determined for the trade on an active market, or the significant input parameters are based on observable market data, the deferred trade date gain is taken directly to the income statement in net trading income.

The following table shows a year-on-year comparison of changes in trade date gains and losses that were deferred on account of the application of significant non-observable parameters for financial instruments recognised at fair value:

(€ millions)

	2021	2020
Balance at 1/1	**18**	**14**
New trades during the period	26	14
Write-downs	1	4
Expired trades	—	1
Retroactive change in observability	22	5
Exchange rate changes	—	—
Balance at 31/12	**21**	**18**

The following table shows the allocation of the financial assets and financial liabilities recognised in the balance sheet at fair value to the respective levels of the fair value hierarchy:

(€ millions)

	FAIR VALUE OBSERVED ON AN ACTIVE MARKET (LEVEL 1)		FAIR VALUE BASED ON VALUATION PARAMETERS OBSERVED ON THE MARKET (LEVEL 2)		FAIR VALUE BASED ON VALUATION PARAMETERS NOT OBSERVED ON THE MARKET (LEVEL 3)	
	31/12/2021	31/12/2020	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Financial assets recognised						
in the balance sheet at fair value						
Financial assets held for trading	28,146	19,406	56,536	61,979	1,232	1,320
of which derivatives	4,894	4,058	42,376	51,702	781	592
Financial assets at FVTPL	4,925	5,560	2,140	5,563	469	321
Financial assets at FVTOCI	11,659	10,243	347	2,228	—	—
Hedging derivatives	—	—	231	372	—	—
Financial liabilities recognised						
in the balance sheet at fair value						
Financial liabilities held for trading	9,472	8,004	43,026	48,044	1,161	903
of which derivatives	5,958	4,717	37,472	42,442	623	488
Financial liabilities at FVTPL	—	—	5,115	5,375	395	361
Hedging derivatives	—	—	500	734	—	—

The following table shows the changes in the financial assets allocated to Level 3 in the fair value hierarchy:

(€ millions)

	FINANCIAL ASSETS HELD FOR TRADING	FINANCIAL ASSETS AT FVTPL	FINANCIAL ASSETS AT FVTOCI	HEDGING DERIVATIVES
Balance at 1/1/2021	**1,320**	**321**	**—**	**—**
Additions				
Purchases	578	97	—	—
Realised gains[1]	61	53	—	—
Transfer from other levels	67	80	—	—
Other additions[2]	10	15	—	—
Disposals				
Sales	(513)	(46)	—	—
Repayment	(92)	(2)	—	—
Realised losses[1]	(87)	(45)	—	—
Transfer to other levels	(80)	(3)	—	—
Other disposals	(32)	(1)	—	—
Balance at 31/12/2021	**1,232**	**469**	**—**	**—**
Balance at 1/1/2020	**1,226**	**945**	**—**	**—**
Additions				
Purchases	590	128	—	—
Realised gains[1]	35	46	—	—
Transfer from other levels	24	—	—	—
Other additions[2]	25	13	—	—
Disposals				
Sales	(449)	(568)	—	—
Repayment	—	(2)	—	—
Realised losses[1]	(31)	(43)	—	—
Transfer to other levels	(60)	(9)	—	—
Other disposals	(40)	(189)	—	—
Balance at 31/12/2020	**1,320**	**321**	**—**	**—**

1 In the income statement and shareholders' equity.
2 Also including changes in the group of companies included in consolidation.

The additions and disposals from purchases and sales in financial assets held for trading are at the same level as in the previous year and are due to the Bank's trading activities. The additions from purchases in financial assets at FVTPL are primarily attributable to the extension of syndicated loans.

Other Information (Continued)

The following table shows the changes in the financial liabilities allocated to Level 3 in the fair value hierarchy: (€ millions)

	FINANCIAL LIABILITIES HELD FOR TRADING		FINANCIAL LIABILITIES AT FVTPL		HEDGING DERIVATIVES	
	2021	2020	2021	2020	2021	2020
Balance at 1/1	**903**	**839**	**361**	**332**	**—**	**—**
Reclassification of financial liabilities held for						
trading to financial liabilities at FVTPL	—	—	—	—	—	—
Balance at 1/1 (after reclassification)	**903**	**839**	**361**	**332**	**—**	**—**
Additions						
Sales	146	158	—	—	—	—
Issues	336	155	179	172	— —	
Realised losses[1]	103	88	34	16	—	—
Transfer from other levels	153	63	58	31	—	—
Other additions[2]	95	19	8	4	—	—
Disposals						
Buy-backs	(240)	(117)	(23)	(32)	—	—
Repayment	(31)	(23)	(47)	(80)	—	—
Realised gains[1]	(124)	(90)	(39)	(24)	—	—
Transfer to other levels	(153)	(174)	(128)	(52)	—	—
Other disposals	(27)	(15)	(8)	(6)	—	—
Balance at 31/12	**1,161**	**903**	**395**	**361**	**—**	**—**

1 In the income statement and shareholders' equity.
2 Also including changes in the group of companies included in consolidation.

Most of the additions can be attributed to structured issues and certificates as well as to the conclusion of equity-, commodity- and credit-linked derivatives. The transfers from other levels are primarily due to adjustments to fair value levels resulting from the regular review of the determination of fair value levels. In addition, adjustments were made on account of the materiality of individual non-observable parameters. These resulted in transfers to other levels in the opposite direction in the event of immateriality.

81 Fair values of financial instruments compliant with IFRS 7

The fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It is assumed in this context that the transaction takes place on the principal market for the instrument or the most advantageous market to which the Bank has access.

The calculation of the fair value for performing loans is explained to begin with. The fair value of loans is calculated as the sum total of the discounted, risk-adjusted anticipated cash flows discounted on the basis of the swap curve. Cash flows are determined on the basis of the conditions of the loan agreement (interest and redemption), whereby rights of termination are taken into account. In this context, the anticipated, risk-adjusted cash flows are based on the survival probability and the loss given default. The survival probability is determined on the basis of the risk-neutral probability of default, while the proceeds upon realisation are determined on the basis of the internal loss given default parameters. The risk-neutral probability of default is determined for the first time in 2021 on the basis of the internally calculated multi-year probability of default covering the lifetime of the financial instrument (as real-world probability of default), the market risk premium and the correlation between the respective loan and the general market risk. In the previous year, the internal one-year default rate was used as the real-world probability of default; the effects from the change are not material. The market risk premium represents a factor used to cover the difference between the real-world probability of default and the market's return expectations for the risk assumed. The loan portfolio is divided into five sectors (sovereign loans, loans to banks, corporate loans, syndicated loans and retail loans) in order to take account of the specific features of each sector. For each of these sectors with the exception of retail loans, the market risk premium is first determined on the basis of a portfolio of liquid CDS prices specific to the respective sector. Only for retail loans is the market risk premium derived from the market risk premiums for the other sectors due to the absence of a CDS market (except for syndicated loans). Furthermore, the fair value calculated by the model is calibrated in order to take account of the difference between this value and the fair value upon addition. This is in line with the assumption based on IFRS 13.58 according to which the transaction price reflects the fair value.

The proceeds upon realisation estimated by the Bank are taken as a basis to determine the fair value of non-performing loans. These already take account of the expected credit default. The maturities of the expected proceeds upon realisation are determined using model assumptions. These cash flows are discounted at a market interest rate in order to establish the fair value.

The fair value calculation for loans and receivables is built around the risk-neutral credit spread, which takes account of all relevant factors on the market. Further parameters besides the risk-neutral credit spread and the risk-free return on investment are not included. Provided the markets are liquid and no relevant market disruptions are evident, as is currently the case, the arbitrage between the markets on which credit risks are traded leads to a narrowing of the credit spreads. The CDS market is thus defined as the relevant exit market for loans and receivables. Otherwise, the parameters used to determine the real-world probability of default (PD) and loss given default (LGD) are determined on the basis of internal procedures.

Levels are allocated based on a sensitivity analysis for which a range is determined, when calculating the respective fair value, for the internal parameters within which the internal parameters may fluctuate based on realistic assumptions. To date, in order to calculate the sensitivity, the internal parameter was replaced by the value with the highest deviation in the estimated range, and based on that figure the fair value was recalculated. As long as the deviation of the fair value determined using this method is insignificant compared with the originally determined fair value, the financial instrument is allocated to Level 2; otherwise, it is allocated to Level 3.

In the first half of 2021, HVB Group made the following adjustment in order to improve the methods used for deriving the fair value levels for loans: a specific adjustment of the parameters (shift under a stress scenario) is now simulated for the valuation parameters relating to credit risk (e.g. PD, LGD, etc.) and the effects on the fair value are analysed. If the change in the valuation parameters for credit risk result in a significant change in the fair value, the loan concerned is allocated to Level 3 as the valuation parameters used for mapping credit risk are essentially not based on or derived from prices observable on the market. In the course of the adjustment, the accuracy of the calculation itself was also improved. As a result, this has led to a significant €23 billion decrease in fair value of loans classified as Level 2 while the fair values of loans classified as Level 3 increased accordingly.

Investments in joint ventures and associates are accounted for using the equity method, provided they are not of minor significance. Investments in non-consolidated companies and listed companies not accounted for using the equity method are normally carried at their fair value.

Quoted market prices are used for securities and derivatives traded on an exchange as well as for listed debt instruments. These instruments are allocated to Level 1. The fair value of the remaining securities is calculated as the net present value of anticipated future cash flows. The methods used to determine the fair value levels as described in the Note “Fair value hierarchy” are employed for this purpose.

The fair values of single-currency and cross-currency swaps and interest rate futures are calculated on the basis of discounted, anticipated future cash flows. In doing so, the market rates applicable for the remaining maturity of the financial instruments are applied. The fair value of forward exchange transactions is computed on the basis of current forward rates. Options are measured using price quotations or generally accepted models used to calculate the price of options. The common Black & Scholes model and the Bachelier model are used to measure simple European options. For more complex instruments, interest is simulated using term-structure models with the current interest rate structure as well as caps and swaption volatilities as parameters relevant for measurement. The disbursement structure of the equities or indexes for the complex instruments is measured using either Black & Scholes or a stochastic volatility model with equity prices, volatilities, correlations and dividend expectations as parameters. The methods used to determine the fair value levels described in the Note “Fair value hierarchy” are employed for this purpose.

Please refer to the Note “Fair value hierarchy” for a description of the methods used to determine the fair value levels for unlisted derivatives.

For liabilities (deposits from banks and customers, and debt securities in issue, provided these are not listed), the anticipated future cash flows are discounted to the present value using current interest rates taking into account internally determined funding premiums. The funding premiums correspond to the parameters that the Bank uses when setting the prices for its own issues. These funding premiums represent internally determined parameters that are essential for the determination of the fair value; the other liabilities are allocated to Level 3 accordingly.

Other Information (Continued)

The fair values are calculated using the market information available at the reporting date as well as specific company valuation methods.

(€ billions)

	CARRYING AMOUNT		FAIR VALUE	
	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Assets				
Cash and cash balances	27.7	47.5	27.7	47.5
Financial assets held for trading	85.9	82.7	85.9	82.7
Financial assets at FVTPL	7.5	11.4	7.5	11.4
Financial assets at FVTOCI	12.0	12.5	12.0	12.5
Loans and receivables with banks (at cost)	24.6	34.0	24.8	34.3
Loans and receivables with customers (at cost)	146.8	144.2	152.5	154.4
of which finance lease receivables	—	1.6	—	1.6
Hedging derivatives	0.2	0.4	0.2	0.4
Total	**304.7**	**332.7**	**310.6**	**343.2**
Liabilities				
Deposits from banks	61.3	73.5	61.3	73.9
Deposits from customers	134.3	143.8	134.3	145.5
Debt securities in issue	32.2	31.7	34.5	34.1
Financial liabilities held for trading	53.7	57.0	53.7	57.0
Financial liabilities at FVTPL	5.5	5.7	5.5	5.7
Hedging derivatives	0.5	0.7	0.5	0.7
Total	**287.5**	**312.4**	**289.8**	**316.9**

(€ billions)

	FAIR VALUE OBSERVED ON AN ACTIVE MARKET (LEVEL 1)		FAIR VALUE BASED ON VALUATION PARAMETERS OBSERVED ON THE MARKET (LEVEL 2)		FAIR VALUE BASED ON VALUATION PARAMETERS NOT OBSERVED ON THE MARKET (LEVEL 3)	
	31/12/2021	31/12/2020	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Assets						
Financial assets not carried at fair value						
in the balance sheet						
Cash and cash balances	—	—	27.7	47.5	—	—
Loans and receivables with banks (at cost)	1.7	1.4	22.5	31.0	0.6	1.9
Loans and receivables with customers (at cost)	11.1	10.2	69.4	65.2	72.0	79.0
of which finance lease receivables	—	—	—	—	—	1.6
Liabilities						
Financial liabilities not carried at fair						
value in the balance sheet						
Deposits from banks	—	—	53.9	62.0	7.4	11.9
Deposits from customers	—	—	130.4	138.8	3.9	6.7
Debt securities in issue	14.8	12.9	7.0	7.0	12.7	14.2

At HVB Group, the difference between the fair values and carrying amounts totals €5.9 billion for assets (previous year: €10.5 billion) and €2.3 billion for liabilities (previous year: €4.5 billion). The net balance of these amounts is €3.6 billion (previous year: €6.0 billion). When comparing carrying amounts and fair values of the hedged items, it should be noted that part of the undisclosed reserves/charges has already been included in the hedge adjustment.

82 Disclosures regarding the offsetting of financial assets and liabilities

The following two tables separately show the recognised financial assets and financial liabilities that have already been netted in the balance sheet in accordance with IAS 32.42 together with the financial instruments that are subject to a legally enforceable master netting arrangement or similar arrangement but that do not satisfy the criteria for offsetting in the balance sheet.

Financial assets that are netted in the balance sheet or subject to a legally enforceable master netting arrangement or similar arrangement:

(€ millions)

				AMOUNTS NOT RECOGNISED			
	FINANCIAL ASSETS (GROSS)	FINANCIAL LIABILITIES NETTED IN THE BALANCE SHEET (GROSS)	RECOGNISED FINANCIAL ASSETS (NET)	EFFECTS OF MASTER NETTING ARRANGEMENTS	FINANCIAL INSTRUMENTS AS COLLATERAL	CASH COLLATERAL	NET AMOUNT
Derivatives[1]	87,196	(38,914)	48,282	(26,910)	(111)	(9,634)	11,627
Reverse repos[2]	17,903	(1,602)	16,301	—	(15,672)	—	629
Loans and receivables[3]	89,791	(6,122)	83,669	—	—	—	83,669
Total at 31/12/2021	**194,890**	**(46,638)**	**148,252**	**(26,910)**	**(15,783)**	**(9,634)**	**95,925**
Derivatives[1]	99,606	(42,882)	56,724	(32,078)	(170)	(13,363)	11,113
Reverse repos[2]	30,759	(2,050)	28,709	—	(27,834)	—	875
Loans and receivables[3]	85,441	(6,129)	79,312	—	—	—	79,312
Total at 31/12/2020	**215,806**	**(51,061)**	**164,745**	**(32,078)**	**(28,004)**	**(13,363)**	**91,300**

1 Derivatives are included in the balance sheet items "Financial assets held for trading" and "Hedging derivatives".
2 Reverse repos are covered in the Notes "Loans and receivables with banks (at cost)" and "Loans and receivables with customers (at cost)".
They are also included in financial assets held for trading at an amount of €5,197 million (previous year: €4,643 million).
3 Only relates to current accounts, cash collateral or pledged credit balances and other loans and receivables (including cumulative variation margins),as covered in the Notes "Loans and receivables with banks (at cost)" and "Loans and receivables with customers (at cost)".

Financial liabilities that are netted in the balance sheet or subject to a legally enforceable master netting arrangement or similar arrangement:

(€ millions)

				AMOUNTS NOT RECOGNISED			
	FINANCIAL LIABILITIES (GROSS)	FINANCIAL ASSETS NETTED IN THE BALANCE SHEET (GROSS)	RECOGNISED LIABILITIES (NET)	EFFECTS OF MASTER NETTING ARRANGEMENTS	FINANCIAL INSTRUMENTS AS COLLATERAL	CASH COLLATERAL	NET AMOUNT
Derivatives[1]	88,414	(43,861)	44,553	(26,911)	(544)	(8,215)	8,883
Repos[2]	9,957	(1,602)	8,355	—	(8,188)	—	167
Liabilities[3]	128,198	(1,176)	127,022	—	—	—	127,022
Total at 31/12/2021	**226,569**	**(46,639)**	**179,930**	**(26,911)**	**(8,732)**	**(8,215)**	**136,072**
Derivatives[1]	95,015	(46,634)	48,381	(32,079)	(592)	(10,887)	4,823
Repos[2]	29,770	(2,050)	27,720	—	(27,465)	—	—
Liabilities[3]	130,771	(2,376)	128,395	—	—	—	128,395
Total at 31/12/2020	**255,556**	**(51,060)**	**204,496**	**(32,079)**	**(28,057)**	**(10,887)**	**133,218**

1 Derivatives are included in the balance sheet items "Financial liabilities held for trading" and "Hedging derivatives".
2 Repos are covered in the Notes "Deposits from banks" and "Deposits from customers". They are also included in financial liabilities held for trading at an amount of €2,236 million (previous year: €2,597 million).
3 Only relates to current accounts, cash collateral or pledged credit balances and other liabilities (including cumulative variation margins), as covered in the Notes "Deposits from banks" and "Deposits from customers".

Other Information (Continued)

Compliant with IAS 32.42, financial assets and liabilities with the same counterparty are to be netted and the net amount recognised in the balance sheet if such netting of the amounts recognised at the present date is legally enforceable and the intention is to settle on a net basis during the normal course of business or to realise the asset and settle the liability simultaneously. The tables show a reconciliation from the gross amounts prior to netting via the offset amounts to the net amounts after netting for these offsets in the balance sheet. At HVB Group, the offsets in the balance sheet relate to transactions with central counterparties (CCPs), i.e. OTC derivatives (offset of positive and negative fair values that balance out at currency level) and the receivables and liabilities arising from reverse repos and repos concluded with the same central counterparty. At the same time, nettable receivables and liabilities repayable on demand with the same counterparties in the banking business are also offset in the balance sheet. In addition, cumulative changes in the fair value of derivatives on futures exchanges are netted with the cumulative variation margin payments.

The column "Effects of master netting arrangements" shows the financial instruments that are subject to a legally enforceable bilateral master netting arrangement or similar arrangement, but which are not netted in the balance sheet as they do not satisfy the IAS 32.42 netting requirements as described above. At HVB Group, this includes OTC derivatives and repo transactions with individual counterparties with which legally enforceable master netting arrangements have been concluded allowing an offset in the event of default.

In addition, collateral in the form of financial instruments and cash collateral pledged or received in this connection is presented in the tables. Furthermore, securities lending transactions shown off the balance sheet without cash collateral are not included in the above netting tables.

As part of credit risk management notably with regard to the counterparty risk arising from derivatives, netting arrangements are frequently concluded that, in the event of default by the counterparty, permit all derivatives with this counterparty to be netted and positive and negative fair values of the individual derivatives to be offset to create a net receivable. Such net receivables are normally secured by cash collateral to further reduce the credit risk. This involves the debtor of the net receivable transferring money to the creditor and pledging these cash balances. The amount of the cash collateral is adjusted at regular intervals to reflect the current amount of a potential net receivable, although a receivable from cash collateral provided can become a liability from cash collateral received and vice versa depending on the balance of the potential net receivable.

This cash collateral is shown separately as "Cash collateral and pledged credit balances" in the following notes: loans and receivables with banks (at cost), loans and receivables with customers (at cost), deposits from banks and deposits from customers.

