Unlocking...

A better bank
A better world
A better future

2022 Annual Report

Empowering Communities to Progress.

UniCredit

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

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Financial Highlights

Key performance indicators

	1/1–31/12/2022	1/1–31/12/2021
Net operating profit	€1,839m	€1,409m
Cost-income ratio (based on operating income)	55.0%	64.8%
Profit before tax	€1,768m	€626m
Consolidated profit	€1,301m	€326m
Earnings per share	€1.62	€0.41

Balance sheet figures / Key capital ratios

	31/12/2022	31/12/2021
Total assets	€318,006m	€312,304m
Shareholders' equity	€19,739m	€17,790m
Common Equity Tier 1 capital[1]	€16,060m	€15,167m
Core capital (Tier 1 capital)[1]	€17,760m	€16,867m
Risk-weighted assets (including equivalents for market risk and operational risk)	€82,077m	€86,928m
Common Equity Tier 1 capital ratio[1,2]	19.6%	17.4%
Core capital ratio (Tier 1 ratio)[1,2]	21.6%	19.4%
Leverage ratio in accordance with Commission Delegated Regulation[1,3]	5.4%	5.3%

1 31 December 2022: 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.

Rating

Further details: www.hvb.de -> Über Uns -> Investor Relations -> Ratings

Employees / Branch offices

	31/12/2022	31/12/2021
Employees (in FTEs)	10,866	11,406
Branch offices	430	461

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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 eight 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
Professor Dr Annette Köhler resigned from the Supervisory Board as shareholder representative with effect from the close of 28 February 2022. Ms Sabine Eckhardt was elected as a member of the Supervisory Board in her place with effect from 1 March 2022 at HVB's Extraordinary Shareholders' Meeting on 24 February 2022.

Mr Gianpaolo Alessandro will resign from the Supervisory Board as shareholder representative with effect from the close of 31 August 2023. Dr Michael Diederich was appointed to replace him as a member of the Supervisory Board with effect from 1 September 2023 at HVB's Extraordinary Shareholders' Meeting on 21 December 2022.

Management Board
With effect from 1 September 2022, the Supervisory Board appointed Mr Artur Gruca [Digital & Information (CDIO)] as a further member of the Management Board.

Dr Michael Diederich will resign from the Management Board with effect from 1 March 2023. Ms Marion Höllinger (currently the Management Board member responsible for the Private Clients Bank) will take his place as CEO and Spokeswoman of the Management Board from 1 March 2023.

The Supervisory Board appointed Ms Monika Rast as a member of the Management Board (Private Clients Bank) with effect from1 March 2023.

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.

Combined management report
The Management Report of UniCredit Bank AG (HVB) and the Group Management Report of HVB Group are combined in accordance with Section 315 (5) of the German Commercial Code (Handelsgesetzbuch – HGB) in conjunction with Section 298 (2) HGB. The annual financial statements and the consolidated financial statements (including the combined management report) are submitted jointly to the operator of the Federal Gazette and published in the Federal Gazette.

Statement pursuant to Section 289f (4) of the German Commercial Code
For the proportion of women on the Supervisory Board, HVB's Supervisory Board had set a target that one-third (four out of twelve) of the members should be women, which is to be achieved by 31 December 2025. This target was achieved on the reporting date. At 31 December 2022, four women were members of the Supervisory Board: Dr Claudia Mayfeld, Ms Fiona Melrose and Ms Sabine Eckhardt as shareholder representatives and Ms Claudia Richter as an employee representative. On 1 December 2022, HVB's Supervisory Board set a new target that five-twelfths of the members of the Supervisory Board should be women, which should be achieved by 31 December 2025. Both the shareholder and the employee representatives on the Supervisory Board are to contribute to achieving this target.

Financial Review (Continued)

For the proportion of women on the Management Board, the Supervisory Board had set a target that one-seventh of the members should be women, which was to be achieved by 31 December 2022. This target was met by 31 August 2022 with Ms Marion Höllinger on the Management Board. By appointing Artur Gruca to HVB's Management Board and thus increasing the number of Management Board members from seven to eight, the target of one-seventh has no longer been met since 1 September 2022. HVB's Supervisory Board set a new target that three-eighths of the members on the Management Board should be women, which is to be achieved by 31 December 2025.