83 Undiscounted cash flow

Compliant with IFRS 7.39, we are disclosing the residual maturities for non-derivative and derivative financial liabilities as well as for credit commitments and financial guarantees. The breakdown of residual maturities is based on the contractual due dates. These are crucial for determining the timing of payments. We have thus divided the contractually agreed, undiscounted payments into maturity buckets. The undiscounted cash flows shown here cannot be compared with the carrying amounts, as the latter are based on discounted cash flows.

At the same time, we have broken down the financial assets by residual maturity compliant with IFRS 7.39. These are financial assets that generate the cash flows used to settle financial liabilities.

In the following tables, we have divided the derivative and non-derivative financial assets and liabilities into maturity buckets. In doing so, all the financial liabilities have been allocated to the respective maturity bucket. The derivatives on financial assets held for trading and financial liabilities held for trading have been allocated to the shortest maturity bucket at their fair value. This reflects the fact that the derivatives are subject to an intention to sell in the short term and hence the maturity of the contractual undiscounted cash flows does not adequately reflect the timing of payments actually expected. The remaining financial instruments classified as financial assets held for trading and financial liabilities held for trading have been allocated to the earliest possible maturity bucket with their cash flows. Hedging derivatives used in hedge accounting are allocated to the applicable maturity bucket with their contractually agreed, undiscounted cash flows.

Credit commitments and financial guarantees have been allocated with the maximum amount to the shortest maturity bucket (repayable on demand) in which they can be utilised at the earliest. This assumption defined in IFRS 7 is unrealistic especially for unutilised credit commitments and contingent liabilities for financial guarantees, as the complete utilisation of all open credit commitments and financial guarantees is not to be expected on the next day. The same applies to the presentation of the fair values of trading derivatives.

Breakdown of financial assets and non-derivative and derivative financial liabilities by maturity bucket: (€ millions)

	REPAYABLE ON DEMAND	UP TO 1 MONTH	1 MONTH TO 3 MONTHS	3 MONTHS TO 1 YEAR	1 YEAR TO 5 YEARS	MORE THAN 5 YEARS	UNDATED
31/12/2021							
Financial assets							
Financial assets held for trading	265	6,163	3,489	4,724	6,182	7,018	8,748
Derivatives on financial assets held for trading	48,051	—	—	—	—	—	—
Financial assets at FVTPL	5	913	391	1,671	3,794	973	48
Financial assets at FVTOCI	—	108	516	1,227	8,693	1,521	—
Loans and receivables with banks (at cost)	8,642	2,813	5,305	5,502	4,249	8,609	11,134
Loans and receivables with customers (at cost)	18,001	8,384	11,169	12,450	56,410	67,219	—
thereof finance lease receivables	—	—	—	—	—	—	—
Hedging derivatives	—	183	366	1,646	3,703	1,721	—
Non-derivative and derivative financial liabilities							
Deposits from banks	12,059	2,982	2,513	7,725	32,237	6,084	134
Deposits from customers	107,668	4,813	19,591	6,593	1,933	880	1
Debt securities in issue	20	63	6,121	2,381	11,967	26,944	—
Financial liabilities held for trading	1	2,070	4,366	425	2,399	1,752	2,061
Financial liabilities at FVTPL	—	73	58	604	2,008	1,222	633
Derivatives on financial liabilities held for trading	44,053	—	—	—	—	—	—
Hedging derivatives	—	183	366	1,648	2,921	755	—
Credit commitments and financial guarantees	86,521	—	—	—	—	—	—
31/12/2020							
Financial assets							
Financial assets held for trading	229	6,785	301	4,244	3,423	3,162	5,061
Derivatives on financial assets held for trading	56,352	—	—	—	—	—	—
Financial assets at FVTPL	8	107	581	1,732	6,124	2,948	36
Financial assets at FVTOCI	—	19	8	802	8,372	3,169	—
Loans and receivables with banks (at cost)	10,419	11,258	4,504	3,413	10,193	8,244	12,757
Loans and receivables with customers (at cost)	15,140	8,449	11,185	16,398	55,150	64,233	65
thereof finance lease receivables	32	36	96	374	925	170	—
Hedging derivatives	—	330	660	2,971	3,316	2,414	—
Non-derivative and derivative financial liabilities							
Deposits from banks	13,545	15,063	5,158	2,875	35,188	6,485	141
Deposits from customers	107,248	15,289	16,765	7,525	4,377	1,151	—
Debt securities in issue	20	113	5,450	3,509	11,940	26,817	—
Financial liabilities held for trading	708	3,294	1,408	298	1,514	2,002	2,780
Financial liabilities at FVTPL	—	151	55	244	928	1,657	2,482
Derivatives on financial liabilities held for trading	47,647	—	—	—	—	—	—
Hedging derivatives	—	355	710	3,196	1,947	888	—
Credit commitments and financial guarantees	85,687	—	—	—	—	—	—

Other Information (Continued)

84 Regulatory disclosure requirements (Disclosure Report)

HVB has been classified as a large 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 at each quarter-end during the year and published on www.hvb.de > 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) takes the form of a separate report for HVB. This is drawn up once a year as at 31 December and published in the second quarter of the following year under: www.hvb.de > "About us" > "Investor Relations" > "Corporate Governance".

85 Key capital ratios (based on IFRS)

HVB Group manages its economic and regulatory capital within the framework of its value-oriented overall bank management strategy. The yield expectations are calculated in accordance with the allocated capital principle that UniCredit employs across its entire organisation. Under the principle of dual control, both regulatory capital in the sense of committed core capital and internal capital are allocated to the operating segments. Both resources are expected to yield an appropriate return, which is derived from the expectations of the capital market. Please refer to the section of the Risk Report entitled "Implementation of overall bank management" for further details on the management of regulatory capital adequacy requirements and economic capital adequacy.

The supervisory ratios are discussed below.

The legal basis is provided by the EU Regulation on Prudential Requirements for Credit Institutions and Investment Firms (CRR), which came into force on 1 January 2014. The regulatory total capital ratio prescribed in the CRR II represents the capital ratio determined in accordance with Part 2 CRR II to the total amount of the risk-weighted assets for counterparty risk, market risk and operational risk (corresponds to the risk-weighted asset equivalent of these risk positions). Under Article 92 CRR II, the Tier 1 capital ratio calculated as the ratio of Tier 1 capital to total risk-weighted assets determined as described above must be at least 6.0%.

Own funds underlying the calculation of the total capital ratio in accordance with CRR II consist of Tier 1 and Tier 2 capital. Under Article 92 CRR II, the total capital ratio calculated as the ratio of own funds to total risk-weighted assets must be at least 8.0%. HVB Group uses internal models in particular to measure market risk positions.

The following table shows own funds based on the approved consolidated financial statements and risk-weighted assets together with the risk equivalents for market risk positions and operational risk at the reporting date:

Own funds[1]: (€ millions)

	2021	2020
Tier 1 – Total core capital for solvency purposes	**16,867**	**16,822**
Shares of common stock	2,407	2,407
Additional paid-in capital, retained earnings, minority interest, own shares	14,529	14,590
Hybrid capital instruments (silent partnership certificates) without prorated interest	—	—
Other	(1,384)	(1,426)
Capital deductions	(385)	(449)
Additional Tier 1 capital	1,700	1,700
Tier 2 – Total supplementary capital for solvency purposes	**1,403**	**1,309**
Unrealised reserves in land and buildings and in securities	—	—
Offsetting reserves for general banking risks	—	—
Cumulative shares of preferred stock	—	—
Participating certificates outstanding	—	—
Subordinated liabilities	1,084	1,151
Value adjustment excess for A-IRB positions	319	158
Other	—	—
Capital deductions	—	—
Total own funds	**18,270**	**18,131**

1 Group of consolidated companies and principles of consolidation in accordance with banking supervisory regulations.

As in the previous year, we have not included in Tier 2 capital any unrealised reserves in accordance with Section 10 (2b) 1 No. 6 and 7 KWG in the version applicable until 31 December 2013.

Own funds are determined on the basis of IFRS figures in accordance with CRR II/CRD V using the consolidated accounting method.

Other Information (Continued)

The following table shows the reconciliation from the equity items shown in the balance sheet prepared in accordance with IFRS: (€ millions)

	COMMON EQUITY TIER 1 CAPITAL	ADDITIONAL TIER 1 CAPITAL	TIER 2 CAPITAL	TOTAL OWN FUNDS
Shown in IFRS balance sheet				
Shareholders' equity	16,009	1,700	—	17,709
Reconciliation to own funds compliant with the CRR				
Cumulative shares of preferred stock	—	—	—	—
Ineligible profit components	(245)	—	—	(245)
Ineligible minority interests under banking supervisory regulations	9	—	—	9
Diverging consolidation perimeters	(222)	—	—	(222)
Deduction of intangible assets	(3)	—	—	(3)
Hybrid capital recognised under banking supervisory regulations	—	—	—	—
Eligible portion of subordinated liabilities	—	—	1,084	1,084
Value adjustment excess (+) or shortfall (–) for A-IRB positions	—	—	319	319
Adjustments to CET1 due to prudential filters	(197)	—	—	(197)
Deductible deferred tax assets	(17)	—	—	(17)
Capital deductions which can alternatively be				
subject to a 1,250% risk weight	(2)	—	—	(2)
Transitional adjustments	—	—	—	—
Other effects	(165)	—	—	(165)
Own funds compliant with CRR II	**15,167**	**1,700**	**1,403**	**18,270**

(€ millions)

	2021 CRR II	2020 CRR II
Risk-weighted assets from		
on-balance-sheet counterparty risk positions	43,824	40,354
off-balance-sheet counterparty risk positions	15,950	16,317
other counterparty risk positions1	1,025	443
derivative counterparty risk positions	6,754	5,271
other risk exposure amounts2	1,291	501
Total credit risk-weighted assets	**68,844**	**62,886**
Risk-weighted asset equivalent for market risk positions	**9,326**	**9,053**
Risk-weighted asset equivalent for operational risk	**8,758**	**8,698**
Total risk-weighted assets	**86,928**	**80,637**

1 Primarily including repos and securities lending transactions.
2 Upon the introduction of the "Defaulted Assets Model", a lower RWA limit was imposed on HVB for default losses in the retail/corporate portfolio. If the calculated RWA are below the lower RWA limit for the default losses in the retail/corporate portfolio, the difference is shown in this item.

At the respective reporting dates, the key capital ratios (based on the approved consolidated financial statements) were as follows: (in %)

	2021 CRR II	2020 CRR II
CET1 capital ratio		
[Common Equity Tier 1 capital excluding hybrid capital/(credit risk-weighted assets		
+ 12.5x market risk positions + 12.5x operational risk)]	17.4	18.8
Tier 1 capital ratio		
[Tier 1 capital/(credit risk-weighted assets + 12.5x market risk positions		
+ 12.5x operational risk)]	19.4	20.9
Total capital ratio		
[Own funds/(credit risk-weighted assets + 12.5x market risk positions + 12.5x operational risk)]	21.0	22.5

86 Securities sale and repurchase and securities lending transactions by balance sheet item

(€ millions)

	31/12/2021		31/12/2020	
	CARRYING AMOUNT	OF WHICH TRANSFERRED AS COLLATERAL	CARRYING AMOUNT	OF WHICH TRANSFERRED AS COLLATERAL
Financial assets held for trading	85,914	1,772	82,705	2,599
Financial assets at FVTPL	7,534	162	11,444	865
Financial assets at FVTOCI	12,006	883	12,471	2,069
Loans and receivables with banks (at cost)	24,620	—	33,973	11
Loans and receivables with customers (at cost)	146,794	196	144,247	875
Total	**276,868**	**3,013**	**284,840**	**6,419**

87 Contingent liabilities and other commitments

(€ millions)

	31/12/2021	31/12/2020
Contingent liabilities[1]	28,110	24,588
Financial guarantees (guarantees and indemnities)	28,110	24,588
Other commitments	57,963	60,689
Irrevocable credit commitments	57,957	60,674
Other commitments	6	15
Total	**86,073**	**85,277**

1 Contingent liabilities are offset by contingent assets of the same amount.

Financial guarantees and irrevocable credit commitments are shown at their nominal amount (maximum outflow) less provisions set aside for this purpose. Neither contingent liabilities nor other commitments contain any significant items. The financial guarantees and indemnities listed here essentially reflect guarantees and indemnities that the Bank has granted on behalf of customers. Consequently, the Bank has a right of recourse against the customer (contracting party) should the guarantee or indemnity in question be utilised. An appropriate provision is set aside where such a customer's creditworthiness is doubtful. This takes account of the loss suffered by the Bank if the recourse claim against the contracting party is not considered fully realisable on account of the party's doubtful creditworthiness.

It is hard to anticipate the date at which the contingent liabilities and other commitments mentioned here will result in an outflow of funds. Credit commitments frequently serve as liquidity reserve for the beneficiary in particular, meaning that the amounts are not necessarily utilised at all and hence an outflow of funds is not certain. In terms of financial guarantees, it is important to note that these are conditional payment commitments so that the condition must be met before utilisation becomes possible (such as default on the guaranteed credit in the case of a credit guarantee or non-compliant delivery in the case of a delivery guarantee and other cases). Here, too, it is hard to assess whether and when this will be the case, as financial guarantees in particular are only ever utilised in exceptional circumstances entailing an outflow of funds.

Securities lending transactions are not recognised in the balance sheet as economic ownership remains with the lender. The Bank only becomes the legal owner of the borrowed securities which are returned to the lender when the lending transaction falls due. Obligations of €16,833 million (previous year: €8,990 million) to return securities arising from securities lending transactions are thus offset by borrowed securities of the same amount, which are not carried as assets on the assets side of the balance sheet.

Other Information (Continued)

In previous years HVB made use of the option to provide up to 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 for this purpose amounted to €104 million at the reporting date. No new irrevocable payment commitments were issued in the reporting period.

In previous years HVB made use of the option to provide up to 30% of the annual contribution to the deposit guarantee scheme of German banks in the form of fully secured payment claims (irrevocable payment commitments) in accordance with Section 5a (10) of the German Statute of the Deposit Guarantee Scheme (Statut des Einlagensicherungsfonds – SESF). The financial and cash collateral provided for this purpose amounts to €22 million at the reporting date. No new irrevocable payment commitments were issued in the reporting period.

HVB has made use of the option to provide up to 30% of the annual contribution to the deposit guarantee scheme of German banks (Entschädigungseinrichtung deutscher Banken) in the form of fully secured payment claims (irrevocable payment commitments) in accordance with Section 19 of the German Regulation on Financing the Deposit Guarantee Scheme (Entschädigungseinrichtungs-Finanzierungsverordnung – EntschFinV). The financial security provided in this regard amounted to €39 million at the reporting date (previous year: €39 million). No new irrevocable credit commitments were given in the reporting period.

HVB may incur losses from legal risks, 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 civil-law proceedings and the tendency for rulings to be made in favour of consumers or customers. The risk of loss that is assessed 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 that can be estimated amounted to €51 million at year-end 2021 after €54 million at year-end 2020.

As part of real estate financing and development operations, we have assumed rental obligations and pre-emptive obligations or issued rental guarantees to make fund constructions more marketable – in particular for lease funds and (closed-end) KG real estate funds. Identifiable risks arising from such guarantees have been incorporated by setting aside provisions.

Commitments for payments called on shares not fully paid up amounted to €6 million at the reporting date (previous year: €15 million), and similar obligations for shares in cooperatives totalled €1 thousand (previous year: €1 thousand). The Bank was not liable for any defaults on calls for payment under Section 22 (3 and 24) of the German Limited Companies Act (Gesetz betreffend die Gesellschaften mit beschränkter Haftung – GmbHG).

At the reporting date, we had unlimited personal liability arising from ownership of shares in 65 partnerships (previous year: 64).

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.

UniCredit Bank AG assumes liability as a member of the deposit guarantee funds in Germany within the scope of the valid provisions.

Euro-denominated bonds issued by EU countries
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 on 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. On 23 July 2020, the court granted motions to dismiss the third amended complaint by certain defendants, including HVB and UniCredit Capital Markets LLC, without prejudice. Plaintiffs filed their fourth amended class action complaint on 9 February 2021, repleading their claim against HVB and UniCredit Capital Markets LLC and other financial institutions. Like earlier pleadings, the fourth amended class action complaint does not include a quantification of damages claimed. Exchange of correspondence concerning motions to dismiss the fourth amended complaint has been completed, and in June 2021 defendants have requested a pre-motion conference with the court.

Claim in relation to interest rate swap
In December 2021 HVB was named as defendant in a case pertaining to an interest rate swap commenced by an Italian region before the Court of Bologna in Italy. The region argues, inter alia, HVB´s precontractual and/or non-contractual liability because HVB had allegedly missed to include certain requirements in the swap allegedly needed for the validity of the contract. The region seeks damages for an amount of approx. €52 million (equal to the payments made under the swap), as well as a declaration that no further sums are due to HVB (equal to approx. €18 million). The first hearing of the case is scheduled for 30 June 2022.

Contingent liabilities payable to related parties (€ millions)

	2021	2020
Non-consolidated affiliates	2,106	1,952
of which:		
UniCredit S.p.A.	1,227	1,163
sister companies	873	774
subsidiaries	6	15
Joint ventures	—	—
Associates	—	7
Other investees	75	47
Total	**2,181**	**2,006**

88 Contingent assets from income taxes
In a ruling dated 8 July 2021, the German Federal Constitutional Court held that the level of interest on tax arrears and tax refunds was unconstitutional pursuant to Section 233 a in conjunction with Section 238 (1) sentence 1 of the German Tax Code (Abgabenordnung – AO). The legislator is required to enact a new provision by 31 July 2022 for interest periods beginning on 1 January 2019. Due to the imminent new provision, UCB AG expects additional interest income in 2022 in the low double-digit million range.

89 Statement of Responsibility
HVB ensures that, to the extent of its respective 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

To the extent that HVB's shareholding in the company is reduced in the future, HVB's commitment arising under the above Statement of Responsibility also declines for those contractual obligations of the company that are established only after HVB's shareholding decreased. In case HVB is no longer a shareholder of the company listed above, its commitment under the above Statement of Responsibility ends on the date on which its shareholding ceased for those contractual liabilities of the company that are established only after its shareholding was ceased.

HVB no longer provides a Statement of Responsibility for companies for which a Statement of Responsibility was provided in earlier annual reports but which no longer appear in the above list. The 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.

90 Disclosures regarding structured entities
A structured entity as defined in IFRS 12 is an enterprise (or an economically separate entity) that has been designed so that voting rights or similar rights are not the dominant factor in deciding who controls the entity. Structured entities are frequently characterised by restricted activities, a narrow, well-defined objective, insufficient equity or financing in tranches.

Structured entities may be consolidated or not consolidated, depending on whether HVB Group has control over the entity or not. Transactions involving structured entities can be divided into the following categories using the business model applied by HVB Group:
– ABS vehicles
– Repackaging vehicles
– Funding vehicles for customers
– Some investment funds
– Other structured entities

Other Information (Continued)

Financial instruments with unconsolidated structured entities
Financial instruments with unconsolidated structured entities encompass all contractual relationships from which HVB Group obtains variable earnings and exposure to loss from the structured entities, but without gaining control over the structured entity. These might be equity and debt instruments, derivatives, liquidity facilities or guarantees.

ABS vehicles
HVB Group invests in ABS vehicles and uses ABS vehicles for its own securitisations. These vehicles buy loans or receivables and refinance themselves by issuing securities on the money or capital market. The securities are backed by the assets purchased. HVB Group can also provide finance for these vehicles in the form of liquidity facilities.

ABS vehicles used for own securitisations are fully consolidated in the consolidated financial statements and are not included in the unconsolidated structured entities shown here. This means that only such ABS vehicles in which HVB Group solely has an interest as an investor are classified as unconsolidated structured entities.

	2021	2020
Number of unconsolidated ABS vehicles (investor positions only)	202	211

Repackaging vehicles
Repackaging vehicles are used to offer customers specific securities and derivatives solutions. These vehicles buy assets (such as securities, loans and receivables, and derivatives) and restructure the cash flows from these assets by incorporating other instruments or securities. The vehicles refinance themselves by issuing custom-packaged securities or derivatives that meet the customer's demands. The funding is normally secured by the acquired assets.

	2021	2020
Number of unconsolidated repackaging vehicles	2	2
Aggregate total assets of unconsolidated repackaging vehicles (€ millions)	57	57
Nominal value of the securities issued by unconsolidated repackaging vehicles (€ millions)	57	57

Funding vehicles for customers
Customers use these vehicles as a source of funding. These funding vehicles buy current receivables or lease receivables from customers and refinance themselves mostly by issuing securities on the capital and money market (mostly commercial paper conduits). HVB Group can also provide financing for these vehicles in the form of liquidity facilities or other lending products. The majority of the vehicles listed below were set up by the customer or by HVB Group on behalf of the customer. These vehicles are not consolidated as HVB Group is not exposed to a majority of the variable income from the vehicles and has no possibility of influencing them.

	2021	2020
Number of unconsolidated funding vehicles for customers	47	44
Aggregate total assets of unconsolidated funding vehicles for customers (€ millions)	6,057	5,623
Nominal value of the securities issued by unconsolidated funding vehicles for customers (€ millions)	6,055	5,622

Some investment funds
Investment funds are classified as structured entities if they are not controlled by means of voting or similar rights. Investment funds invest in a range of assets and can also finance themselves with debt within the framework of their investment policies alongside the moneys provided by investors. Investment funds serve to achieve specifically defined investment goals.

HVB Group offers its customers investment funds under own and third party management and also itself invests in investment funds. We are also mandated by customers to keep shares in investment funds in securities accounts for third party account. Furthermore, HVB Group holds shares in investment funds in its own portfolio. These are mostly held in the held-for-trading portfolio and to a much smaller extent also in the portfolio at FVTPL. In addition, we offer typical banking services to investment funds, including derivative and financing solutions and deposit-taking operations.

The European-Office-Fonds investment fund controlled by HVB Group is fully consolidated in the consolidated financial statements and is not one of the unconsolidated structured entities shown here. The number and aggregated net asset value of investment funds show funds to which HVB Group has an exposure. Regarding the statement of the number of unconsolidated investment funds classified as structured entities, we have separately reported every special purpose entity to which HVB Group has an exposure.

	2021	2020
Number of unconsolidated investment funds classified as structured entities	653	697
thereof managed by HVB Group	33	39
Aggregate net asset value (including minority interests) of the investment		
funds classified as structured entities (€ millions)	529,911	533,383
thereof managed by HVB Group	2,607	2,177

With regard to the aggregate net asset value, it should be noted that our risk is only calculated in terms of the participating interest held, loans extended or derivatives issued as a proportion of the aggregate fund volume. A risk analysis is provided in the table under “Risks in connection with unconsolidated structured entities”.

Other structured entities
This category covers structured entities that cannot be assigned to any of the other categories. For the most part, HVB Group mainly performs lending activities under this category with structured entities set up by customers or by HVB Group on behalf of customers.

These entities are mostly lease vehicles that have only insufficient equity and are controlled economically by the lessee. Some of the lease vehicles were financed through syndicated loans.

	2021	2020
Number of other structured entities	8	13
Aggregate total assets (€ millions)	908	1,189

Other Information (Continued)

Risks in connection with unconsolidated structured entities

The following tables show the carrying amounts of the assets and liabilities together with the off-balance-sheet risk positions of HVB Group in connection with unconsolidated structured entities:

(€ millions)

	2021				
	ABS VEHICLES (INVESTOR POSITIONS)	REPACKAGING VEHICLES	FUNDING VEHICLES FOR CUSTOMERS	SOME INVESTMENT FUNDS	OTHER STRUCTURED ENTITIES
Assets	**16,354**	**41**	**5,983**	**4,978**	**335**
Financial assets held for trading	46	41	—	2,606	6
Financial assets at FVTPL	31	—	—	30	—
Financial assets at FVTOCI	46	—	—	—	—
Loans and receivables with banks (at cost)	—	—	—	—	—
Loans and receivables with customers (at cost)	16,230	—	5,983	2,340	329
Hedging derivatives	—	—	—	—	—
Other assets	1	—	—	2	—
Liabilities	**2,165**	**—**	**60**	**933**	**37**
Deposits from banks	—	—	—	—	—
Deposits from customers	2,136	—	58	778	26
Debt securities in issue	—	—	—	2	—
Financial liabilities held for trading	27	—	1	153	2
Financial liabilities at FVTPL	—	—	—	—	—
Hedging derivatives	—	—	—	—	—
Other liabilities	2	—	—	—	—
Provisions	—	—	1	—	9
Off-balance-sheet positions	**61**	**—**	**2,459**	**206**	**2**
Irrevocable credit commitments and other commitments	61	—	2,459	206	—
Guarantees	—	—	—	—	2
Maximum exposure to loss	**16,415**	**41**	**8,442**	**5,184**	**337**

(€ millions)

	2020				
	ABS VEHICLES (INVESTOR POSITIONS)	REPACKAGING VEHICLES	FUNDING VEHICLES FOR CUSTOMERS	SOME INVESTMENT FUNDS	OTHER STRUCTURED ENTITIES
Assets	**8,686**	**33**	**5,617**	**4,071**	**641**
Financial assets held for trading	403	33	—	2,322	—
Financial assets at FVTPL	28	—	—	27	2
Financial assets at FVTOCI	82	—	—	—	—
Loans and receivables with banks (at cost)	—	—	—	—	—
Loans and receivables with customers (at cost)	8,173	—	5,617	1,722	639
Hedging derivatives	—	—	—	—	—
Other assets	—	—	—	—	—
Liabilities	**2,152**	**—**	**62**	**12,119**	**61**
Deposits from banks	—	—	—	—	—
Deposits from customers	2,142	—	61	10,425	43
Debt securities in issue	—	—	—	1,439	—
Financial liabilities held for trading	10	—	—	254	2
Financial liabilities at FVTPL	—	—	—	—	—
Hedging derivatives	—	—	—	—	—
Other liabilities	—	—	—	1	—
Provisions	—	—	1	—	16
Off-balance-sheet positions	**51**	**—**	**2,645**	**209**	**7**
Irrevocable credit commitments and other commitments	51	—	2,645	209	—
Guarantees	—	—	—	—	7
Maximum exposure to loss	**8,737**	**33**	**8,262**	**4,280**	**648**

The maximum exposure to loss from unconsolidated structured entities arises from the assets and off-balance-sheet risk positions relating to structured entities. This view does not, however, reflect the economic risk, as the collateral received and hedging instruments are not included.

No financial or other support ("implicit support") was provided to unconsolidated structured entities during the reporting period without having a contractual obligation to do so. Neither are there any concrete plans to provide support to unconsolidated structured entities in future.

Sponsored unconsolidated structured entities
Structured entities are classified as sponsored by HVB Group, if HVB Group was materially involved in setting up the entities. HVB Group has sponsored structured entities without having a participating interest in these entities through financial instruments. Thus, HVB Group is not exposed to the economic risks arising from these structured entities.

We only generate income from structured entities without participating interests to a limited extent through financial instruments. Fee and commission income of €17 million (previous year: €13 million) from charges and management fees was generated during the reporting period on investment funds managed by the Bank, of which €13 million (previous year: €9 million) was passed on to third parties in trailer fees.

Consolidated structured entities
The biggest consolidated structured entity is the multi-seller conduit programme Arabella. Securities with a nominal value of €4,848 million (previous year: €5,014 million) were outstanding at 31 December 2021. The total assets of the multi-seller conduit Arabella Finance DAC at the reporting date amounted to €4,851 million (previous year: €5,032 million).

Contractual arrangements that oblige HVB Group to provide financial assistance to consolidated structured entities exist notably in the form of liquidity facilities. These may be drawn by the vehicles to bridge maturity mismatches between the assets acquired and the securities issued.

Financial or other support was provided to consolidated structured entities without a contractual obligation to do so ("implicit support"):
– Where the market conditions prevented the securities issued by the consolidated multi-seller conduit Arabella Finance DAC from being placed, HVB has acquired such issues. Without the purchases of the securities, HVB would have been required to provide liquidity facilities in the same amount to individual Elektra Purchase companies. At the reporting date, HVB Group held securities issued by Arabella Finance DAC with a nominal value of €1,736 million (previous year: €2,234 million) in its portfolio.
– Future support arrangements are planned as follows: HVB Group will continue to decide on a case-by-case basis whether to buy temporarily non-placeable securities issued by the consolidated multi-seller conduit Arabella Finance DAC or utilise the liquidity lines. Accordingly, the volume of securities to be acquired depends on the funding required, the prevailing market conditions and the above decision in each case.
– Both contractual financial and other support provided to consolidated structured entities without a contractual obligation to do so are not material for the consolidated financial statements, as these represent intra-group transactions.

Other Information (Continued)

91 Trust business

(€ millions)

	2021	2020
Trust assets	**2,389**	**2,314**
Loans and receivables with banks	—	—
Loans and receivables with customers	374	267
Equity securities and other variable-yield securities	—	—
Debt securities and other fixed-income securities	—	—
Participating interests	—	—
Property, plant and equipment	—	—
Other assets	—	—
Fund shares held in trust	2,015	2,047
Remaining trust assets	—	—
Trust liabilities	**2,389**	**2,314**
Deposits from banks	374	267
Deposits from customers	2,015	2,047
Debt certificates including bonds	—	—
Other liabilities	—	—

The increase in trust assets is mainly attributable to the KfW Schnellkredit loan, which HVB granted to its customers as part of the government support measures due to the COVID-19 pandemic (€371 million). In this context, KfW assumes all the risks (100% guarantee), stipulates the conditions and provides the funds. The KfW Schnellkredit is thus to be classified as a trust loan.

92 Transfer of financial assets

Transferred financial assets are derecognised in accordance with the derecognition criteria set forth in IFRS 9 when substantially all the risks and rewards incident to ownership of the asset are transferred.

HVB Group has no continuing involvement in transferred and derecognised financial assets for which substantially the risks and rewards are neither retained nor transferred.

Transferred, non-derecognised financial assets

However, HVB Group conducts business transactions under which it transfers previously recognised financial assets in accordance with IFRS 9, but substantially retains all the risks and rewards associated with these assets, meaning that such assets are not derecognised. The recognised asset is simultaneously offset by an associated liability for the consideration received, which corresponds to recognition as a secured loan. HVB Group may not use these transferred, non-derecognised assets for other purposes.

Transactions of this type conducted by the Group relate primarily to genuine securities repurchase agreements (repos) and securities lending transactions.

The securities (transferred) under repo transactions (cash sale) continue to be carried and measured in the consolidated balance sheet, as the Group as seller retains all the credit, share price, interest rate and currency risks associated with the assets and their results. The payment received by the buyer for whom the transferred security acts as collateral is recognised as a repo liability payable to banks or customers, depending on the counterparty. Upon delivery of the securities, the unrestricted power of disposal passes to the buyer.

Where the corporate group acts as a lender of securities in securities lending transactions, the securities lent to counterparties continue to be carried in the consolidated balance sheet of the lender.

The transactions are conducted under the customary market terms for securities lending and repurchasing agreements, under which the counterparty holds a contractual or customary right to resell or repledge the securities received.

At the same time, these transaction types also encompass such examples as the true sale securitisation transactions Rosenkavalier 2008, Rosenkavalier 2015, Rosenkavalier 2020 and Geldilux 2015 (see the Note "Own securitisation") carried out by HVB Group, under which non-derecognised securitised customer receivables indirectly serve as collateral for repurchase agreements with the ECB.

The following Note "Assets assigned or pledged as collateral for own liabilities" contains details of repo transactions, securities lending transactions and other transactions under which the financial assets transferred as collateral for own liabilities are not derecognised.

93 Assets assigned or pledged as collateral for own liabilities

Examples of own liabilities of HVB Group for which we provide collateral are special credit facilities provided by KfW and similar institutions, which we have passed on as loans in compliance with their conditions. In addition, collateral has been provided for cash borrowings under repurchase agreements on international money markets, for open market transactions with central banks and for securities lending transactions. As a seller under repurchase agreements, HVB Group has entered into sales and repurchase transactions for securities with a carrying amount of €28.1 billion (previous year: €45.5 billion) or transferred them to a collateral pool with the European Central Bank or GC Pooling. It is not always necessary for liabilities to exist in the latter instance. These securities continue to be shown under our assets, and the consideration received in return is stated under liabilities.

The following table shows the breakdown of assets that we provide as collateral for own liabilities: **(€ millions)**

	2021	2020
Financial assets held for trading	7,819	8,164
Financial assets at FVTPL	3,223	6,638
Financial assets at FVTOCI	5,948	8,232
Loans and receivables with banks (at cost)	1,173	1,006
Loans and receivables with customers (at cost)	17,796	19,139
Property, plant and equipment	—	—
Unrecognised repledged securities received:		
pledged securities from unrecognised securities lending transactions	12,847	7,875
pledged collateral received	8,556	18,733
Total	**57,362**	**69,787**

The collateral pledged from "Loans and receivables with customers (at cost)" relates to special credit facilities provided by KfW and similar institutions.

The assets pledged as collateral by HVB Group relate to the following own liabilities: **(€ millions)**

	2021	2020
Deposits from banks	39,583	46,657
Deposits from customers	1,981	9,453
Debt securities in issue	—	—
Financial liabilities held for trading	8,069	6,460
Financial liabilities at FVTPL	—	—
Contingent liabilities	—	—
Obligations to return non-expensed, borrowed securities	7,729	7,217
Total	**57,362**	**69,787**

Compliant with IFRS 7.14, we are disclosing the carrying amount of the financial assets that we provide as collateral. In addition, figures are disclosed showing the extent to which the collateral provided may be repledged or resold by the collateral assignee.

(€ millions)

	2021	2020
Aggregate carrying amount of assets pledged as security	57,362	69,787
of which may be repledged/resold	14,497	34,811

Other Information (Continued)

94 Collateral received that HVB Group may resell or repledge

As the collateral taker under genuine repurchase agreements (repos) and collateral agreements for OTC derivatives, HVB Group has received collateral that it may resell or repledge at any time under customary market conditions without the collateral provider having to be in arrears. The fair value of the collateral received is €16.4 billion (previous year: €30.0 billion).

HVB Group has actually repledged or resold €8.6 billion of this amount (previous year: €18.7 billion), for which there is an obligation to return the same type, volume and quality of the collateral received.

The transactions that make it possible to use this collateral were conducted under customary market conditions for securities repurchase and lending transactions.

95 Information on relationships with related parties

Besides the relationships with consolidated affiliates, there are a number of transactions involving UniCredit S.p.A. and other affiliated but not consolidated UniCredit companies as a result of the integration of HVB Group into the UniCredit group of companies. The quantitative information in this regard can be found in the notes to the income statement and the notes to the balance sheet.

HVB has been assigned the role of centre of competence for the markets and investment banking activities of the entire UniCredit corporate group. Among other things, HVB acts as counterparty for derivative transactions conducted by UniCredit companies in this role. For the most part, this involves hedge derivatives that are externalised on the market via HVB. Information regarding the exposure to UniCredit and its subsidiaries is described in Management's Discussion and Analysis -> Risk Report -> "Risk types in detail" -> "Credit risk".

Like other affiliates, HVB has outsourced IT activities to UniCredit Services S.C.p.A., Milan, a company that is affiliated with the Bank. The goal is to exploit synergies and enable the Bank to offer fast, high-quality IT services by means of a service level agreement. HVB incurred expenses of €468 million for these services in the reporting year (previous-year period: €487 million). This was offset by income of €19 million (previous-year period: €18 million) from services rendered and internal charges. Moreover, software products worth €1 million (previous-year period: €1 million) were purchased from UniCredit Services S.C.p.A.

Furthermore, HVB Group has transferred certain back office activities to UniCredit Services S.C.p.A. In this context, UniCredit Services S.C.p.A. provides settlement services for HVB and other affiliates in line with a standard business and operating model. HVB Group incurred expenses of €140 million for these services in the reporting year (previous-year period: €112 million).

Transactions involving related parties are generally conducted on an arm's length basis.

Subsequent to the filing of the squeeze-out resolution in the Commercial Register on 15 September 2008, HVB is not listed any more. Consequently, the compensation paid to the members of the Management Board is not shown on an individualised basis.

Remuneration paid to members of the Management Board and Supervisory Board: (€ thousands)

	SHORT-TERM COMPONENTS		LONG-TERM INCENTIVES				
	FIXED SALARY	SHORT-TERM PERFORMANCE RELATED CASH REMUNERATION	LONG-TERM PERFORMANCE RELATED CASH REMUNERATION	SHARE-BASED PAYMENTS	POST-EMPLOYMENT BENEFITS	TERMINATION BENEFITS	TOTAL
2021							
Members of the Management Board of							
UniCredit Bank AG	4,148	127	42	706	1,228	—	6,251
Members of the Supervisory Board of UniCredit							
Bank AG for Supervisory Board activities	822	—	—	—	—	—	822
Members of the Supervisory Board of UniCredit							
Bank AG for activities as employee representatives	475	26	—	—	39	—	540
Former members of the Management Board of							
UniCredit Bank AG and their surviving dependants	428	55	1,010	1,697	20,543	1,125	24,858
2020							
Members of the Management Board of							
UniCredit Bank AG	4,321	565	254	267	1,179	—	6,586
Members of the Supervisory Board of UniCredit							
Bank AG for Supervisory Board activities	824	—	—	—	—	—	824
Members of the Supervisory Board of UniCredit							
Bank AG for activities as employee representatives	561	40	—	—	33	—	634
Former members of the Management Board of							
UniCredit Bank AG and their surviving dependants	248	58	114	1,814	15,955	—	18,189

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 employment 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 shares, with disbursement dependent upon defined corporate targets being achieved in the subsequent years.

Pension commitments for seven currently active members of the Management Board and three members who resigned during the year are shown in the table alongside the direct remuneration. Of these members of the Management Board, eight members took part in the employer-financed, fund-linked pension scheme for executives (known as AgfA) in 2021. The Bank will provide/has provided 35% of the fixed salary contributions (reporting period: €1,129 thousand, previous-year period: €1,014 thousand).

Non-monetary remuneration 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.

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

The provisions for pensions compliant with IFRS for former and retired members of the Management Board of HVB and their surviving dependants (including the pension commitments transferred to HVB Trust Pensionsfonds AG) amounted to €162,011 thousand (previous-year period: €164,625 thousand).

The remuneration paid to retired members of the Management Board and their surviving dependants amounted to €9,342 thousand in the reporting period after the transfer of a large part of the pension commitments to HVB Trust Pensionsfonds AG (previous-year period: €9,286 thousand).

Other Information (Continued)

Share-based payments were 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	2021	2020
Number of shares granted	55,892	16,168
Fair value on grant date (€)	9.004	6.802

For details of share-based payments, please refer to the disclosures in the Note “Operating costs”, where the underlying UniCredit programmes are described.

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

	2021			2020		
	LOANS AND RECEIVABLES	CONTINGENT LIABILITIES ASSUMED	LIABILITIES	LOANS AND RECEIVABLES	CONTINGENT LIABILITIES ASSUMED	LIABILITIES
Members of the Management	3,264	131	2,226	2,846	791	2,894
Board of UniCredit Bank AG	—	—	475	—	—	1,080
Members of the Supervisory	—	—	—	—	—	442
Board of UniCredit Bank AG	3,264	131	2,226	2,846	791	2,894
Members of the Group	—	—	475	—	—	1,080
Executive Committee[1]	—	—	—	—	—	442

1 Excluding members of the Management Board and Supervisory Board of UniCredit Bank AG.

Members of the Supervisory Board and Management Board at HVB, as well as members of the Group Executive Committee of UniCredit S.p.A. and their respective immediate family members are considered related parties.