The number of women at management levels has steadily increased since 2012. Comprehensive measures to promote women along with management teams with more equal representation of men and women have been implemented. This starts with local and global talent programmes for the different hierarchy levels and extends to individual personnel development measures to support especially female talents and top performers in their careers. In addition, binding quotas were ensured in various talent programmes and in promotion and appointment processes.

For the proportion of women in the first and second management levels below the Management Board respectively, the Management Board set the following targets by the end of 2023: 35 percent of women in the first and 40 percent in the second management level below the Management Board. As at 31 December 2022, there were 25 percent of women in the first and 27 percent in the second management level below the Management Board. These percentages do not yet meet the targets set for the first and second management levels below the Management Board. This is primarily due to the fact that when filling positions in the second management level below the Management Board, there were still too few women in lower levels identified for a talent pool and taken into account when filling positions.

As diversity, equity & inclusion is a strategically important topic for the Bank and increasing the number of women in all management levels also plays a crucial role in this context, the Bank intends to achieve a gender balance across all levels in the medium term.

To improve the proportion of women particularly in the second management level below the Management Board, comprehensive measures have been initiated and consistently expanded. Topics such as careers after returning from parental leave, flexible management models, a further reduction in the gender pay gap as well as comprehensive initiatives to network women with one another and increase their visibility vis-à-vis top management are to be named in this connection. In addition, dedicated diversity sponsors have been put in place for every division to promote further division-specific initiatives. Jan Kupfer, the Management Board member responsible for Corporates, also acts as the Accountable Executive Germany for diversity, equity & inclusion.

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 group statement to their group management report 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 group 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" (https://www.unicreditgroup.eu/en/esg-and-sustainability/sustainability-reporting.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 the Combined Management Report. In addition to the profit/loss after tax as the relevant measure of earnings for internal management purposes, the following KPIs are used in internal management: the cost-income ratio and the return on allocated capital (RoAC).

Business model, main products, sales markets, competitive position and locations in the 2022 financial year
HVB Group is part of UniCredit, a pan-European commercial bank. 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 430 offices around the world – 308 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:
– Retail
– Corporates
– 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 2022 consolidated financial statements.

Financial Review (Continued)

UniCredit Unlocked
In the 2022 financial year, we are following the guidelines of our UniCredit Unlocked strategic plan. This multi-year plan is embedded in the UniCredit Unlocked group-wide strategic plan with the cornerstones: simplifying the operating model with comprehensive process optimisation and digitalisation, growth in selected business areas and increasing capital efficiency. In the context of UniCredit Unlocked and the related strategy of simplifying structures and processes, also the provision of services for UniCredit group companies, UniCredit Services S.C.p.A. was merged with UniCredit S.p.A. in the second half of 2022. Local activities of UniCredit Services S.C.p.A. were integrated into HVB in order to gain advantages in optimising the Bank's own processes and to reduce complexity.

We successfully implemented the UniCredit Unlocked group-wide strategic plan in 2022, as we took measures at an early stage to counteract the impact of the challenging macroeconomic environment.

Our UniCredit Unlocked strategic plan continues to focus on growth and accelerating our business activities. We aim to increase and strengthen our customer base, drive forward our productivity and expand our digitalisation activities. In doing so, we intend to deliver sustainable yields, operate reliably with integrity and deal responsibly with resources and the environment; we will also aim to do more than "business as usual". To underpin our growth, in the coming years we will be investing in further automation and front-to-back process optimisation. At the same time, a further adjustment of our staffing levels is planned. As in the past, we will also do this in the future through socially compatible measures, i.e. to a large extent via natural fluctuation and partial and early retirement solutions. Moreover, new employment prospects will be created by continuing to promote existing initiatives; severance packages will be concluded where this is not possible.

Corporate acquisitions and sales, and other major changes in the group of companies included in consolidation
No significant corporate acquisitions or disposals were made in the reporting period.