Mortgage loans were granted to members of the Management Board and their immediate family members with interest rates of between 0.35% and 2.03% falling due in the period from 2022 to 2049.

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

96 Fees paid to the independent auditors

The following table shows the breakdown of fees (excluding value-added tax) recorded as expense in the reporting period, as paid to the independent auditors Deloitte GmbH Wirtschaftsprüfungsgesellschaft, for activities performed for HVB Group: (€ millions)

	2021	2020
Fee for	**10**	**11**
Auditing of the financial statements	9	9
Other auditing services	1	2
Tax consulting services	—	—
Other services	—	—

97 Employees

AVERAGE NUMBER OF PEOPLE EMPLOYED BY US	2021	2020
Employees (excluding trainees)	12,820	13,360
Full-time	9,004	9,380
Part-time	3,816	3,980
Trainees	253	273

(in %)

	WOMEN	MEN	2021	2020
LENGTH OF SERVICE OF EMPLOYEES	(EXCLUDING TRAINEES)		TOTAL	TOTAL
31 years or more	22.0	17.6	19.9	17.5
from 21 years to less than 31 years	38.3	26.9	32.9	31.9
from 11 years to less than 21 years	19.3	22.4	20.8	22.7
less than 11 years	20.4	33.1	26.4	27.9

98 Offices

		ADDITIONS	REDUCTIONS			
	1/1/2021	NEW OPENINGS	CLOSURES	CONSOLIDATIONS	CHANGE IN CONSOLIDATED GROUP	31/12/2021
Germany						
Baden-Wuerttemberg	15	—	—	—	—	15
Bavaria	282	1	—	—	(14)	269
Berlin	6	—	—	—	—	6
Brandenburg	5	—	—	—	—	5
Bremen	1	—	—	—	—	1
Hamburg	16	—	—	—	—	16
Hesse	12	—	1	—	—	11
Lower Saxony	11	—	—	—	—	3
Mecklenburg-Western Pomerania	3	—	—	—	—	11
North Rhine-Westphalia	8	—	—	—	—	8
Rhineland-Palatinate	12	—	—	—	—	12
Saarland	3	—	—	—	—	3
Saxony	7	—	—	—	—	7
Saxony-Anhalt	9	—	—	—	—	9
Schleswig-Holstein	30	—	—	—	—	30
Thuringia	5	—	—	—	—	5
Subtotal	**425**	**1**	**1**	**—**	**(14)**	**411**
Other regions						
Africa	—	—	—	—	—	—
Americas	7	—	—	—	—	7
Asia	6	—	—	—	(1)	5
Europe	42	—	—	—	(4)	38
Subtotal	**55**	**—**	**—**	**—**	**(5)**	**50**
Total	**480**	**1**	**1**	**—**	**(19)**	**461**

Other Information (Continued)

99 List of holdings

The separate list of holdings drawn up in compliance with Section 313 (2) HGB, contains all the affiliates, joint ventures and associates broken down by whether they are included in the consolidated financial statements or not. The list also includes selected holdings pursuant to Section 271 (1) HGB and structured entities included in the consolidated financial statements, with and without an HVB shareholding.

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands	in thousands
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	[1]
1.1.1.2 Other consolidated subsidiaries						
Acis Immobilien- und Projektentwicklungs GmbH & Co. Oberbaum City KG[3]	Grünwald	100.0	100.0	EUR	(10)	(45)
Acis Immobilien- und Projektentwicklungs GmbH & Co. Stuttgart Kronprinzstraße KG[3]	Grünwald	100.0	100.0	EUR	38	(419)
Argentaurus Immobilien-Vermietungs- und Verwaltungs GmbH[3]	Munich	100.0	100.0	EUR	793	(1,603)
Bayerische Wohnungsgesellschaft für Handel und Industrie, Gesellschaft mit beschränkter Haftung	Munich	100.0	100.0	EUR	294	[1]
BIL Leasing-Fonds Verwaltungs-GmbH	Grünwald	100.0	100.0	EUR	24	2
GEMMA Verwaltungsgesellschaft mbH & Co. Vermietungs KG[4]	Pullach	98.7	98.7	EUR	20,250	4,681
Grundstücksgesellschaft Simon beschränkt haftende Kommanditgesellschaft[3]	Munich	100.0	100.0	EUR	52	1,480
HAWA Grundstücks GmbH & Co. OHG Hotelverwaltung[3]	Munich	100.0	100.0	EUR	276	(48)
HAWA Grundstücks GmbH & Co OHG Immobilienverwaltung[3]	Munich	100.0	100.0	EUR	54	445
H.F.S. Immobilienfonds GmbH	Munich	100.0	100.0	EUR	26	[1]
H.F.S. Leasingfonds Deutschland 1 GmbH & Co. KG (Immobilienleasing)[3]	Munich	100.0	100.0	EUR	22,488	261
H.F.S. Leasingfonds Deutschland 7 GmbH & Co. KG[3]	Munich	99.4	99.4	EUR	(9,535)	(11)
H.F.S. Leasingfonds GmbH	Grünwald	100.0	100.0	EUR	70	44
HVB Capital LLC	Wilmington	100.0	—	USD	1,603	566
HVB Capital LLC II	Wilmington	100.0	—	GBP	3	1
HVB Capital LLC III	Wilmington	100.0	—	USD	1,619	602
HVB Funding Trust II	Wilmington	100.0	—	GBP	3	1
HVB Gesellschaft für Gebäude mbH & Co. KG[3]	Munich	100.0	—	EUR	871,401	1,148
HVB Immobilien AG[3]	Munich	100.0	—	EUR	86,644	[2.1]
HVB Projekt GmbH[3]	Munich	100.0	94.0	EUR	72,151	[1]
HVB Tecta GmbH[3]	Munich	100.0	94.0	EUR	1,751	[1]
HVB Verwa 4 GmbH[3]	Munich	100.0	—	EUR	10,358	[2.2]
HVB Verwa 4.4 GmbH[3]	Munich	100.0	100.0	EUR	10,250	[1]
HVZ GmbH & Co. Objekt KG[3]	Munich	100.0	100.0	EUR	148,091	(2,413)
Hypo-Bank Verwaltungszentrum GmbH & Co. KG Objekt Arabellastraße[3]	Munich	100.0	100.0	EUR	26	(1,807)
MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung[3]	Munich	100.0	—	EUR	16,692	[2.3]
NF Objekt FFM GmbH[3]	Munich	100.0	100.0	EUR	125	[1]
NF Objekte Berlin GmbH[3]	Munich	100.0	100.0	EUR	125	[1]
Omnia Grundstücks-GmbH & Co. Objekt Haidenauplatz KG[3]	Munich	100.0	94.0	EUR	26	—
Omnia Grundstücks-GmbH & Co. Objekt Perlach KG[3]	Munich	100.0	100.0	EUR	5,176	456
Orestos Immobilien-Verwaltungs GmbH[3]	Munich	100.0	100.0	EUR	56,674	[1]
Othmarschen Park Hamburg GmbH & Co. Gewerbepark KG[3]	Munich	100.0	100.0	EUR	(44,083)	—
Portia Grundstücks-Verwaltungsgesellschaft mbH & Co. Objekt KG[3]	Munich	100.0	100.0	EUR	500,014	(3,041)
Rolin Grundstücksplanungs- und -verwaltungsgesellschaft mbH	Munich	100.0	100.0	EUR	(403)	(468)
Salvatorplatz-Grundstücksgesellschaft mbH & Co. oHG Saarland[3]	Munich	100.0	100.0	EUR	1,534	669

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	SHARE OF CAPITAL IN % OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
Salvatorplatz-Grundstücksgesellschaft mbH & Co. OHG Verwaltungszentrum[3]	Munich	100.0	100.0	EUR	2,301	311
Sirius Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0	EUR	(143,835)	[1]
Solos Immobilien- und Projektentwicklungs GmbH & Co. Sirius Beteiligungs KG[3]	Munich	100.0	100.0	EUR	(60,856)	950
Structured Invest Société Anonyme	Luxembourg	100.0	—	EUR	8,814	743
T & P Frankfurt Development B.V.[4]	Amsterdam	100.0	100.0	EUR	(7,237)	[8]
T & P Vastgoed Stuttgart B.V.[4]	Amsterdam	87.5	87.5	EUR	(15,493)	(9)
TERRENO Grundstücksverwaltung GmbH & Co. Entwicklungs- und Finanzierungsvermittlungs-KG[3]	Munich	75.0	75.0	EUR	(268,579)	(61)
TIVOLI Grundstücks-Aktiengesellschaft	Munich	100.0	100.0	EUR	7,183	(333)
TRICASA Grundbesitz Gesellschaft mbH & Co. 1. Vermietungs KG[3]	Munich	100.0	100.0	EUR	14,524	890
TRICASA Grundbesitzgesellschaft des bürgerlichen Rechts Nr. 1	Munich	100.0	100.0	EUR	21,936	(2,355)
UniCredit Beteiligungs GmbH[3]	Munich	100.0	—	EUR	1,175	[2.4]
UniCredit Capital Markets LLC	New York	100.0	100.0	USD	178,442	13,693
UniCredit Direct Services GmbH[3]	Munich	100.0	—	EUR	993	[2.5]
UniCredit Leasing Aviation GmbH	Hamburg	100.0	100.0	EUR	35,358	5,100
UniCredit Leasing GmbH[7]	Hamburg	100.0	—	EUR	352,027	[2.6]
UniCredit U.S. Finance LLC	Wilmington	100.0	—	USD	115,649	108
Vermietungsgesellschaft mbH & Co. Objekt MOC KG[3]	Munich	89.3	89.3	EUR	(88,626)	6,111
V.M.G. Vermietungsgesellschaft mbH	Munich	100.0	100.0	EUR	26	[1]
Wealth Management Capital Holding GmbH	Munich	100.0	—	EUR	20,600	[2.7]
WealthCap Entity Service GmbH	Munich	100.0	100.0	EUR	2,049	806
WealthCap Equity GmbH	Munich	100.0	100.0	EUR	1,287	950
WealthCap Equity Management GmbH	Munich	100.0	100.0	EUR	404	379
WealthCap Fonds GmbH	Munich	100.0	100.0	EUR	44	(297)
WealthCap Immobilien 1 GmbH & Co. KG	Munich	100.0	100.0	EUR	455	168
WealthCap Immobilien 2 GmbH & Co. KG	Munich	100.0	100.0	EUR	2,074	317
Wealthcap Immobilien 43 Komplementär GmbH	Munich	100.0	100.0	EUR	36	2
Wealthcap Immobilienankauf Komplementär GmbH	Munich	100.0	100.0	EUR	38	5
WealthCap Immobilienfonds Deutschland 36 Komplementär GmbH	Munich	100.0	100.0	EUR	179	320
WealthCap Immobilienfonds Deutschland 38 Komplementär GmbH	Munich	100.0	100.0	EUR	73	(42)
WealthCap Initiatoren GmbH	Munich	100.0	100.0	EUR	262	(1,046)
WealthCap Investment Services GmbH	Munich	100.0	90.0	EUR	5,101	[1]
WealthCap Investments, Inc.	Wilmington	100.0	100.0	EUR	2,669	10
WealthCap Investorenbetreuung GmbH	Munich	100.0	100.0	EUR	155	[1]
WealthCap Kapitalverwaltungsgesellschaft mbH	Grünwald	100.0	100.0	EUR	18,262	[1]
WealthCap Leasing GmbH	Grünwald	100.0	100.0	EUR	(48)	(9)
WealthCap Management Services GmbH	Munich	100.0	100.0	EUR	(2,208)	(1,213)
Wealthcap Objekt Berlin III GmbH & Co. KG	Munich	100.0	100.0	EUR	(51)	(59)
Wealthcap Objekt Dresden GmbH & Co. KG	Munich	100.0	100.0	EUR	(3,265)	(1,046)
Wealthcap Objekt Stuttgart III GmbH & Co. KG	Munich	100.0	100.0	EUR	3,316	(1,571)
Wealthcap Objekt-Vorrat 39 GmbH & Co. KG	Munich	100.0	100.0	EUR	(63)	(71)
WealthCap PEIA Komplementär GmbH	Grünwald	100.0	100.0	EUR	70	31
WealthCap PEIA Management GmbH	Munich	100.0	94.0	EUR	3,288	2,033
WealthCap Real Estate Management GmbH	Munich	100.0	100.0	EUR	(542)	[1]
Wealthcap Spezial Wohnen 1 Komplementär GmbH	Munich	100.0	100.0	EUR	52	9
WealthCap Vorrats-2 GmbH	Munich	100.0	100.0	EUR	13	1
Wealthcap Wohnen 1b GmbH & Co. KG	Munich	100.0	100.0	EUR	(112)	(114)
Weicker S. à r.l.	Luxembourg	100.0	—	EUR	22,812	3,318

Other Information (Continued)

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands	in thousands
1.1.2 Non-consolidated subsidiaries[5]						
Acis Immobilien- und Projektentwicklungs GmbH	Grünwald	100.0	100.0	EUR	25	[1]
Acis Immobilien- und Projektentwicklungs GmbH & Co. Parkkolonnaden KG	Grünwald	100.0	100.0			
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.	Grünwald	98.8	98.8			
Antus Immobilien- und Projektentwicklungs GmbH	Munich	90.0	90.0	EUR	(14,100)	872
Arena Stadion Beteiligungsverwaltungs-GmbH	Munich	100.0	—			
ARRONDA Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(37,726)	950
Atlanterra Immobilienverwaltungs GmbH	Munich	90.0	90.0	EUR	(33,512)	950
A&T-Projektentwicklungs GmbH & Co. Potsdamer Platz Berlin KG	Munich	100.0	100.0	EUR	(37,243)	4
A&T-Projektentwicklungs-Verwaltungs GmbH	Munich	100.0	100.0			
Aufbau Dresden GmbH	Munich	100.0	100.0	EUR	(22,994)	—
Bertram Projekt Unodecima Technikzentrum GmbH & Co. KG	Munich	94.0	94.0	EUR	582	539
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			
BIL Leasing-Fonds GmbH & Co VELUM KG (Stimmrechtsanteil 66,7%, davon mittelbar 33,3%)	Grünwald	100.0	—			
Blue Capital Metro Amerika Inc.	Wilmington	100.0	100.0			
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Alpha Management KG	Munich	100.0	100.0	EUR	(22,880)	—
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Beta Management KG[4]	Munich	100.0	100.0	EUR	(53,477)	—
Delpha Immobilien- und Projektentwicklungs GmbH & Co. Großkugel Bauabschnitt Gamma Management KG	Munich	100.0	100.0	EUR	(59,493)	—
Food & more GmbH	Munich	100.0	—	EUR	237	[2.8]
Golf- und Country Club Seddiner See Immobilien GmbH	Munich	100.0	100.0	EUR	(15,507)	—
Großkugel Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0	EUR	(3,354)	[1]
Grundstücksaktiengesellschaft am Potsdamer Platz (Haus Vaterland)	Munich	98.2	98.2	EUR	4,495	[1]
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			

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands	in thousands
Hofgarten Real Estate B.V. (Stimmrechtsanteil 50,5%)	Amsterdam	47.2	47.2	EUR	(49,343)	(17)
HVB Export Leasing GmbH	Munich	100.0	—			
HVB Gesellschaft für Gebäude Beteiligungs GmbH	Munich	100.0	—			
HVB Hong Kong Limited	Hongkong	100.0	—	USD	3,155	(394)
HVB London Investments (AVON) Limited	London	100.0	—			
HVB Secur GmbH	Munich	100.0	—	EUR	126	[2.9]
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	[1]
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			
Hypo-Bank Verwaltungszentrum GmbH	Munich	100.0	100.0			
HYPO-REAL Haus- und Grundbesitz Gesellschaft mbH	Munich	100.0	100.0	EUR	128	[1]
HYPO-REAL Haus- und Grundbesitz Gesellschaft mbH & Co. Immobilien-Vermietungs KG	Munich	80.0	80.0			
Interra Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	93.9	EUR	51	[1]
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	[1]
Life Management Zweite GmbH	Grünwald	100.0	100.0	EUR	26	[1]
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			
Omnia Grundstücks-GmbH	Munich	100.0	100.0	EUR	26	[1]
Omnia Grundstücks-GmbH & Co. Betriebs KG	Munich	100.0	94.0			
Othmarschen Park Hamburg GmbH & Co. Centerpark KG	Munich	100.0	100.0	EUR	(18,942)	—
Othmarschen Park Hamburg Wohn- und Gewerbepark GmbH	Munich	100.0	100.0	EUR	102	[1]
"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	[1]
Redstone Mortgages Limited	London	100.0	—			
RHOTERRA Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	93.9	EUR	26	[1]
Roncasa Immobilien-Verwaltungs GmbH	Munich	100.0	100.0	EUR	(33,320)	950
Salvatorplatz-Grundstücksgesellschaft mit beschränkter Haftung	Munich	100.0	100.0	EUR	711	[1]
Selfoss Beteiligungsgesellschaft mbH	Grünwald	100.0	100.0	EUR	25	[1]
Simon Verwaltungs-Aktiengesellschaft i.L.	Munich	100.0	—	EUR	2,950	(26)
Spree Galerie Hotelbetriebsgesellschaft mbH	Munich	100.0	100.0	EUR	249	[1]
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	(15,005)	(1)
Tishman Speyer Berlin Friedrichstraße KG i.L. (Stimmrechtsanteil 96,6%, davon mittelbar 7,1%)	Munich	97.1	5.9			
VCI Volta Center Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(18,247)	950
Verwaltungsgesellschaft Katharinenhof mbH	Munich	100.0	—	EUR	708	[2.10]
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 Erneuerbare Energien 2 GmbH & Co. KG	Grünwald	100.0	100.0			
Wealthcap Erneuerbare Energien 2 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Erste Kanada Immobilien Verwaltung GmbH	Munich	100.0	100.0			

Other Information (Continued)

		SHARE OF CAPITAL IN %			EQUITY CAPITAL	NET PROFIT
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	in thousands	in thousands
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			
WealthCap Europa Immobilien Verwaltungs GmbH	Munich	100.0	100.0			
Wealthcap Fondsportfolio Immobilien International 1 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Immobilien Deutschland 39 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien Deutschland 45 GmbH & Co. geschlossene Investment KG	Munich	100.0	100.0			
Wealthcap Immobilien Deutschland 46 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Immobilien Deutschland 47 GmbH & Co. geschlossene Investment KG	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	EUR	50	[1]
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 44 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien 46 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Immobilien 47 Komplementär GmbH	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 Dresden Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 13 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 20 GmbH & Co. KG	Munich	100.0	100.0			
WealthCap Objekt-Vorrat 20 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 25 GmbH & Co. KG	Munich	100.0	100.0	EUR	10	469
Wealthcap Objekt-Vorrat 25 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 35 GmbH & Co. KG	Munich	100.0	100.0			
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 40 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 41 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 42 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 43 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 Portfolio 6 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 Private Equity 23 Komplementär GmbH	Grünwald	100.0	100.0			
Wealthcap Private Equity 24 Komplementär GmbH	Grünwald	100.0	100.0			

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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 Immobilien 9 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial Immobilien 11 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial Immobilien 12 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 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 Immobilien 11 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Spezial-AIF Immobilien 12 GmbH & Co. KG	Munich	100.0	100.0			
Wealthcap Spezial-AIF Immobilien 9 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 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			
Wealthcap 45 Komplementär GmbH	Munich	100.0	100.0			