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
The global economy faced increasing headwind in 2022. According to the International Monetary Fund (IMF), global economic growth came to 3.4 percent in 2022 after strong growth of 6.0 percent in the previous year. One of the main triggers was the conflict between Russia and Ukraine that led to soaring energy and food prices. The rapid and very strong surge in inflation rates in many countries then resulted in one of the strongest, fastest and most synchronous tightening of global monetary policy for decades that intensified the negative impact of the terms-of-trade shocks on the economy of many industrialised countries and emerging economies. Exceptionally high inflation rates also led to a tangible reduction in the real income of private households, which was reflected in temporarily historic lows in consumer confidence both in Europe and in the USA. However, economic headwind came in part as well from disruptions in global supply chains caused also by the repeated lockdowns in China.

The US economy grew by 2.1 percent in 2022 after recording growth of 5.9 percent in the previous year (according to the US Bureau of Economic Analysis (BEA)). Growth in 2022 was prompted primarily by an increase in private consumer spending in the wake of the sharp increase in the number of jobs in the labour market and the strong rise in wages. By contrast, construction spending weighed noticeably on economic activities. Just under six million additional jobs were created in the overall economy in 2022; the employment level before the outbreak of the COVID-19 pandemic was exceeded in late summer 2022 (according to the US Bureau of Labor Statistics (BLS)).

The Federal Reserve raised its key interest rate from 0.25 percent in February 2022 to 4.5 percent in December 2022 to curb soaring inflation rates.

In the eurozone, the economy grew by 3.5 percent in 2022 (according to Eurostat). The recovery was particularly dynamic in Italy (up 3.9 percent) and Spain (4.5 percent), while it was weaker in France (2.6 percent) and Germany (1.8 percent). One reason for the less dynamic development in Germany was initially the persistent problems in global supply chains that affected the industry-dependent German economy more strongly than other countries. In addition, the slowdown in the global economy in the course of the year dampened the German economy further on account of its dependence on exports.

The inflation rate in the eurozone rose to 8.4 percent in the full year 2022 (according to Eurostat) and thus increased more than at any time since the beginning of the European Currency Union (ECU) in 1999. Due to soaring inflation, the ECB raised its key interest rate (deposit rate) from minus 0.5 percent in June 2022 to 2.0 percent in December 2022. At the end of March 2022, the ECB ended its COVID-19 pandemic emergency purchase programme (PEPP). At the beginning of July 2022, the conventional asset purchase programme (APP) was ended. Mid-December 2022, the ECB announced that it would reduce its APP portfolio starting in March 2023, initially at an average rate of €15 billion per month until the end of the second quarter of 2023. According to the ECB, it will determine the continued pace of reduction at a later stage.

The growth of 1.8 percent in German economic output in 2022 was primarily due to a sharp increase in private consumer spending as a rebound effect after many COVID-19 protective measures were lifted in the spring. By contrast, there was a significant decline in construction spending that dampened growth. The labour market proved to be robust: the number of employed people was up by almost 0.6 million and thus reached a new record high. The inflation rate shot up to 7.9 percent on average over 2022 after 3.1 percent in the previous year.

Sector-specific developments

The rise in inflation continued in 2022. In the eurozone, the inflation rate rose from 5.0 percent at the end of 2021 to 10.6 percent in October 2022 but then slackened somewhat to 9.2 percent at the end of 2022 (Eurostat data). Higher and prolonged inflation led to significant monetary tightening by the ECB. At its meeting in February 2022, the ECB indicated an accelerated exit from quantitative easing and the start of interest rates returning to normal, which led to a further significant increase in the level of interest rates. In March 2022, the ECB announced that it would be gradually lowering the monthly net asset purchases under its asset purchase programme (APP) for the second quarter from €40 billion in April 2022 to €30 billion in May 2022 and then to €20 billion in June 2022. In April 2022, the ECB finally announced the end of the net purchases under the APP as of July 2022. The ECB also ended the net purchases under its pandemic emergency purchase programme (PEPP) on 1 July 2022. However, the ECB will be reinvesting all PEPP maturities until at least the end of 2024. The ECB also announced that it would be reinvesting PEPP maturities flexibly by asset class and region. The PEPP is a programme comprising public sector and private assets currently totalling €1.7 trillion. At its meeting in July 2022, the ECB finally announced the first rate hike and raised the interest rate by 50 basis points. Two further rate hikes by 75 basis points respectively followed in September and November 2022 with a further rate hike of 50 basis points in December 2022. The ECB interest rates were therefore raised overall by 2.5 percentage points in the second half of 2022. At the same time, it was decided in December 2022 to no longer reinvest all the maturities in the asset purchase programme (APP) from March 2023 onwards but instead to reduce the APP portfolio by €15 billion per month from March to June 2023. The ECB will determine the pace of reduction after June 2023 at a later stage.