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN %	CURRENCY	SUBSCRIBED CAPITAL in thousands
1.2. Fully consolidated structured entities				
with or without shareholding				
Altus Alpha PLC	Dublin	—	EUR	40
Arabella Finance DAC	Dublin	—	EUR	< 1
BARD Engineering GmbH	Emden	—	EUR	100
BARD Holding GmbH	Emden	—	EUR	25
Elektra Purchase No. 28 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 31 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 32 S.A. – Compartment 1	Luxembourg	—	EUR	31
Elektra Purchase No. 33 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 36 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 37 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 38 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 43 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 46 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 54 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 56 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 57 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 64 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 69 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 71 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 74 DAC	Dublin	—	EUR	< 1
Elektra Purchase No. 911 Ltd.	St. Helier	—	EUR	< 1
European-Office-Fonds	Munich	—	EUR	—
GELDILUX-TS-2015 S.A.	Luxembourg	—	EUR	31
H.F.S. Leasingfonds GmbH & Co. Deutschland 8 KG, Ebersberg				
(held indirectly)[6.1]	Ebersberg	0.1	EUR	—
H.F.S. Leasingfonds GmbH & Co. Deutschland 9 KG, Ebersberg				
(held indirectly)[6.2]	Ebersberg	0.1	EUR	—
H.F.S. Leasingfonds GmbH & Co. Deutschland 10 KG, Ebersberg				
(held indirectly)[6.3]	Ebersberg	0.1	EUR	—
H.F.S. Leasingfonds GmbH & Co. Deutschland 11 KG, Ebersberg				
(held indirectly)[6.4]	Ebersberg	0.1	EUR	—
H.F.S. Leasingfonds GmbH & Co. Deutschland 12 KG, Ebersberg				
(held indirectly)[6.5]	Ebersberg	0.1	EUR	—
HVB Funding Trust	Wilmington	—	USD	—
HVB Funding Trust III	New York	—	USD	—
Ice Creek Pool No. 1 DAC	Dublin	—	EUR	< 1
Ice Creek Pool No. 2 DAC	Dublin	—	EUR	< 1
Ice Creek Pool No. 3 DAC	Dublin	—	EUR	< 1
Ice Creek Pool No. 5 DAC	Dublin	—	EUR	< 1
MOC Verwaltungs GmbH & Co. Immobilien KG				
(held indirectly)[4, 6.6]	Munich	23.0	EUR	5,113
Rosenkavalier 2008 GmbH	Frankfurt am Main	—	EUR	25
Rosenkavalier 2015 UG	Frankfurt am Main	—	EUR	8
Rosenkavalier 2020 UG	Frankfurt am Main	—	EUR	3
Wealthcap Spezial-AIF-SV Büro 8	Grünwald	—	EUR	—

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
2 Joint ventures						
Minor joint ventures[5]						
Heizkraftwerke-Pool Verwaltungs-GmbH	Munich	33.3	—			
3 Associates						
3.1. Associates valued at equity						
Comtrade Group B.V.[4]	Rotterdam	21.1	—	EUR	90,737	53,881
3.2. Minor associates[5]						
MOC Verwaltungs GmbH	Munich	23.0	23.0			
4 Further Holdings according to						
Section 271 (1) HGB[5]						
4.1. Banks and financial institutions						
AKA Ausfuhrkredit-Gesellschaft mbH[7]	Frankfurt am Main	15.4	—	EUR	261,565	8,372
BBB Bürgschaftsbank zu Berlin-Brandenburg GmbH	Berlin	3.2	—	EUR	13,171	—
BGG Bayerische Garantiegesellschaft						
mbH für mittelständische Beteiligungen	Munich	10.5	—	EUR	57,390	2,016
Bürgschaftsbank Brandenburg GmbH	Potsdam	7.8	—	EUR	32,101	1,077
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	9.1	—	EUR	17,161	262
Bürgschaftsbank Nordrhein-Westfalen GmbH –						
Kreditgarantiegemeinschaft –	Düsseldorf	0.6	—	EUR	39,244	1,022
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	1.4	—	EUR	17,224	40
Bürgschaftsbank Saarland Gesellschaft mit beschränkter						
Haftung, Kreditgarantiegemeinschaft für den Handel,						
Handwerk und Gewerbe	Saarbrücken	1.3	—	EUR	4,396	7
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	8.9	—	EUR	16,577	141
Bürgschaftsbank Sachsen GmbH (share of voting rights 5.4%)	Dresden	4.7	—	EUR	44,260	175
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	5.4	—	EUR	41,909	84
Bürgschaftsbank Thüringen GmbH	Erfurt	8.7	—	EUR	27,285	65
Bürgschaftsgemeinschaft Hamburg GmbH	Hamburg	10.5	—	EUR	26,939	156
MCB Bank Limited	Lahore	>0	—	PKR	190,101,955	29,037,301
Niedersächsische Bürgschaftsbank GmbH	Hannover	3.0	—	EUR	30,140	39
Saarländische Investitionskreditbank AG	Saarbrücken	3.3	—	EUR	65,638	2
4.2. Other companies						
ABE Clearing S.A.S.	Paris	2.1	—	EUR	36,533	5,354
Acton GmbH & Co. Heureka II KG	Munich	8.9	—	EUR	86,162	(485)
Amstar Liquidating Trust (share of voting rights 0.0%)	New York	>0	>0			
Babcock & Brown Limited	Sydney	3.2	—			
BayBG Bayerische Beteiligungsgesellschaft mbH[8]	Munich	22.5	—	EUR	244,646	2,274
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
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 >0.0%)	Grünwald	—	—			
BioM Aktiengesellschaft Munich Bio Tech Development	Planegg	8.5	—	EUR	2,775	(320)
Blue Capital Equity I GmbH & Co. KG i.L.	Munich	>0	>0			

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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%)	Munich	0.8	0.8	EUR	4,507	(590)
Blue Capital Equity IV GmbH & Co. KG	Munich	>0	>0	EUR	10,567	(923)
Blue Capital Equity V GmbH & Co. KG (share of voting rights >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%)	Munich	0.7	0.7	EUR	7,119	118
Blue Capital Equity IX GmbH & Co. KG (share of voting rights >0%)	Munich	0.7	0.7	EUR	3,166	162
Blue Capital Metro Amerika Fund, L.P.	Wilmington	0.1	0.1	EUR	93,242	4,177
Blue Capital Metropolitan Amerika GmbH & Co. KG	Munich	0.1	0.1	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	2,021	(1,004)
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	13.6	—	EUR	5,007	(134)
Carlyle Partners V, L.P. (share of voting rights 0.0%)	Wilmington	>0	>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	1,645	151
China International Packaging Leasing Co., Ltd.	Peking	17.5	—	CNY	(101,056)	553
China Investment Incorporations (BVI) Ltd.	Tortola	10.8	10.8	HKD	78,756	(875)
CLS Group Holdings AG	Lucerne	1.2	—	GBP	322,759	(15,431)
CMC-Hertz Partners, L.P. (share of voting rights 0.0%)	Wilmington	7.1	—			
CME Group Inc.	Wilmington	>0	—	USD	26,351,500	2,105,200
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
EPI Interim Company SE	Brussels	4.5	—			
EURO Kartensysteme GmbH	Frankfurt am Main	6.0	—	EUR	12,292	105
Film & Entertainment VIP Medienfonds 4 GmbH & Co. KG	Grünwald	10.5	10.5	EUR	21,098	(1,290)
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 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
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	0.1	0.1	EUR	3,138	254
H.F.S. Immobilienfonds Köln GmbH & Co. KG	Munich	>0	>0	EUR	1,743	(5)
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	Grünwald	>0	>0	EUR	17,440	4,557
H.F.S. Zweitmarktfonds Deutschland 2 GmbH & Co. KG	Grünwald	>0	>0	EUR	79,713	15,143
HVBFF Life Britannia GmbH & Co Erste KG	Grünwald	>0	>0	EUR	1,976	(208)
HVB Trust Pensionsfonds AG (share of voting rights: 0.0%) 9	Munich	100.0	—	EUR	4,305	17
IGEPA Gewerbepark GmbH & Co Vermietungs KG	Fürstenfeldbruck	2.0	2.0	EUR	(8,739)	7,353
Innovation Group Holdings Limited	Fareham	13.1	13.1	GBP	(55,961)	14,218
Interbanking Systems S.A. (Dias S.A.)	Maroussi	0.9	—	EUR	25,516	—
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	100.000	19,636
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	—	EUR	1,300	—

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
Kreditgarantiegemeinschaft des bayerischen Gartenbaues GmbH	Munich	8.1	—			
Kreditgarantiegemeinschaft des bayerischen Handwerks GmbH	Munich	7.2	—	EUR	4,846	—
Kreditgarantiegemeinschaft des Handels						
Baden-Württemberg Verwaltungs-GmbH	Stuttgart	2.3	—	EUR	1,022	—
Kreditgarantiegemeinschaft des Handwerks						
Baden-Württemberg Verwaltungsgesellschaft mbH	Stuttgart	2.5	—	EUR	1,001	—
Kreditgarantiegemeinschaft des Hotel- und Gaststättengewerbes						
in Bayern GmbH	Munich	9.7	—	EUR	4,359	—
Kreditgarantiegemeinschaft für den Handel in Bayern GmbH	Munich	2.2	—	EUR	6,317	—
Kreditgarantiegemeinschaft in Baden-Württemberg						
Verwaltungs-GmbH	Stuttgart	5.1	—	EUR	1,023	—
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	—			
LME Holdings Limited (share of voting rights 0.0%)	London	>0	—	USD	57,695	46,980
Martin Schmälzle Grundstücksgesellschaft Objekt						
Wolfsburg GmbH & Co. KG	Munich	>0	>0	EUR	15,711	—
MBG Mittelständische Beteiligungsgesellschaft						
Baden-Württemberg GmbH	Stuttgart	5.0	—	EUR	83,352	2,056
MBG Mittelständische Beteiligungsgesellschaft						
Rheinland-Pfalz mbH (share of voting rights 11.1%)	Mainz	9.8	—	EUR	16,353	362
MBG Mittelständische Beteiligungsgesellschaft						
Schleswig-Holstein mbH	Kiel	3.6	—	EUR	44,210	724
Mittelständische Beteiligungsgesellschaft						
Berlin-Brandenburg GmbH	Potsdam	11.6	—	EUR	24,155	1,263
Mittelständische Beteiligungsgesellschaft						
Mecklenburg-Vorpommern mbH	Schwerin	15.4	—	EUR	17,962	1,344
Mittelständische Beteiligungsgesellschaft						
Niedersachsen (MBG) mbH	Hannover	8.2	—	EUR	15,097	366
Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt mit						
beschränkter Haftung	Magdeburg	12.7	—	EUR	24,270	21
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	11.8	—	EUR	49,446	277
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	13.4	—	EUR	27,422	580
Motion Picture Production GmbH & Co. Erste KG						
(share of voting rights 0.1%)	Grünwald	>0	>0	EUR	(27,842)	1,454
Mühoga Münchner Hochgaragen Gesellschaft						
mit beschränkter Haftung[8]	Munich	25.0	25.0	EUR	4,661	1,347
PICIC Insurance Ltd.	Karachi	>0	—			
PRINCIPIA FUND (share of voting rights 0.0%)	Milan	10.0	—			
ProAreal GmbH i. I.	Wiesbaden	10.0	—			
Pro Health AG	Munich	4.0	—	EUR	735	(2,257)
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	290,869	(143,425)
Saarländische Kapitalbeteiligungsgesellschaft						
mit beschränkter Haftung (share of voting rights 8.8%)	Saarbrücken	8.7	—	EUR	7,791	(33)
Social Venture Fund GmbH & Co. KG (share of voting rights 0.0%)	Munich	9.6	—	EUR	1,141	(118)
Social Venture Fund II GmbH & Co. KG (share of voting rights 0.0%)	Munich	4.5	—	EUR	11,324	193
Special Product Company Holding Corp.	Wilmington	4.9	4.9	USD	(4,444)	973
Stahl Group S.A.	Luxembourg	0.4	0.4	EUR	351,473	81,974
SwanCap FLP II SCSp (share of voting rights 37.5%)[10]	Senningerberg	—	—	EUR	386	4,388
SwanCap FLP SCS (share of voting rights 37.5%)[10]	Senningerberg	—	—	EUR	76	2,047
SwanCap TB II SCSp (share of voting rights 0.0%)[11]	Senningerberg	>0	—	EUR	416	192

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	SHARE OF CAPITAL IN % OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
S.W.I.F.T. SC	La Hulpe	0.3	—	EUR	487,078	35,824
True Sale International GmbH	Frankfurt am Main	7.7	—	EUR	4,624	(240)
UniCredit Services Società Consortile per Azioni	Milan	>0	—	EUR	307,984	21,277
VISA Inc. (share of voting rights 0.0%)	Wilmington	>0	—	USD	37,589,000	12,311,000
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	0.1	0.1			
Wealthcap Fondsportfolio Immobilien International 1 GmbH & Co.						
geschlossene Investment KG	Grünwald	0.2	0.2			
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 Fondsportfolio Private Equity 23 GmbH & Co.						
geschlossene Investment KG	Grünwald	0.1	0.1			
Wealthcap Fondsportfolio Private Equity 24 GmbH & Co.						
geschlossene Investment KG	Grünwald	0.1	0.1			
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	>0			
Wealthcap Immobilien Deutschland 44 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0			
WealthCap Immobilienfonds Deutschland 30 GmbH & Co. KG	Munich	>0	>0	EUR	46,680	4,773
WealthCap Immobilienfonds Deutschland 31 GmbH & Co. KG						
(share of voting rights 0.1%)	Munich	>0	>0	EUR	36,942	1,785
WealthCap Immobilienfonds Deutschland 32 GmbH & Co. KG						
(share of voting rights 0.1%)	Munich	>0	>0	EUR	5,119	3,024
WealthCap Immobilienfonds Deutschland 33 GmbH & Co. KG	Munich	>0	>0	EUR	58,597	2,614
WealthCap Immobilienfonds Deutschland 34 GmbH & Co. KG						
(share of voting rights 0.1%)	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	18,592	1,636
WealthCap Immobilienfonds Donauwörth 2 GmbH & Co. KG						
(share of voting rights 0.0%)	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

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
WealthCap LebensWert 1 GmbH & Co. KG						
(share of voting rights 0.3%)	Grünwald	>0	>0	EUR	(1,139)	545
WealthCap LebensWert 2. GmbH & Co. KG						
(share of voting rights 0.1%)	Grünwald	>0	>0	USD	3,520	1,820
WealthCap Life Britannia 2. GmbH & Co KG	Munich	>0	>0	EUR	(68)	4,745
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	3,523
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	10.1	10.1	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	EUR	(916)	1,837
WealthCap Objekt Essen GmbH & Co. KG	Munich	5.2	5.2	EUR	26,624	1,548
Wealthcap Objekt Essen II GmbH & Co. KG	Munich	10.1	10.1	EUR		
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 Freiburg GmbH & Co. KG	Munich	10.1	10.1			
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	14,880	1,451
WealthCap Objekt Hannover Ib GmbH & Co. KG	Munich	5.2	5.2	EUR	3,663	248
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 Ludwigsburg GmbH & Co. KG	Munich	10.1	10.1			
Wealthcap Objekt Mainz GmbH & Co. KG	Munich	10.1	10.1	EUR	(263)	(272)
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	41,309	2,304
WealthCap Objekt Schwabing GmbH & Co. KG	Munich	5.2	5.2	EUR	29,251	1,718
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	17,466	1,165
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 Theresienhöhe GmbH & Co. KG	Munich	5.2	5.2	EUR	64,248	2,714
Wealthcap Objekt Tübingen GmbH & Co. KG	Munich	>0	>0			
WealthCap Photovoltaik 1 GmbH & Co. KG						
(share of voting rights 0.1%)	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 4/5 GmbH & Co. KG	Grünwald	>0	>0			
Wealthcap Portfolio 4 GmbH & Co. geschlossene Investment KG	Grünwald	>0	>0			
Wealthcap Portfolio 5 GmbH & Co. geschlossene Investment KG	Grünwald	0.2	0.2			
Wealthcap Portfolio 6 GmbH & Co. geschlossene Investment KG	Grünwald	0.2	0.2			
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						
(share of voting rights 0.1%)	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

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	SHARE OF CAPITAL IN % OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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	22,001	1,370
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-AIF Büro 7 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0			
Wealthcap Spezial Portfolio Immobilien 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0	EUR	1,391	(109)
Wealthcap Spezial Portfolio Private Equity 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0	EUR	4,330	(170)
Wealthcap Spezial Portfolio Immobilien 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0	EUR	1,391	(109)
Wealthcap Spezial Portfolio Private Equity 1 SCS SICAV-SIF	Luxembourg-Findel	>0	>0	EUR	4,330	(170)
WealthCap US Life Dritte GmbH & Co. KG						
(share of voting rights >0%)	Grünwald	0.1	0.1	USD	3,940	(6,861)
Wealthcap Wohnen 1a GmbH & Co. KG	Munich	10.1	10.1	EUR	(405)	(409)
Wealthcap Wohnen 1 GmbH & Co. KG	Munich	10.1	10.1	EUR	(906)	64,034
Wealthcap Wohnen Spezial-AIF 1 GmbH & Co.						
geschlossene Investment KG	Munich	>0	>0			
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)
Wohnungsbaugesellschaft der Stadt Röthenbach a.d.Pegnitz						
mit beschränkter Haftung	Röthenbach	5.2	—	EUR	3,893	196

Exchange rates for 1 euro at the reporting date

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

China	1 EUR =	7.1947	CNY
UK	1 EUR =	0.84028	GBP
Hong Kong	1 EUR =	8.8333	HKD
Pakistan	1 EUR =	201.81312	PKR
USA	1 EUR =	1.1326	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%.
Thus <100.0% corresponds, for example, to 99.99% or >0.0%, for example, to 0.01%.

1 Profit and loss transfer to shareholders and partners

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

	Company	Profit/(loss) transferred € thousands
2.1	HVB Immobilien AG, Munich	5,319
2.2	HVB Verwa 4 GmbH, Munich	(1,275)
2.3	MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung, Munich	2,498
2.4	UniCredit Beteiligungs GmbH, Munich	(16)
2.5	UniCredit Direct Services GmbH, Munich	9,329
2.6	UniCredit Leasing GmbH, Hamburg	42,349
2.7	Wealth Management Capital Holding GmbH, Munich	(7,246)
	of which relating to 2020	128
2.8	Food & more GmbH, Munich	(1,600)
2.9	HVB Secur GmbH, Munich	379
2.10	Verwaltungsgesellschaft Katharinenhof GmbH, Munich	755

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

4 Figures from the 2020 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 Disclosures on structured companies with shareholdings included in the consolidated financial statements.

6.1 Equity capital amounts to minus €3,176 thousand and the net profit/loss €– thousand.

6.2 Equity capital amounts to minus €3,304 thousand and the net profit/loss €– thousand.

6.3 Equity capital amounts to minus €2,483 thousand and the net profit/loss €– thousand.

6.4 Equity capital amounts to minus €2,151 thousand and the net profit/loss €– thousand.

6.5 Equity capital amounts to minus €2,743 thousand and the net profit/loss €– thousand.

6.6 Equity capital amounts to minus €6,324 thousand and the net loss (€6,451 thousand).

7 Pursuant to Section 340a (4) (2) HGB: 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.

Other Information (Continued)

100 Supervisory Board[1]

Chairman
Gianpaolo Alessandro
until 14 July 2021
Andrea Orcel
since 14 July 2021

Deputy Chairmen
Florian Schwarz
Dr Bernd Metzner
Gianpaolo Alessandro
since 14 July 2021

Members
Olivier Khayat
until 13 July 2021
Prof Dr Annette G. Köhler
Finja Kütz
until 13 July 2021
Dr Claudia Mayfeld
Fiona Melrose
since 14 July 2021
Claudia Richter
Thomas Schöner
Oliver Skrbot
Christian Staack
Gregor Völkl

1 As at 31 December 2021.

101 Management Board[1]

Markus Beumer
until 31 October 2021
Commercial Banking – Unternehmer Bank

Dr Michael Diederich
Spokesman of the Management Board
Human Capital/Labour and Social Affairs

Jörg Frischholz
until 2 August 2021
Commercial Banking – Private Clients Bank

Marion Höllinger
since 3 August 2021
Commercial Banking – Private Clients Bank

Dr Jürgen Kullnigg
Chief Risk Officer (CRO)

Jan Kupfer
Corporate & Investment Banking
(until 31 October 2021)
Commercial Banking – Corporates
(since 1 November 2021, previously Commercial Banking – Unternehmer Bank)

Simone Marcucci
until 31 August 2021
Chief Financial Officer (CFO)

Christian Reusch
since 1 November 2021
Corporate & Investment Banking

Boris Scukanec Hopinski
Chief Operating Officer (COO)

Ljubisa Tesić
since 1 September 2021
Chief Financial Officer (CFO)

Munich, 8 March 2022

UniCredit Bank AG
The Management Board

Dr Diederich

Höllinger

Dr Kullnigg

Kupfer

Reusch

Scukanec Hopinski

Tesić

Declaration by the Management Board

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

Munich, 8 March 2022

UniCredit Bank AG
The Management Board

Dr Diederich	Höllinger	Dr Kullnigg	Kupfer
Reusch	Scukanec Hopinski	Tesić	

Auditor's Report

INDEPENDENT AUDITOR'S REPORT

To UniCredit Bank AG, Munich

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

Audit Opinions

We have audited the consolidated financial statements of UniCredit Bank AG, Munich, and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December2021, the consolidated income statement including the consolidated statement of total comprehensive income, the statement of changes in consolidated shareholders' equity and the consolidated cash flow statement for the financial year from 1 January to 31 December 2021 as well as the notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of UniCredit Bank AG, Munich, for the financial year from 1 January to 31 December 2021.

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

– the accompanying consolidated financial statements comply, in all material respects, with the IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) German Commercial Code (HGB) and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the Group as at 31 December 2021 and of its financial performance for the financial year from 1 January to 31 December 2021, and
– the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development.

Pursuant to Section 322 (3) sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Section 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation"), and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with 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 consolidated financial statements and on the group management report.

Note on the use of Section 315b (2) HGB

As stated by the Executive Directors in section "Corporate structure" of the group management report the Company has not included a non-financial statement in accordance with Section 315b (2) HGB in the group management report. At the time of completion of our audit, it was not possible to conclusively assess whether the exemption of Section 315b (2) HGB had been justifiably invoked because the requirements of Section 315b (2) sentence 1 or sentence 2 HGB, by their nature, can only be complied at a later stage. Our audit opinion regarding the group management report is not modified in this respect.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2021. These matters were addressed in the context of our audit of the consolidated 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 that are measured at fair value and are not equity instruments
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 consolidated 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 consolidated 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 main characteristic of risk provisioning in stage 1 and stage 2, according to IFRS 9, is the allocation of financial instruments to the stages, based on the comparison of the current default risk with the default risk at initial recognition of the financial instrument. The allocation leads to the recognition of the loan loss provision to the amount of the expected one-year credit loss or the expected lifetime credit loss of the financial instrument. The loan loss provision of stage 1 and stage 2 is, therefore, largely determined by the models used to determine the stage transfer, the models used to calculate the expected one-year credit loss or the expected lifetime credit loss of the financial instrument respectively, and the parameters used. Significant parameters within the calculation models that affect the expected credit loss are the considerable macroeconomic scenarios, the probability of default, the exposure at default and the loss given default. The risk provisioning of stage 3, in accordance with IFRS 9, is based on assumptions regarding various scenarios for the expected cash flows from the defaulted loans and the estimated probability of occurrence of these scenarios. Both the valuation parameters used and the models for risk provisioning stage 1 and stage 2 have a significant impact on the amount of loan loss provision. Since the determination of the loan loss provision is subject to uncertainty and margin of discretion, this was a key audit matter in our audit. The disclosures regarding the loan loss provisions are enclosed in sections 14 and 55 of the notes to the consolidated financial statements.

b) As part of the audit of the consolidated 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 of loans included the assessment of the implemented processes and controls for identifying impaired loans, as well as an assessment of the models used to determine the stage transfer between stage 1 and stage 2, and the evaluation of the models used to determine the expected one-year credit loss or the expected life time credit loss of the financial instrument. We have used specialists from our Risk Advisory division specialised in credit risk management and IT audit for our audit. The group-wide valuation models for the determination of the loan loss provision of stage 1 and stage 2 were audited by our colleagues from Deloitte & Touche S.p.A., Milan (Italy), as these models were developed and validated by the Bank's parent company in Milan. We have used the results of their audit for our purposes. Likewise, we have used the validation reports and third-party audit reports. In addition, for a sample of financial instruments measured at amortised cost, we audited the stage 1 and stage 2 loan loss provision by auditing the stage allocation as well as the calculated expected loss. For the audit of the stage 3 loan loss provision, 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 for a sample of the 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 Executive Directors, 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 Executive Directors. Overall, the risk provisions are within acceptable ranges.

2. Determination of the fair value of financial instruments that are measured at fair value and are not equity instruments

a) Financial instruments assets, which are valued at fair value and are not equity instruments, are disclosed in the consolidated financial statements under the balance sheet items “Financial assets held for trading”, “Financial assets aFVtPL”, “Financial assets aFVtOCI“, and “Hedging derivatives”. Similarly, financial instruments liabilities at fair value are disclosed under the balance sheet items „Financial liabilities held for trading“, “Financial liabilities aFVtPL” and “Hedging derivatives“. The valuation of these financial instruments 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 Executive Directors. The disclosures made by the Executive Directors regarding the valuation of financial instruments are enclosed in sections 9, 80 and 81 of the notes to the consolidated financial statements.

b) We have audited the organizational structure and related processes with regards to the determination of the fair value of financial instruments, which are measured at fair value and that are not equity 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 Group’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 Executive Directors of the Bank for the determination of the fair value of financial instruments, which are measured at fair value and that are nit equity instruments are in line with industry standards.

3. IT controls related to financial reporting

a) For the preparation of the consolidated 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 consolidated 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, such as Value Transformation Services S.p.A., Verona (Italy) and SIA S.p.A., Milan (Italy). 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 Executive Directors in section 4 Operational Risk in the risk report of the group 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 auditors at UniCredit Services S.C.p.A., Value Transformation Services S.p.A. and SIA S.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 Executive Directors' confirmation regarding the consolidated financial statements and to the group management report pursuant to Section 297 (2) sentence 4 and Section 315 (1) sentence 5 HGB respectively, and
– all the remaining parts of the published annual report, which is expected to be made available to us only after the date of this auditor's report,
– except the consolidated financial statement, the content of the audited group management report disclosures and our related auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our group audit, our responsibility is to read the above mentioned other information and, in so doing, to consider whether the other information

– is materially inconsistent with the consolidated financial statements, the content of the audited group management report disclosures 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 Consolidated Financial Statements and the Group Management Report

The Executive Directors are responsible for the preparation of the consolidated financial statements, that comply, in all material respects, with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the Group. In addition, the Executive Directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether intentional or unintentional.

In preparing the consolidated financial statements, the Executive Directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the Executive Directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the Executive Directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report
Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements, and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional scepticism throughout the audit.
We also

- identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our 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 consolidated financial statements and of arrangements and measures relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- evaluate the appropriateness of accounting policies used by the Executive Directors and the reasonableness of estimates made by the Executive Directors and related disclosures.
- conclude on the appropriateness of the Executive Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report, or, if such disclosures are inadequate, to modify our respective 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 Group to cease to be able to continue as a going concern.
- evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRS as adopted by the EU and with the additional requirements of German commercial law pursuant to Section 315e (1) HGB.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- perform audit procedures on the prospective information presented by the Executive Directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the Executive Directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate 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.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor’s report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Report on the Audit of the Electronic Reproductions of the Consolidated Financial Statements and of the Group Management Report Prepared for Publication Pursuant to Section 317 (3a) HGB

Audit Opinion
We have performed an audit in accordance with Section 317 (3a) HGB, to obtain reasonable assurance whether the electronic reproductions of the consolidated financial statements and of the group management report (hereinafter also referred to as “ESEF documents”) prepared for publication, contained in the provided file, which has the SHA-256 value 653A4EE42AE105B769591D07520F97171358B9B9986E1E5431FD6A75A2DD1A7B, meet, in all material respects, the requirements for the electronic reporting format pursuant to Section 328 (1) HGB (“ESEF format”). In accordance with the German legal requirements, this audit only covers the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format, and therefore covers neither the information contained in these electronic reproductions nor any other information contained in the file identified above.

In our opinion, the electronic reproductions of the consolidated financial statements and of the group management report prepared for publication contained in the provided file identified above meet, in all material respects, the requirements for the electronic reporting format pursuant to Section 328 (1) HGB. Beyond this audit opinion and our audit opinions on the accompanying consolidated financial statements and on the accompanying group management report for the financial year from 1 January 2021 to 31 December 2021 contained in the “Report on the Audit of the Consolidated Financial Statements and of the Group Management Re-port” above, we do not express any assurance opinion on the information contained within these electronic reproductions or on any other information contained in the file identified above.

Basis for the Audit Opinion
We conducted our audit of the electronic reproductions of the consolidated financial statements and of the group management report contained in the provided file identified above in accordance with Section 317 (3a) HGB and on the basis of the IDW Auditing Standard: Audit of the Electronic Reproductions of Financial Statements and Management Reports Prepared for Publication Purposes Pursuant to Section 317 (3a) HGB (IDW AuS 410 (10.2021)). Our responsibilities in this context are further described in the “Group Auditor’s Responsibilities for the Audit of the ESEF Documents” section. Our audit firm has applied the IDW Standard on Quality Management: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibility of the Executive Directors and the Supervisory Board for the ESEF documents
The executive directors of the Company are responsible for the preparation of the ESEF documents based on the electronic files of the consolidated financial statements and of the group management report according to Section 328 (1) sentence 4 no. 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 no. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal controls that they have considered necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements for the electronic reporting format pursuant to Section 328 (1) HGB.

The supervisory board is responsible for overseeing the process for preparing the ESEF documents as part of the financial reporting process.

Group Auditor's responsibility for the Audit of the ESEF documents
Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgment and maintain professional scepticism throughout the audit. We also:
– identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, 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 opinion.
– obtain an understanding of internal control relevant to the audit on the ESEF documents in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
– evaluate the technical validity of the ESEF documents, i.e. whether the electronic file containing the ESEF documents comply with the requirements of the Delegated Regulation (EU) 2019/815, as applicable at the date of the financial statements, regarding the technical specification for that electronic file.
– evaluate whether the ESEF documents enable a XHTML reproduction with content equivalent to the audited consolidated financial statements and to the audited group management report.
– evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, in the version in force at the balance sheet date, enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further Information pursuant to Article 10 of the EU Audit Regulation
We were elected as group auditor by the annual general meeting on June 7, 2021. We were engaged by the Supervisory Board on July 5, 2021. We have been the group 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 group entities the following services that are not disclosed in the consolidated financial statements or in the group management report:
– Audits and reviews of reporting packages
– Audits pursuant to the Securities Trading Act
– Performing agreed upon and audit procedures
– Audits of financial information or their components

OTHER MATTER – USE OF THE AUDITOR'S REPORT
Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as with the audited ESEF documents. The consolidated financial statements and the group management report converted into the ESEF format – including the versions to be published in the Federal Gazette – are merely electronic reproductions of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our audit opinion contained therein are to be used solely together with the audited ESEF documents made available in electronic form.

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Christian Schweitzer.

Munich, March 9, 2022

Deloitte GmbH
Wirtschaftsprüfungsgesellschaft

(Christian Schweitzer)	(Stefan Trenzinger)
Wirtschaftsprüfer	Wirtschaftsprüfer
German Public Auditor	German Public Auditor

The translation of the Independent Auditor's Report is for convenience only; the German version prevails.

Corporate Governance

List of Executives and Outside Directorships

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]
Andrea Orcel since 14 July 2021 Group Chief Executive Officer of UniCredit S.p.A., Milan Chairman		EIS Group Ltd., Hamilton (USA)
Florian Schwarz Employee of UniCredit Bank AG, Munich Deputy Chairman		
Dr Bernd Metzner[2] Chief Financial Officer of Gerresheimer AG, Düsseldorf Deputy Chairman	Gerresheimer Bünde GmbH, Bünde (Deputy Chairman) Gerresheimer Regensburg GmbH, Regensburg (Deputy Chairman) Gerresheimer Tettau GmbH, Tettau (Deputy Chairman)	Gerresheimer Glass Inc., Vineland (USA) Centor US Holding Inc., Perrysburg (USA) Centor Inc., Perrysburg (USA) Centor Pharma Inc., Perrysburg (USA) Corning Pharmaceutical Packaging LLC, New York (USA) Senile Medical AG, Olten (Switzerland)
Gianpaolo Alessandro Group Legal Officer and Secretary of the Board of Directors of UniCredit S.p.A., Milan Chairman until 14 July 2021 Deputy Chairman since 15 July 2021		Compagnia Aerea Italiana S.p.A., Rome MidCo S.p.A., Rome
Olivier Khayat until 13 July 2021 Co-CEO Commercial Banking Western Europe of UniCredit S.p.A., Milan		UniCredit Bank Austria AG, Vienna, until 21 June 2021 Kepler Cheuvreux S.A., Paris, until 30 June 2021
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 GEA Group Aktiengesellschaft, Düsseldorf	DKSH Holding AG, Zürich

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]
Finja Kütz until 13 July 2021 Group Chief Transformation Officer and Deputy COO of UniCredit S.p.A., Munich		UniCredit Services S.C.p.A., Milan, until 14 June 2021
Dr Claudia Mayfeld Member of the Management Board of Knorr-Bremse Aktiengesellschaft, Dortmund	Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich, since 20 May 2021	
Fiona Melrose since 14 July 2021 Head of Group Strategy & Optimization of UniCredit S.p.A., Ipswich (Suffolk, UK)		
Claudia Richter Employee of UniCredit Bank AG, Fürth		
Thomas Schöner Employee of UniCredit Bank AG Luxembourg Branch, Saarwellingen		
Oliver Skrbot Employee of UniCredit Bank AG, Buttenwiesen		
Christian Staack Employee of UniCredit Bank AG, Hamburg		
Gregor Völkl Unit manager of Vereinte Dienstleistungsgewerkschaft ver.di Unit 1 – Financial Services Munich district, Munich		

1 As at 31 December 2021.
2 Other directorships (compare Article 435 (2a) CRR): Dr Bernd Metzner holds four other directorships within the Gerresheimer Group.

List of Executives and Outside Directorships (Continued)

Supervisory Board committees[1,2]

Audit Committee
Dr Bernd Metzner, Chairman
Finja Kütz (until 13 July 2021)
Prof Dr Annette G. Köhler
Fiona Melrose (since 14 July 2021)
Oliver Skrbot

Nomination Committee
Gianpaolo Alessandro, Chairman
Olivier Khayat (until 13 July 2021)
Prof Dr Annette G. Köhler
Fiona Melrose (since 14 July 2021)
Florian Schwarz

Remuneration Control Committee
Gianpaolo Alessandro, Chairman
Olivier Khayat (until 13 July 2021)
Prof Dr Annette G. Köhler (since 14 July 2021)
Dr Claudia Mayfeld
Florian Schwarz

Risk Committee
Dr Claudia Mayfeld, Chairwoman
Gianpaolo Alessandro (since 14 July 2021)
Olivier Khayat (until 13 July 2021)
Finja Kütz (until 13 July 2021)
Fiona Melrose (since 14 July 2021)
Christian Staack

Trustees[1]

Trustees for Pfandbrief operations pursuant to Section 7 of the German Pfandbrief Act

Bernd Schreiber
President of the Bavarian Department of State-owned Palaces, Gardens and Lakes, Markt Schwaben

Deputies

Stefan Höck
(until 30 June 2021)
Chief Ministerialrat in the Bavarian State Ministry of Finance and Regional Identity, Hohenschäftlarn

Robert Saliter
Ministerialdirigent (Director-General) in the Bavarian State Ministry of Finance and Regional Identity, MunichHohenschäftlarn

Dr Tanja Benzinger
(since 1 july 2021)
Chief Ministerialrätin in the Bavarian State Ministry of Finance and Regional Identity, Freising

1 As of 31 December 2021.
2 See also the Report of the Supervisory Board.

Management Board

NAME	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER GERMAN COMPANIES[1]	POSITIONS ON COMPARABLE BOARDS OF GERMAN AND FOREIGN COMPANIES[1]
Markus Beumer born 1964 until 31 October 2021 Commercial Banking – Unternehmer Bank	DAW SE, Ober-Ramstadt	UniCredit Leasing GmbH, Hamburg (Chairman)[2], until 7 November 2021 UniCredit Leasing Finance GmbH, Hamburg (Chairman)[2], until 7 November 2021
Dr Michael Diederich born 1965 Spokesman of the Management Board Human Capital/Labour & Social Affairs	FC Bayern Munich AG, Munich	ESMT European School of Management and Technology GmbH, Berlin
Jörg Frischholz born 1976 until 2 August 2021 Commercial Banking – Private Clients Bank		
Marion Höllinger born 1972 since 3 August 2021 Commercial Banking – Private Clients Bank	UniCredit Direct Services GmbH, Munich[2] WealthCap Kapitalverwaltungsgesellschaft mbH, Munich[2], since 1 November 2021 (Deputy Chairwoman since 2 November 2021)	Wealth Management Capital Holding GmbH, Munich[2], since 1 November 2021 (Deputy Chairwoman since 2 November 2021)
Dr Jürgen Kullnigg born 1961 Chief Risk Officer (CRO)	HVB Immobilien AG, Munich[2]	
Jan Kupfer born 1964 Corporate & Investment Banking until 31 October 2021 Commercial Banking – Corporates since 1 November 2021 (formerly Commercial Banking – Unternehmer Bank)	Bayerische Börse Aktiengesellschaft, Munich (Deputy Chairman since 21 May 2021)	
Simone Marcucci born 1966 until 31 August 2021 Chief Financial Officer (CFO)		
Christian Reusch born 1973 since 1 November 2021 Corporate & Investment Banking		
Boris Scukanec Hopinski born 1981 Chief Operating Officer (COO)	HVB Immobilien AG, Munich (Chairman)[2] WealthCap Kapitalverwaltungsgesellschaft mbH, Munich (Deputy Chairman, Chairman since 2 November 2021)[2]	UniCredit Services S.C.p.A., Milan Wealth Management Capital Holding GmbH, Munich (Deputy Chairman, Chairman since 2 November 2021)[2]
Ljubisa Tesić born 1976 since 1 September 2021 Chief Financial Officer (CFO)		UniCredit Bank Serbia JSC, Belgrade

1 As at 31 December 2021.
2 Group directorship.

List of Executives and Outside Directorships (Continued)

List of employees and outside directorships

NAME	POSITIONS ON STATUTORY SUPERVISORY BOARDS OF OTHER COMPANIES[1]
Dr Auerbach, Christoph	HVB Trust Pensionsfonds AG, Munich
Aurich, Peter	CAM AG, Munich
Dr Fischer, Jochen	HVB Trust Pensionsfonds AG, Munich
Glückert, Matthias	OECHSLER AG, Ansbach
Dr Jungemann, Lars	HVB Trust Pensionsfonds AG, Munich
Dr Wegener, Richard	UniCredit Direct Services GmbH, Munich[2]

1 As at 31 December 2021.
2 Group directorship.

Report of the Supervisory Board

In the year under review, the Supervisory Board of UniCredit Bank AG (hereinafter: "HVB" or "Bank") discharged the responsibilities incumbent on it by law, the Articles of Association and its By-laws and within that framework advised the Management Board on the conduct of the Bank's affairs, continuously monitored its management activities and thus satisfied itself of the legality and regularity thereof, which gave no cause for complaint. The Supervisory Board focused on the economic and financial performance of HVB Group, the implementation of the business and risk strategies including the ICT strategy as well as the Team 23 strategic plan at HVB Group and monitored the effects that the coronavirus pandemic is having on the business, financial and risk situation of HVB Group. The Management Board informed the Supervisory Board regularly, promptly and comprehensively of the business situation and the economic position of the individual business units, business policies and fundamental issues concerning corporate management and planning. The Supervisory Board examined the financial development of the Bank and HVB Group, their profitability and earnings situation, liquidity and capital management and the risk situation. The Management Board also submitted a full report on significant transactions, legal risks, internal and governmental investigations of the Bank in Germany and abroad, compliance topics and other events of considerable importance to the Bank. This happened primarily during the meetings of the Supervisory Board and its committees, but also outside meetings in written form. In addition, important topics and pending decisions were discussed at regular meetings between the Spokesman of the Management Board and the Chairman of the Supervisory Board. The Supervisory Board was directly consulted at an early stage on decisions of fundamental importance for the Bank, engaged in comprehensive consultations on the matters at hand and, insofar as this was indicated, voted on the same after conducting an appropriate review. Resolutions of the Supervisory Board were also passed outside meetings, as required.