Financial Review (Continued)

Due to the increase in credit spreads for the government bonds of peripheral countries, the ECB decided to establish a new transmission protection instrument (TPI) in July 2022. The ECB's Governing Council considers it necessary to establish the TPI to support the effective transmission of monetary policy. The TPI supplements the ECB Governing Council's raft of instruments and government bond purchases can be activated to counter unwarranted, disorderly market dynamics that pose a serious threat to the transmission of monetary policy across the euro area.

The temporary easing of the criteria for collateral relating to the refinancing of commercial banks with the ECB was extended from September 2021 to 2022. In March 2022, however, the ECB decided to phase out the easing measures by 2024. This package of measures serves to cushion the stricter financing conditions in the eurozone, 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 may 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.

On the regulatory side, there were comprehensive easing measures in the course of the pandemic to support bank lending to the real economy. On 10 February 2022, the ECB announced that it would be gradually phasing out the easing measures taken in respect of capital requirements. Banks were allowed to temporarily lower their capital ratios to below Pillar 2 Guidance (P2G) and reduce their capital conservation buffer until the end of 2022. However, full compliance with capital requirements is expected again from 2023. As regards the calculation of the leverage ratio, banks were allowed to exclude exposures vis-à-vis central banks from their leverage ratio until the end of March 2022.

As regards macroprudential regulation, the German Federal Financial Supervisory Authority (BaFin) decided in January 2022 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.

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 the 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, which takes account of some specific features of the European financial market. As special regulations, it envisages 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 introduction of the finalised Basel II standard in Europe is not planned until the beginning of 2025. In the meantime, the EU Parliament has also approved the compromise proposal with minor changes and the banking package can be expected to be adopted in 2023.

A little over a year after the 6th amendment to the Minimum Requirements for Risk Management (MaRisk), BaFin published the draft of the 7th MaRisk amendment in September 2022. In terms of content, the amendment includes the EBA guidelines for lending and credit monitoring as well as dealing with sustainability risks. Banks had until November 2022 to provide feedback and the final circular could be published as early as in the first quarter of 2023.

European banks successfully met the interim targets for the minimum requirements for own funds and eligible liabilities (MREL) on 1 January 2022 and the final MREL targets must be met from the beginning of 2024. Overall, the banks are well on track and had already met the MREL targets to a large extent as at 30 June 2022.

Risk premiums in the European credit market widened significantly in 2022 as a result of geopolitical risks, persistently high inflation, an ever greater risk of recession and uncertainty about gas supplies in Europe. An end of the ECB's net bond purchases in the second half of 2022 also led to a widening of credit spreads. The credit spreads of companies with good credit ratings rose by 78 basis points to a level of 122 basis points by October 2022. Risk premiums for senior bank bonds followed a similar trend, increasing by 120 basis points to 156 basis points in the first half of 2022. The spread between risk premiums for ten-year Italian sovereign bonds and ten-year German sovereign bonds likewise widened significantly from 135 basis points to 253 basis points. The ECB's announcement that it was preparing an instrument to combat fragmentation and the flexibility in reinvesting maturities in the PEPP supported investor confidence after which the spread margin fell significantly below the 200 basis point mark again.