Meetings of the Supervisory Board

The Supervisory Board held seven meetings in the 2021 financial year, two of which were extraordinary meetings and one a strategy meeting in which key strategies for HVB Group were discussed in depth. Most of the meetings were held as videoconferences due to the coronavirus pandemic. The Supervisory Board addressed the following subjects in particular:

At the first meeting of the year on **16 February 2021**, the Supervisory Board was informed about the coronavirus situation in HVB Group, specific real estate matters and the current status of the OFAC Compliance Programme (OCP). In addition, the Supervisory Board considered the 2021 Group Incentive System at HVB for Management Board members, SVPs/EVPs and identified staff as well as the implementation of the 2021 Group Incentive System at HVB for Management Board members. The Supervisory Board also dealt with the total amount proposed as variable remuneration in 2020 for Management Board members and employees of HVB Group ("bonus pool"), target attainment and bonus amounts in 2020 for Management Board members, including the retained variable remuneration from previous years (deferrals), also for former Management Board members. Furthermore, the Supervisory Board addressed the targets for Management Board members in 2021. The Supervisory Board also considered topics concerning the employment contracts of Management Board members. Taking account of the recommendations of the Remuneration Control Committee and the Nomination Committee, the Supervisory Board adopted resolutions on the matters named above. Finally, the results of the annual evaluation of the Management Board and the Supervisory Board as defined in Section 25d (11) of the German Banking Act (Kreditwesengesetz – KWG) were presented at this meeting, measures and suggested improvements were discussed and – based on the recommendations of the Nomination Committee – the relevant resolutions were adopted. Moreover, the Supervisory Board decided to adapt its By-laws with effect from 16 February 2021.

The focus of the second meeting on **12 March 2021** was on the topic "Business and Risk Strategies 2021" of HVB Group including the implementation of the Team 23 strategic plan. In particular, the HVB Group business strategy including CEO, CFO, CRO and COO as well as the strategies of Commercial Banking (Unternehmer Bank (UBK) and Private Clients Bank (PBK)), Corporate & Investment Banking (CIB)

Report of the Supervisory Board (Continued)

were considered in detail and debated in depth with the Management Board as were the report on the current status of Brexit, the ICT strategy and the Bank's risk strategies. In this context, the Supervisory Board discussed the 2021 budget and the multi-year simulation for 2022 – 2023 for HVB Group with the Management Board. The Chief Risk Officer used the integrated risk report of HVB Group Q4/2020 to explain the implementation of the overall risk appetite and risk strategy. In this connection, the Chief Financial Officer explained the status report on large loan exposures as at 31 December 2020. Furthermore, the Supervisory Board deliberated on possible measures for improvement regarding the content and scope of the strategy meeting based on the results obtained from the 2020 evaluation.

At the meeting held on **26 March 2021** devoted to the annual financial statements, the Supervisory Board discussed the annual and consolidated financial statements for 2020 including the Management Reports with the independent auditor, Deloitte GmbH Wirtschaftsprüfungsgesellschaft (hereinafter: "Deloitte"), and subsequently approved them at the recommendation of the Audit Committee following its own in-depth review. The Supervisory Board also dealt with the report on relations with affiliated companies (Dependency Report), the report of the Audit Committee on the preliminary audit of the 2020 annual financial statements and on the effectiveness of the risk management system (RMS), internal control system (ICS) and Internal Audit, agreed with the Management Board's proposal on the appropriation of the distributable profit and approved the concluding statement by the Management Board concerning the report on relations of HVB with affiliated companies for 2020. Taking account of the recommendation of the Audit Committee, the Supervisory Board agreed to an increase in the audit fee for Deloitte in 2020. The Supervisory Board also monitored compliance with regulatory provisions by the Management Board, was briefed on human resources work in 2020 and resolved to adjust the D&O insurance package for members of the Supervisory Board and the Management Board of the Bank. The Supervisory Board then focused on reviewing the Management Board's principles for selecting and appointing individuals to senior management level including holders of key functions, and the process for determining Risk Takers in 2021 in HVB Group. Taking account of the recommendations of the Nomination Committee and the Remuneration Control Committee, the Supervisory Board then adopted resolutions in this connection. Furthermore, the Supervisory Board deliberated on succession planning for the Management Board including the diversity and inclusion strategy and taking account of the recommendations of the Nomination Committee, adopted resolutions on these topics. Besides other topics concerning the employment contracts of Management Board members, the Supervisory Board considered the remuneration packages in 2021 for Management Board members and taking account of the recommendations of the Remuneration Control Committee, adopted the relevant resolutions. In addition, the Supervisory Board was briefed, among other things, on the planned introduction of an excess liquidity fee ("ELF") for the private clients of UCB AG as of July 2021.

The Supervisory Board passed a resolution on **28 May 2021** outside a meeting on the Supervisory Board's proposals for the Annual General Meeting of the Bank on 7 June 2021. In particular, the Supervisory Board passed a resolution on the adjustment of the remuneration of the Supervisory Board, the amendment of the Bank's Articles of Association, an adjustment of the insurance policies for Supervisory Board members and – based on the recommendation of the Audit Committee – on the election of Deloitte as the Bank's independent auditor and auditor of the consolidated financial statements for the 2021 financial year.

Based on the recommendation of the Audit Committee, the Supervisory Board approved the award of the audit engagement for the audit of the 2021 financial statements, including the specification of audit focus areas and the remuneration, to Deloitte on **18 June 2021** outside a meeting.

The Supervisory Board also passed various resolutions outside a meeting on **13 July 2021** in preparation for the Bank's Extraordinary Shareholders' Meeting on 14 July 2021. Based on the recommendations of the Nomination Committee, the Supervisory Board passed resolutions on the adaptation of the requirement profile and the questionnaire on conflicts of interest for members of HVB's Supervisory Board and on the fit and proper assessments for the election of two new Supervisory Board members, Mr Andrea Orcel and Ms Fiona Melrose. On this basis, the Supervisory Board proposed to the Extraordinary Shareholders' Meeting that Mr Andrea Orcel and Ms Fiona Melrose be elected to replace Mr Khayat and Ms Kütz, respectively, as members of the Supervisory Board.

Subject to the condition precedent that Mr Andrea Orcel would be elected as a member of the Supervisory Board by the Extraordinary Shareholders' Meeting on 14 July 2021 and based on the recommendations of the Nomination Committee, the Supervisory Board also resolved to elect Mr Andrea Orcel as Chairman of the Supervisory Board and Mr Gianpaolo Alessandro as a further Deputy Chairman of the Supervisory Board, with effect in each case from the end of the Extraordinary Shareholders' Meeting on 14 July 2021. Subject to the condition precedent that Mr Andrea Orcel and Ms Fiona Melrose would be elected as members of the Supervisory Board by the Extraordinary Shareholders' Meeting and based on the recommendations of the Nomination Committee, the Supervisory Board also resolved to elect Mr Gianpaolo Alessandro as a member of the Risk Committee, Ms Fiona Melrose as a member of the Audit Committee, the Risk Committee and the Nomination Committee and Prof Dr Annette Köhler as a member of the Remuneration Control Committee with effect from the end of the Extraordinary Shareholders' Meeting on 14 July 2021.

In a further resolution adopted on **21 July 2021** outside a meeting, the Supervisory Board approved the termination of the employment relationship with the previous Chief Compliance Officer, Dr Barbara Roth, on 31 December 2022 by mutual consent and the establishment of a new employment relationship with Ms Angelique Keijsers as the Bank's new Chief Compliance Officer as of 1 October 2021.

At an extraordinary meeting on **26 July 2021**, the Supervisory Board considered the preliminary figures of the Half-yearly Financial Report at 30 June 2021.

At the meeting on **2 August 2021**, the Management Board provided a status report on HVB Group to the Supervisory Board in which it addressed particularly the coronavirus situation, key measures relating to ESG/sustainable finance and the most important strategic initiatives. Furthermore, the Management Board explained the main cornerstones of HVB's new strategic plan and informed the Supervisory Board that Mr Artur Gruca had been appointed as the Bank's General Representative as of 1 September 2021 in connection with the newly created Management Board position as Chief Digital & Information Officer. In addition, the Supervisory Board considered the status of implementation of the SmartBanking omnichannel service model in the Private Clients Bank as well as the adjustment of HVB Group's risk appetite and risk strategy in 2021. The Supervisory Board also discussed the capital situation of UniCredit Leasing GmbH with the Management Board and passed resolutions on this matter. Another topic considered by the Supervisory Board was the structure of the 2021 Group Remuneration Policy and the 2021 Group Termination Payments Policy for all employees of HVB Group as well as the implementation of these policies also for the Management Board. Moreover, the Supervisory Board addressed the review of the structure of the remuneration systems in 2021 for employees based on the Management Board's remuneration report and the appropriateness of the remuneration in 2020 for the heads of the Risk Controlling function, the Compliance function and Risk Takers. Based on the recommendations of the Remuneration Control Committee, the Supervisory Board adopted resolutions on the matters above. The Supervisory Board also resolved to adjust its By-laws with effect from 2 August 2021. In addition, the Supervisory Board appointed Ms Marion Höllinger as successor to Mr Jörg Frischholz with effect from 3 August 2021 until the end of 31 December 2024 and Mr Ljubisa Tesić as successor to Mr Simone Marcucci with effect from 1 September 2021 until the end of 31 December 2024 as members of the Management Board. In both cases, the Supervisory Board elected these members on the basis of recommendations of the Nomination and Remuneration Control Committee.

Report of the Supervisory Board (Continued)

Through a resolution adopted on **28 October 2021** outside a meeting, the Supervisory Board approved in particular the termination of the term of office of Mr Markus Beumer by mutual consent and the takeover of the area previously under the responsibility of Mr Beumer by Mr Jan Kupfer with effect from 1 November 2021. In addition, the Supervisory Board approved the appointment of Mr Christian Reusch as a member of the Bank's Management Board with effect from 1 November 2021 until the end of 31 December 2024. The Supervisory Board based its resolutions on the recommendations of the Nomination and Remuneration Control Committee.

At the meeting on **17 November 2021**, the Management Board informed the Supervisory Board of the status of implementation of the Multi-Year Plan for 2020 – 2023 including business development in Commercial Banking UBK/PBK and in CIB and provided an overview of key strategic initiatives. Moreover, the Supervisory Board was briefed on the planned optimisation measures and the possible alternative sites in connection with the sale of the "Tucherpark" real estate complex. The Supervisory Board also considered the effectiveness of the framework for HVB's internal governance issues and the implementation of HVB's risk culture. Furthermore, the Supervisory Board addressed the implementation and maintenance of an effective conflict of interest policy for employees and the Management Board of HVB. The Supervisory Board adopted relevant resolutions on the above topics. Based on the preparations carried out at the meeting of the Nomination Committee on 25 October 2021, the Supervisory Board discussed the results of the annual evaluation of the Management Board and the Supervisory Board pursuant to Section 25d (11) KWG as well as measures and suggestions for improvement. Other topics dealt with by the Supervisory Board included the monitoring and the management of potential conflicts of interest of the Management Board and the Supervisory Board and succession planning for HVB's Supervisory Board including the diversity strategy and setting a target for the proportion of women on the Management Board. The Supervisory Board passed resolutions on the topics above based on the recommendations of the Nomination Committee.

At the extraordinary meeting of the Supervisory Board on **29 November 2021**, the Supervisory Board and the Management Board explained and deliberated on the cornerstones of HVB Group's new business strategy for 2022–2024, the Multi-Year Plan and the provisional risk appetite framework (RAF) for 2022–2024 in depth. The Supervisory Board also considered the optimisation of the local insurance portfolio and passed resolutions in this regard.

Outside a meeting on **16 December 2021**, the Supervisory Board passed a resolution on the Supervisory Board's proposal for the Extraordinary Shareholders' Meeting of the Bank on 20 December 2021 on a further adjustment of the scope of insurance for members of the Supervisory Board.

Through a further resolution on **18 December 2021** outside a meeting, the Supervisory Board – taking account of the recommendations of the Nomination Committee – approved the respective resolutions on Dr Michael Diederich taking over the Management Board position as Chief Digital & Information Officer (CDIO) and Mr Boris Scukanec Hopinski taking over further operating tasks in his function as Chief Operating Officer (COO).

Legal disputes as well as internal and external investigations

The Supervisory Board solicited information and deliberated on important legal disputes and proceedings on a regular basis last year. External legal advisers were called in on individual issues to provide advice to the Supervisory Board. Among other topics, the Supervisory Board discussed the measures implemented for the OFAC Compliance Programme (OCP) that was set up by the Bank in order to comply with US financial sanctions as well as individual legal cases such as cum-ex or the ruling of the German Federal High Court of Justice on the invalidity of certain clauses relating to the unilateral amendment of contractual clauses contained in general business conditions.

When required, meetings were also held, or individual agenda items were considered, without the participation of the Management Board. Prior to every Supervisory Board meeting, the Supervisory Board members representing the employees and those representing the shareholders had the opportunity to address the topics of the meeting in question in preliminary discussions, also with the Management Board. Potential conflicts of interests of individual Supervisory Board members were disclosed and taken into account, as far as there were any.

Supervisory Board committees

To efficiently perform its tasks, the Supervisory Board set up a Nomination Committee, a Remuneration Control Committee, a Risk Committee and an Audit Committee from among its members. Each committee elected a chairman. The composition of the committees is shown in the "Supervisory Board" list in this Annual Report. The responsibilities of each of the committees are defined in the By-laws of the Supervisory Board.

The cooperation and sharing of content among the individual committees is ensured by at least one member of each committee sitting on another committee. The chairs of the committees coordinated inter-committee topics with the Management Board member responsible in each case and among one another to strengthen cooperation in the committees as a whole. They also exercised their rights to information vis-à-vis the head of the Internal Audit and the Chief Compliance Officer as well as the level below the Management Board, where agreed with the Management Board. As far as necessary, the committees adopted resolutions or gave recommendations to the Supervisory Board for adopting resolutions, also outside of meetings. The chairs of all the committees reported in detail at the next respective plenary session of the Supervisory Board on the topics of the committees' discussions, the outcome thereof and the resolutions passed by the committees.

Nomination Committee

The Nomination Committee met four times in the past year and in particular performed its duties as defined in Section 25d (11) KWG. This consisted above all in assisting the Supervisory Board in succession planning on the Management Board and on the Supervisory Board. In particular, it prepared the appointment of three new members to the Management Board and the election of two new members to the Supervisory Board (including a fit and proper assessment). In addition, it carried out three fit & proper assessments for members of the Management Board who assumed new responsibilities as part of their continuing Management Board mandates and two fit & proper assessments for members of the Supervisory Board who likewise assumed a new responsibility as part of their continuing Supervisory Board mandates. The Nomination Committee also reviewed the Management Board's principles for selecting and appointing individuals to senior management level including holders of key functions and supported the Supervisory Board in making corresponding recommendations to the Management Board. With the support of an external, independent consultant (auditing company), the Nomination Committee prepared the annual evaluation of the Management Board and the Supervisory Board pursuant to Section 25d (11) KWG and issued recommendations for action to the Supervisory Board in this connection at the meeting held on 12 February 2021 (regarding the 2020 evaluation) and at the meeting held on 25 October 2021 (regarding the 2021 evaluation).

Report of the Supervisory Board (Continued)

Remuneration Control Committee
In the past year, the Remuneration Control Committee met four times and also met once in a joint meeting with the Risk Committee. In particular, this committee performed the tasks defined in Section 25d (12) KWG and in the German Ordinance on the Supervisory Requirements for Institutions' Remuneration Systems (Institutsvergütungsverordnung – InstitutsVergV). In the 2021 financial year, the Remuneration Control Committee discussed the appropriateness of the remuneration systems for the employees in the 2020 financial year on the basis of the Remuneration Control Report 2020 of the Bank's Remuneration Officer. Based on this report, it held a joint meeting with the Risk Committee to review relevant interfaces between the remuneration system and the risk management system in order to analyse the effects of the remuneration systems on the risk, capital and liquidity situation of the Bank and HVB Group. It also focused on ensuring that the remuneration systems comply with requirements, in particular those set out in Section 4 InstitutsVergV, and are aligned with the goals defined in the business and the risk strategy of the Bank, also taking account of the corporate culture. The committee also solicited a presentation of the 2021 annual plan of the Remuneration Officer. Furthermore, it discussed the appropriateness of the total amount of variable remuneration for the Management Board and the employees of HVB Group for the 2020 financial year, discussed the evaluation of Management Board members' performance, the determination of the respective variable remuneration for the 2020 financial year and the targets set for the individual Management Board members in the 2021 financial year. It then gave corresponding recommendations to the Supervisory Board. It also discussed the appropriateness of the structure of the 2021 Group Remuneration Policy for all employees of HVB Group and the 2021 Group Incentive System and recommended to the Supervisory Board that this system also be implemented for Management Board members. Furthermore, it discussed the appropriateness of the structure of the 2021 Group Termination Payments Policy for all employees of HVB Group and recommended that it also be implemented for members of the Management Board. The Remuneration Control Committee assisted the Supervisory Board in reviewing the appropriateness and customary level of the remuneration packages for Management Board members in 2021. It also supported the Supervisory Board in monitoring the process of determining the Risk Takers in 2021 of HVB Group pursuant to Section 15 (3) InstitutsVergV. Moreover, it supported the Supervisory Board in monitoring the appropriateness of remuneration in 2020 for the heads of the Risk Control function, the Compliance function, the Risk Takers and the appropriateness of the structure of the 2021 remuneration systems for employees based on the 2021 remuneration report of the Management Board. The Remuneration Control Committee monitored the proper involvement of the internal control functions and all other relevant areas in the structuring of the remuneration systems. Furthermore, the committee discussed employment contracts of Management Board members in connection with appointments and discussed the contractual arrangements as well as the remuneration of the Management Board members in detail in order to make recommendations to the Supervisory Board in this regard. Independent external legal advisers were consulted in individual cases. The Remuneration Officer assisted the Remuneration Control Committee in all of its monitoring and structuring duties with respect to all employee remuneration systems.

Risk Committee
The Risk Committee met five times in the past year, held one joint meeting with the Remuneration Control Committee and one joint meeting with the Audit Committee. The independent auditor and the head of the Internal Audit attended all the committee meetings to provide information. The Risk Committee advised the Management Board in particular on the current and future overall risk appetite and risk strategy of HVB Group and helped the Supervisory Board to monitor the implementation of that strategy by the senior management. In compliance with the Minimum Requirements for Risk Management (Mindestanforderungen an das Risikomanagement – MaRisk) for banks, the Risk Committee received monthly risk reports. The Chief Risk Officer used the integrated risk reports in the meetings to explain the development of the ICAAP for HVB Group, credit risk, financial and non-financial risk and strategic risk and provided an outlook on

the integration of ESG factors. In addition, the Risk Committee held discussions in the meetings on individual credit exposures as well as on country, concentration and sector risks. The Risk Committee solicited further reports on the topic of risk and strategy on a regular basis. Other focal points of discussion on the Risk Committee were the development of HVB Group's credit risk in the course of the coronavirus crisis as well as the stress test scenarios and the results of HVB Group's stress tests. The efficiency of the risk management system was also the subject of detailed discussion with the Chief Risk Officer, the head of the Internal Audit, the Chief Compliance Officer and the independent auditor. The committee solicited reports on a regular basis concerning the status and the progress of the remediation of relevant internal and external audit findings of the Internal Audit, the Compliance function, the independent auditor and the supervisory authorities. The Risk Committee was informed of the principal findings of audits conducted by the supervisory authorities. At two meetings, the Risk Committee discussed at length with the Management Board, the head of the Internal Audit and the independent auditor whether the terms in the customer business were in harmony with the business model and the risk structure of the Bank (Section 25d (8) KWG) and whether all key financial products and services are consistent with the business model and the risk structure of the Bank (EBA Guidelines on internal governance). At a joint meeting with the Remuneration Control Committee, the Risk Committee used the Remuneration Control Report 2020 of the Remuneration Officer to analyse whether the incentives set by the remuneration system take the risk, capital and liquidity structure of the Bank into account, as well as the probability and due dates of revenues. Furthermore, the Risk Committee was briefed at its meeting and at the joint meeting with the Audit Committee on IT security management and IT organisation. At the joint meeting with the Audit Committee, the two committees also solicited reports in particular on the situation concerning resources in the CFO, CRO and COO units. Moreover, the top risk assessment of the Internal Audit was discussed with the head of the Internal Audit and an analysis of the Bank's legal risks was discussed with the head of Legal.

Audit Committee

The Audit Committee convened for five meetings in the reporting year and once at a joint meeting with the Risk Committee. Representatives of the independent auditor and particularly also the persons from whom the Audit Committee has a right to obtain information (such as the head of the Internal Audit and the Chief Compliance Officer, among others) attended all of the committee meetings to advise and to provide information. The key responsibilities of the Audit Committee are to monitor the financial reporting process, the effectiveness of the risk management system, particularly the internal control system including the Compliance function and the internal audit system, and the audit of the financial statements. In the reporting year the meetings thus looked at the preliminary audit of the 2020 annual and consolidated financial statements and the report on relations with affiliated companies, prepared draft resolutions for the Supervisory Board and discussed the 2021 Half-yearly Financial Report and the figures at 31 March and 30 September 2021. The Audit Committee was informed by the independent auditor of the main outcome of the reviews of reporting packages to UniCredit S.p.A. Moreover, the Audit Committee gave in-depth and extensive consideration to the efficiency of the risk management system, particularly the internal control system, the compliance management system and the internal audit system.

Report of the Supervisory Board (Continued)

The efficiency of the individual systems was discussed in depth with the Management Board, the Internal Audit, the Compliance function and the independent auditor. In this connection the Chairwoman of the Risk Committee also reported on the assessment of the audit of the efficiency of risk management by the Risk Committee at two meetings of the Audit Committee. The Audit Committee discussed the quarterly reports of the Internal Audit and the Compliance function on a regular basis at its meetings. The committee was provided with the annual plan of the Internal Audit and the Compliance function. It solicited regular reports on the status and the progress made in the remediation of the relevant internal and external findings of the Internal Audit, the Compliance function, the independent auditor and the supervisory authorities. The Audit Committee was briefed on key results of audits of the supervisory authorities. It also considered the independent auditor's report on the annual audit of the securities account business according to Section 89 of the German Securities Trading Act (Wertpapierhandelsgesetz – WpHG), the Bank's outsourcing arrangements, the report of the Data Protection Officer and the annual report of the Legal department on the Bank's legal risks (including status updates on selected legal risks). The Audit Committee requested reports on the liquidity situation on a monthly basis up to February 2021 and, starting with Q1/2021, quarterly reports. The committee also assessed the qualification and independence of the auditor and the quality of the audit. It prepared the award of the audit engagement by the Supervisory Board including the specification of audit focus areas and a recommendation on the amount of remuneration for the independent auditor. On the basis of Art. 5 paragraph 4 of Regulation (EU) No. 537/2014 (Audit Regulation), the Audit Committee approved the non-audit services of the independent auditor. Members of the Audit Committee were briefed on the latest status of the current audit of the annual financial statements by the independent auditor. In addition, the Audit Committee received a status update on the change in independent auditors (scheduled audit period beginning in 2022 until 2030) and prepared a framework agreement to be concluded with the independent auditor. At the joint meeting with the Risk Committee, the two committees solicited reports in particular on IT security management and the IT organisation as well as on the situation concerning resources in the CFO, CRO and COO units. Furthermore, the top risk assessment of the Internal Audit was discussed with the head of the Internal Audit and an analysis of the Bank's legal risks with head of Legal.

Training and education

The members of the Supervisory Board took part in the training and educational programmes required for their tasks on their own initiative. In the process, they were appropriately supported by HVB. An internal induction programme was offered especially to new Supervisory Board members and written information was provided for this. HVB offered all Supervisory Board members internal training and educational measures by specialists in the Bank. The topics covered were in particular sustainable finance, digitalisation and financial sanctions and the prevention of money laundering.

Annual financial statements for 2021

Deloitte audited the annual financial statements and Management Report of UniCredit Bank AG prepared in accordance with the German Commercial Code (Handelsgesetzbuch – HGB) and the consolidated financial statements and Group Management Report prepared in accordance with International Financial Reporting Standards (IFRS) for the 2021 financial year. The independent auditor issued an unqualified opinion in each case.

The financial statements listed above, together with the Management Board's proposal for the appropriation of the distributable profit and the independent auditors' report were provided to the Supervisory Board. The Audit Committee examined these documents in great detail during the preliminary audit. The lead auditor of the independent auditor reported on the key findings of the audit at the preparatory meeting of the Audit Committee, each of the preliminary discussions and at the subsequent meeting of the Supervisory Board devoted to the annual financial statements. The topics addressed were particularly the internal control system and the risk management system relating to the financial reporting process (ICS) compliant with Section 171 (1) German Stock Corporation Act (Aktiengesetz – AktG). Questions of members of the Supervisory Board were answered in detail and in full. During the meeting of the Audit Committee, the independent auditor also reported on the work performed by the independent auditor in addition to the audit of the financial statements and stated that there were no circumstances speaking against their independence. The Chairman of the Audit Committee reported to the full Supervisory Board on the results of the review by this committee. Upon recommendation by the Audit Committee, the Supervisory Board approved the results of the audit after checking and discussing in depth all the documents submitted and finding them to be orderly, validated and complete. On the basis of its own examination of the annual financial statements, the consolidated financial statements, the Management Report and Group Management Report as well as the proposal for the appropriation of the distributable profit, the Supervisory Board determined that no objections were to be raised. The Supervisory Board has therefore approved the annual financial statements and the consolidated financial statements prepared by the Management Board. Consequently, the annual financial statements were adopted. The Supervisory Board also concurred with the Management Board's proposal for the appropriation of the distributable profit.

UniCredit S.p.A. has held a majority interest in the share capital of HVB since 17 November 2005 and 100% of the share capital of HVB since 15 September 2008. Thus, the Management Board has also produced a report on relations of HVB with affiliated companies for the 2021 financial year in accordance with Section 312 AktG. The report contains the following concluding statement by the Management Board:

"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."

Deloitte audited this report and issued the following opinion:

On the basis of our statutory audit and assessment, we confirm that
1. the actual information contained in the report is correct,
2. the company's performance was not unreasonably high or disadvantages were compensated for the legal transactions mentioned in the report,
3. no circumstances speak in favour of a significantly different assessment to the one given by the Management Board concerning the measures mentioned in the report."

The report of the Management Board on relations with affiliated companies and the related audit report by Deloitte were also forwarded to the Supervisory Board. In the course of the preliminary audit, the Audit Committee and then the full Supervisory Board considered these documents in depth. The plausibility and consistency, and individual legal transactions between HVB and UniCredit S.p.A. and its affiliated companies were carefully examined together with other cost-generating measures initiated by UniCredit S.p.A. The independent auditor took part in the discussion of the Supervisory Board and the preparatory meeting of the Audit Committee, and gave a report on the principal findings of their audit. The Chairman of the Audit Committee reported to the full Supervisory Board on the results of the review by the committee. Following the examination of the report on relations of HVB with affiliated companies in the 2021 financial year prepared by the Management Board compliant with Section 312 AktG, which did not identify any deficiencies, the Supervisory Board is of the opinion that no objections are to be raised about the concluding statement of the Management Board in this report.

Personnel

Mr Jörg Frischholz resigned from the Management Board with effect from the end of 2 August 2021, Mr Simone Marcucci with effect from the end of 31 August 2021 and Mr Markus Beumer with effect from the end of 31 October 2021. The Supervisory Board appointed Ms Marion Höllinger as a member of the Management Board with effect from 3 August 2021, Mr Ljubisa Tesić with effect from 1 September 2021 and Mr Christian Reusch with effect from 1 November 2021.

Mr Olivier Khayat and Ms Finja Kütz resigned from the Supervisory Board as shareholder representatives with effect from the end of 13 July 2021. At the Extraordinary Shareholders' Meeting of UniCredit Bank AG on 14 July 2021, Mr Andrea Orcel and Ms Fiona Melrose were elected as members of the Supervisory Board in their place with effect from the end of that Extraordinary Shareholders' Meeting. Mr Andrea Orcel was also elected as the new Chairman of the Supervisory Board and Mr Gianpaolo Alessandro as a further Deputy Chairman by resolution of the Supervisory Board. Prof. Dr. Annette G. Köhler resigned from the Supervisory Board as shareholder representative with effect from the end of 28 February 2022. In her place, Ms Sabine Eckhardt was elected as member of the Supervisory Board with effect from 1 March 2022 at the Extraordinary Shareholders' Meeting of UniCredit Bank AG on 24 February 2022.

The Supervisory Board thanks the members who have resigned from the Supervisory Board for their long-term, dedicated and valuable service on this board and also for their commitment and their constructive support for the Bank on the Supervisory Board.

The Supervisory Board would like to thank the Management Board, the employees and the employee representatives for all their hard work and their services in the 2021 financial year, an exceptional year.

Munich, 18 March 2022

The Supervisory Board

Andrea Orcel

Chairman

Additional Information

Summary of Annual Financial Data

(€ millions)

OPERATING PERFORMANCE	2021	2020	2019	2018[3]	2017
Net interest	2,516	2,413	2,388	2,484	2,541
Dividends and other income from equity investments	28	37	24	25	11
Net fees and commissions	1,115	1,007	973	973	1,103
Net trading income	655	662	579	693	928
Net gains/(losses) on financial assets and liabilities at fair value	85	(78)	108	(110)	n/a
Net gains/(losses) on derecognition of financial instruments					
measured at amortised cost	(9)	(3)	13	52	n/a
Net other expenses/income	(142)	603	742	845	399
OPERATING INCOME	**4,248**	**4,641**	**4,827**	**4,962**	**4,982**
Payroll costs	(1,485)	(1,451)	(1,453)	(1,468)	(1,600)
Other administrative expenses	(1,202)	(1,231)	(1,220)	(1,364)	(1,443)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(119)	(126)	(483)	(183)	(227)
Operating costs	**(2,806**	**(2,808)**	**(3,156)**	**(3,015)**	**(3,270)**
OPERATING PROFIT/(LOSS)	**1,442**	**1,833**	**1,671**	**1,947**	**1,712**
Net write-downs of loans and provisions for guarantees and commitments IAS 39	n/a	n/a	n/a	n/a	(195)
Credit impairment losses IFRS 9	(114)	(733)	(115)	(16)	n/a
NET OPERATING PROFIT/(LOSS)[1,2]	**1,328**	**1,100**	**1,556**	**1,931**	**1,517**
Provisions for risks and charges	(153)	11	313	(919)	(25)
Restructuring costs	(617)	(35)	(363)	(14)	(7)
Net income from investments	n/a	n/a	n/a	n/a	112
Net gains/(losses) on disposals on investments	(13)	(4)	(15)	26	n/a
PROFIT/(LOSS) BEFORE TAX AND IMPAIRMENT ON GOODWILL	**545**	**1,072**	**1,491**	**1,024**	**n/a**
Impairment on goodwill	—	—	(130)	(288)	—
PROFIT/(LOSS) BEFORE TAX	**545**	**1,072**	**1,361**	**736**	**1,597**
Income tax for the period	(300)	(404)	(533)	(253)	(261)
PROFIT/(LOSS) AFTER TAX	**245**	**668**	**828**	**483**	**1,336**
CONSOLIDATED PROFIT/(LOSS) OF FULL HVB GROUP	**245**	**668**	**828**	**483**	**1,336**
attributable to the shareholder of UniCredit Bank AG	244	668	811	465	1,332
attributable to minorities	1	—	17	18	4
Cost-income ratio in % (based on total revenues)	66.1	60.5	65.4	60.8	65.6
Earnings per share of full HVB Group (€)	0.30	0.83	1.01	0.58	1.66

	2021	2020	2019	2018	2017
Balance sheet figures (€ billions)					
Total assets	312.1	338.1	303,6	287.3	299.1
Shareholders' equity	17.7	17.9	18.9	18.3	18.9
Key capital ratios (in accordance with approved financial statements)	**Compliant with CRR II**	**Compliant with CRR II**	**Compliant with CRR**	**Compliant with Basel III**	**Compliant with Basel III**
Common Equity Tier 1 capital[4] (€ billions)	15.2	15.1	15.0	16.5	16.6
Core capital (Tier 1 capital)[4] (€ billions)	16.9	16.8	15.0	16.5	16.6
Risk-weighted assets (€ billions) (including equivalents					
for market risk and operational risk)	86.9	80.6	85.5	82.6	78.7
Common Equity Tier 1 capital ratio[4,5] (%)	17.4	18.8	17.5	19.9	21.1
Core capital ratio (Tier 1 ratio)[4,5] (%)	19.4	20.9	17.5	19.9	21.1
Employees (in full-time equivalents)	11,406	12,074	12,194	12,252	13,405
Branch offices	461	480	498	503	553

1 Net operating profit according to IAS 39 until 31 December 2017.
2 Net operating profit according to IFRS 9 since 1 January 2018.
3 Adjustment due to retrospective application of IAS 40 included.
4 31 December 2021: in accordance with approved financial statements.
5 Calculated on the basis of risk-weighted assets, including equivalents for market risk and operational risk.

Contact

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

UniCredit S.p.A. Profile

Profile

At a glance

UniCredit is a pan-European Commercial Bank with a unique service offering in Italy, Germany, Central and Eastern Europe. Our purpose is to empower communities to progress, delivering the best-in-class for all stakeholders, unlocking the potential of our clients and our people across Europe.

We serve over 15 million customers in a cohesive manner worldwide. They are at the heart of what we do in all our markets.

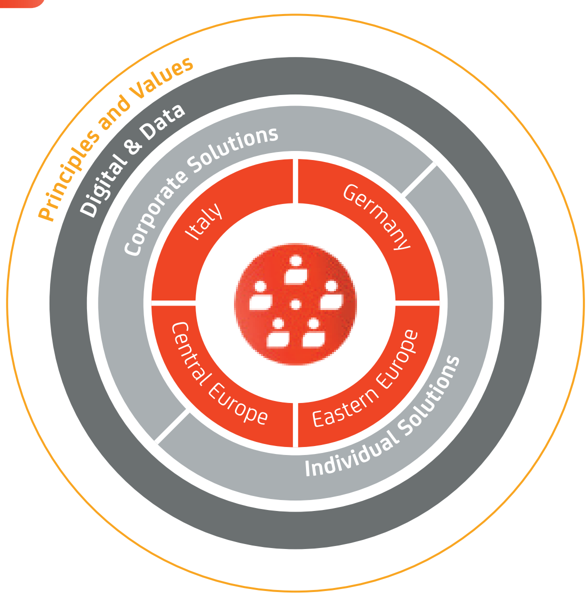
Empowering Communities to Progress. | UniCredit

OUR ORGANIZATION

4 Coverage regions

2 Product factories serving all regions

1 Leaner Corporate Centre embedding Digital & Data



OUR CLIENTS, OUR COMMUNITIES, OUR PEOPLE

Our new strategy UniCredit Unlocked puts clients back at the centre, connecting them to their bank in a unified way across Europe. We are their gateway to Europe.

We have a harmonised service model, simplifying our processes and establishing a common organisational structure across our business to connect our clients to our 13 banks and 4 regions in a unified way across Europe.

Digitalisation and our commitment to ESG principles are key enablers for our service. They help us deliver excellence to our stakeholders and creating a sustainable future for our clients, our communities and our people.

The diversity, knowledge and talent of our 87,000 people are the levers to go above and beyond for our clients. This will allow us to deliver all our ambitions.

Financial Highlights

FY21 COMMERCIAL RESULTS DEMONSTRATING THE INHERENT VALUE OF THE FRANCHISE

CONNECTING OVER 15M CLIENTS ACROSS EUROPE

~14 M	~1 M	CROSS BORDER PAYMENTS MARKET SHARE:
RETAIL CLIENTS	CORPORATE CLIENTS	C. 2X INTRA COUNTRY

THROUGH A UNIQUE AND DIVERSE TALENT BASE

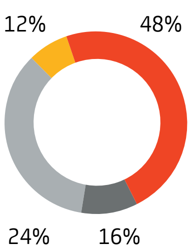
	PRESENCE IN BoD	PRESENCE IN GEC		
International mindset[1] Outside of head office country	38%	53%	14	Employees Resource Groups (LGBTI, Gender, Disability, Culture, Generations)
Gender balance[1] Female	46%	40%	33%	Presence in leadership team

13 BANKS EMBEDDED IN THE FABRIC OF EUROPE[2]

#2	#3	#2	#1
ITALY	GERMANY	CENTRAL EUROPE	EASTERN EUROPE

1. Calculated in FTEs.
2. Ranking by total assets. Germany only Private Banks. Italian and German Peers last available update as of 3Q21; Positioning vs other main Peers in CE region is as of 3Q21; ERSTE Austria in CE perimeter ranking consists of ErsteBank Oesterreich & Subsidiaries, Savings banks and Other Austria; Positioning vs other main Peers in EE region is as of 3Q21.

REVENUES (%)[3]



- Italy
- Germany
- Central Europe
- Eastern Europe

	Net profit[4] FY21, bn	GOP[3] Δ% vs. FY20
ITALY	2.0	+8.1%
GERMANY	0.8	+28.4%
CENTRAL EUROPE	0.9	At constant FX +12.6%
EASTERN EUROPE	0.8	At constant FX +0.2%

OUR FINANCIAL RESULTS SHOWED POSITIVE MOMENTUM

GROW
Revenues:
18bn
exceeding guidance

STRENGTHEN
Non Core rundown completed
CET1 ratio:
15.03%

DISTRIBUTE
Proposed shareholder distribution:
3.75bn

OPTIMISE
Cost:
9.8bn
exceeding guidance

3. Revenues by region: Italy excl. PC_CE, PC_EE, PC_Russia, Germany Subgroup.
4. Net Profit means Stated net profit (for 2021 Underlying net profit) adjusted for AT1, CASHES payments and impacts from DTAs from tax loss carry forward sustainability test.

Empowering
Communities to Progress.

UniCredit

unicreditgroup.eu