The yield curve moved upwards in 2022 but has become flatter. The three-month Euribor increased significantly from negative 57 basis points to positive 213 basis points at year-end 2022 and the 10-year Overnight Index Swap (OIS) ESTR rate rose from 12 basis points at the beginning of 2022 to plus 293 basis points by year-end 2022. The higher level of interest rates is positive for the net interest income of banks. Furthermore, the market currently expects further ECB rate hikes due to the persistently high inflation and the current market expectation sees an increase in the ECB deposit rate from 2.0 percent at present to 3.4 percent by mid-2023.

While lending to companies increased in 2022, new business with real estate loans came under pressure due to the significant increase in interest rates. In Germany, the volume of new business with housing loans extended to private households was 40 percent lower in November 2022 than the figure recorded in the previous year. On average, the return on equity of European banks amounted to 7.4 percent in the first three quarters of 2022 (data from the European Banking Authority (EBA)). Despite higher lending costs in the first quarter of 2022 due to the Russia-Ukraine conflict, the return on equity remained at the same level as in 2021, although it was significantly higher than the 1.6 percent in 2020. Income in the area of investment banking declined in 2022 compared with the previous year, reflecting the volatility in markets and the lower volume of capital market transactions. Operating costs increased as a result of the high inflation, weakening the positive effect brought about by the higher net interest income.

The 2022 stock market year was marked by high volatility, geopolitical risks, high inflation along with restrictive monetary policy. The Euro STOXX 50 was down by 12 percent in 2022. The index fell over the year and was down by up to 24 percent in September 2022 due to a high level of uncertainty about the geopolitical situation, Europe's energy supply and the macroeconomic development going forward. However, the situation brightened considerably towards the end of the year. Mild temperatures and lower gas consumption resulted in high gas storage levels. At the same time, the inflation rate began to fall from a high level both in the USA and in Europe. Bank shares mirrored the development of the overall market. However, the EURO STOXX Banks (Price) Index fell disproportionately to the overall market following a good start to the year after Russia invaded Ukraine in February 2022 but was able to catch up with the overall market again by the end of the year.

In the USA, the yield on ten-year US treasury bonds rose significantly from 1.6 percent at the beginning of 2022 to more than 3.9 percent at the end of 2022. The US Federal Reserve Bank began to raise interest rates as early as March 2022. The yield on ten-year bonds of the Federal Republic of Germany increased from minus 12 basis points in 2022 to 2.6 percent by the end of 2022. In 2022, the euro had depreciated against the US dollar by 15 percent by September, partly as a result of a more rapid rate hike by the FED and a greater risk for the European economy as a result of the war in Ukraine. From September onwards, the euro appreciated against the

Financial Review (Continued)

dollar again as the economic outlook in the eurozone brightened considerably. Seen over the full year 2022, the euro depreciated by only 5 percent against the US dollar.

The topic of sustainability continued to gain importance for the banking sector. On the one hand, the share of ESG-compliant issues in the banking sector remained at a high level with more than 20 percent of the bonds issued in the banking sector in 2022 already being aligned with ESG standards. On the other hand, there were several new regulations relating to sustainability. After the European Commission published the EU taxonomy in 2021, the European Parliament finally agreed to classifying investments in natural gas and nuclear power as sustainable under certain conditions in July 2022 after lengthy discussions.

Operating performance of HVB Group

All the statements regarding the operating performance of HVB Group in this Combined Management Report refer to the structure of our income statement.

In addition to the profit/loss after tax as the relevant measure of earnings for internal management purposes, the following key performance indicators (KPIs) are used in internal management: the cost-income ratio and the return on allocated capital (RoAC).

			CHANGE	
INCOME/EXPENSE	**1/1-31/12/2022**	**1/1-31/12/2021**	**€ millions**	**in %**
Net interest	2,626	2,516	+ 110	+ 4.4
Dividends and other income from equity investments	31	28	+ 3	+ 10.7
Net fees and commissions	1,120	1,115	+ 5	+ 0.4
Net trading income	793	655	+ 138	+ 21.1
Net gains/(losses) on financial assets and liabilities at fair value	288	85	+ 203	>+ 100.0
Net gains/(losses) on derecognition of financial instruments measured at cost	29	(9)	+ 38	
Net other expenses/income	(138)	(61)	(77)	>+ 100.0
of which net valuation/disposal of investment properties	(4)	26	(30)	
OPERATING INCOME	**4,749**	**4,329**	**+ 420**	**+ 9.7**
Payroll costs	(1,415)	(1,485)	+ 70	(4.7)
Other administrative expenses	(1,087)	(1,202)	+ 115	(9.6)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(109)	(119)	+ 10	(8.4)
Operating costs	**(2,611)**	**(2,806)**	**+ 195**	**(6.9)**
OPERATING PROFIT/(LOSS)	**2,138**	**1,523**	**+ 615**	**+ 40.4**
Net write-downs of loans and provisions for guarantees and commitments	(299)	(114)	(185)	>+ 100.0
NET OPERATING PROFIT/(LOSS)	**1,839**	**1,409**	**+ 430**	**+ 30.5**
Provisions for risks and charges	11	(153)	+ 164	
Restructuring costs	(80)	(617)	+ 537	(87.0)
Net gains/(losses) on remeasurement of consolidated companies	(2)	(13)	+ 11	(84.6)
PROFIT/(LOSS) BEFORE TAX	**1,768**	**626**	**+ 1,142**	**>+ 100.0**
Income tax for the period	(467)	(300)	(167)	+ 55.7
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**1,301**	**326**	**+ 975**	**>+ 100.0**
attributable to the shareholder of UniCredit Bank AG	1,301	325	+ 976	>+ 100.0
attributable to minorities	—	1	(1)	(100.0)

Net interest
In the reporting period, net interest came to €2,626 million compared with €2,516 million in the previous-year period and was thus a marked €110 million or 4.4% higher than the previous-year figure. Net interest in the reporting period also includes effects from the reversal of a provision for interest on tax payments of €42 million in connection with the reduction in statutory interest on tax refunds and payments of tax arrears from 6% to 1.8%. The previous-year period included interest income of €155 million in connection with a tax refund that was offset by interest expense of €44 million in connection with tax provisions.

The Retail and Corporates operating segments benefited from an increase in margins (on the back of clearly positive market interest rates in the meantime) in the deposit-taking business in particular and in the Corporates operating segment from an expansion in volumes. This was offset by the changes in TLTRO III conditions, fewer early repayment penalties and lower income from cash positions in the Other operating segment.

Net fees and commissions
In the reporting period, net fees and commissions came to €1,120 million and are thus a slight €5 million or 0.4% higher than in the previous-year period.

Net trading income
In the reporting period, net trading income was up a sharp €138 million, or 21.1%, to €793 million, boosted by the substantial increase in income in the areas of fixed income, currencies & commodities and equity & brokerage trading. This more than compensated for the negative impact of valuation discounts in connection with fair value measurements (X-valuation adjustments).

Net trading income includes valuation discounts in the context of the fair value measurement of derivatives, particularly credit value adjustments and funding value adjustments. The reduction in valuation discounts in connection with the fair value measurement had a positive impact and resulted in income of €62 million (previous-year period: €158 million).

In addition, net trading income was weighed down by losses in connection with the closing out of derivatives transactions with Russian banks totalling €94 million as a result of the sanctions against Russia.

Net gains/losses on financial assets and liabilities at fair value
A net gain of €288 million is reported for financial assets and liabilities at fair value in the reporting period, which is a sharp €203 million higher than the gain of €85 million reported in the previous-year period.

There was a significant increase of €404 million in hedge accounting effects (previous-year period: €61 million). This is attributable to the absolute increase in the changes in value of both the hedged items and the hedging transactions which, in turn, is due to the rise in the general interest rate level in the reporting period. Thus, for the portfolio fair value hedges as HVB’s main hedge relationships, on the one hand, the fair value of the hedged items rose from €1,390 million in the previous year to €6,205 million in the reporting year and on the other hand, the fair value of the hedging transactions rose from €1,289 million in the previous year to €5,780 million in the reporting year. At 107%, the relation between the changes in the fair value of the hedged items and the hedging transactions remained almost unchanged (previous year: 108%) and even decreased slightly. The hedge effectiveness ranges were observed at all times.

Financial Review (Continued)

In the reporting year, a loss of €113 million was generated in financial liabilities designated at FVTPL compared with a gain of €47 million in the previous-year period. Due to the increase in interest rates in 2022, the negative change in derivatives used for economic hedging exceeds the positive performance of the securities issued. The loss of €43 million in financial assets mandatorily at FVTPL in the previous-year period rose significantly to €66 million in the reporting year. In this case, the negative value added from securities and promissory notes was not completely offset by the positive value added of the derivatives concluded for economic hedging due to the rise in the general interest rate level. Furthermore, the positive earnings contribution from investment fund units fell year on year from €37 million to €3 million in the reporting year. This item includes the fair value measurement of equity instruments with a positive amount of €46 million (previous-year period: €18 million).

Net gains/losses on derecognition of financial instruments measured at cost
This item reports a net gain of €29 million compared with a loss of €9 million in the previous year. The result is thus considerably higher than the previous-year figure. The increase is primarily attributable to the premature derecognition of liabilities under the previous TLTRO III programme due to the ECB's adjustment of the conditions in October 2022 with effect from November 2022. The amounts repayable to the ECB that were determined are €157.7 million lower than the carrying amount on the date of derecognition calculated on the basis of the effective interest method. This was offset by the derecognition of the hedge adjustment of €134.3 million, which is also to be derecognised through profit or loss on account of the complete derecognition of the hedged items from the terminated portfolio fair value hedge for the TLTRO III programme. As a result, a gain of €23.4 million is generated on the derecognition of the TLTRO III programme. The loss in the previous year is largely due to the premature repayment of the HVB Funding Trust instruments at year-end 2021. 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 a net expense of €138 million for the reporting period, representing a sharp increase of €77 million over the net expense of €61 million in the previous-year period. The change is due in particular to the increase of €48 million to €241 million in the bank levy. In addition, the positive balance from net expenses/income from investment properties decreased as both the valuation gains and the rental income declined.

At €241 million in the reporting period (previous-year period: €193 million), the bank levy is the largest single item contained in net other expenses/income. The increase in the bank levy is partly due to the general expansion in deposits (basis of assessment for the bank levy) and the increase in HVB's total assets as a further factor influencing the amount set for the bank levy.

Operating costs
Operating costs totalled €2,611 million in the reporting period and were thus a marked €195 million or 6.9% lower than the previous-year's figure of €2,806 million. This shows that HVB Group has succeeded in reducing costs in line with the UniCredit Unlocked strategic plan and combat the effects of inflation.

Payroll costs declined noticeably by 4.7% to €1,415 million in the reporting year compared with €1,485 million in the previous year in the context of capacity adjustments. Other administrative expenses total €1,087 million in the reporting year, which is a significant year on year decrease of €115 million or 9.6%. The decline is primarily due to lower contributions to the German deposit guarantee scheme and lower discretionary costs.

Operating profit (before net write-downs of loans and provisions for guarantees and commitments)
Operating profit (before net write-downs of loans and provisions for guarantees and commitments) amounted to €2,138 million in the reporting period and thus rose sharply by €615 million over the previous-year figure of €1,523 million.

The cost-income ratio (ratio of operating costs to operating income) thus improved to 55.0% in the reporting period after 64.8% in the previous-year period. As a result, the cost-income ratio declined significantly and did not – as forecast – remain at the same level.

Net write-downs of loans and provisions for guarantees and commitments
In the reporting period, net additions to net write-downs of loans and provisions for guarantees and commitments totalled €299 million after €114 million in the previous-year period, representing a sharp increase of €185 million or 162%. The individual effects that offset each other are described below.

In the reporting period, a net amount of €261 million was added to portfolio allowances following a net addition of €29 million in the previous-year period. On the one hand, the macroeconomic factors were adjusted to reflect the continuing deterioration in the economic environment in the reporting period, which led to an addition to general valuation allowances. While the models used for calculating the expected credit losses depict the effects of the adjustment of macroeconomic factors, post model adjustments of €191 million, which are to be seen as supplementary measures to the IFRS 9 models, were made for certain sub-portfolios that are particularly sensitive to the current geopolitical risks. This allows the risks arising from the sudden increase in energy costs, inflation and interest rates for both companies and private individuals to be taken into account. On the other hand, new models were introduced that simultaneously resulted in the reversal of portfolio allowances recorded in the previous year. In addition, methodical adjustments in determining the general valuation allowances were made for specific products. Thus, a post model adjustment of €177 million was made in order to cover the specific risks for (partial) bullet financing. This adjustment is intended to be finally implemented in the models for the determination of the expected credit losses from a technical perspective in 2023 in the course of the further development of these models. The net additions to general valuation allowances are mainly attributable to these factors. In the previous-year period, net charges resulted from the adjustment made to model parameters, which were largely offset by the favourable performance of the portfolio of performing loans and the macroeconomic environment.

In the reporting year, net additions to specific valuation allowances total €38 million after €85 million in the previous-year period. Additions to specific valuation allowances on account of defaults were more than compensated for by reversals of existing specific valuation allowances. A moderate level of specific valuation allowances was set aside at the reporting date for direct Russia exposure in connection with the Russia-Ukraine conflict.

Financial Review (Continued)

Provisions for risks and charges
In the reporting period, net income of €11 million was generated from the reversal of provisions. This is offset by net expenses of €153 million from the addition to provisions for risks and charges reported in the previous-year period. No individual items of significance occurred in the reporting period whereas in the previous-year period an amount of €69 million related to a provision set aside for penalty payments to the EU Commission, which imposed these for cartel law infringements in connection with EU government bonds.

Restructuring costs
Restructuring costs totalled €80 million in the reporting year (previous-year period: €617 million). In both years, restructuring costs are attributable to the implementation of the UniCredit Unlocked strategic plan.

In the reporting year, restructuring costs were incurred, among other things, due to the planned migration of various trading systems to a central trading system. In this connection, activities are also being transferred from the previous locations to a central location. The historically grown structure of HVB Group's trading systems is to be made significantly easier by transferring the respective activities to one trading platform. This will allow considerable synergies to be leveraged and the complexity of the IT infrastructure to be reduced. Furthermore, an amount of €46 million of the restructuring costs relates to payroll costs.

In the previous year, restructuring costs are based on measures resulting from the implementation of the UniCredit Unlocked 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. 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.

Profit before tax, income tax for the period and consolidated profit/loss
In the reporting period, HVB Group generated profit before tax of €1,768 million, which is a sharp €1,142 million or 182.4% higher than the profit before tax of €626 million generated in the previous-year period.

The income tax expense amounted to €467 million in the reporting period and was therefore a substantial €167 million or 55.7% higher than the income tax expense of €300 million in the previous-year period. While the significant increase in profit before tax has tended to lead to a higher tax expense, the prospective adjustment and extension of the estimated period for taking account of the period of time in which taxable income will be generated for the recognition of deferred taxes has resulted in tax income recognised in profit or loss of €131 million.

After deducting income tax for the period, HVB Group generated a consolidated profit of €1,301 million in the reporting period, which represents a significant increase of €975 million compared with the consolidated profit of €326 million in the previous-year period.

In the previous year, a significant increase in both profit before tax and also in profit after tax was forecast that was primarily based on the elimination of the non-recurrent effects that weighed down results in 2021. As explained above, this forecast was exceeded by a wide margin.

Return on allocated capital
The profitability ratio return on allocated capital (RoAC) shows the annualised consolidated profit of HVB Group (attributable to HVB's 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 13.00% equity is allocated to the average risk-weighted assets. In the reporting year, this ratio rose to 11.0% compared with 3.1% in the previous year.

The RoAC is thus considerably higher than that of the 2021 financial year and distinctly above the figure forecast for 2022. Both of these facts are attributable to an improvement in consolidated profit on the back of a change in the interest environment, the elimination of non-recurrent effects and extensive capital efficiency measures.

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. The segment structure was adjusted in the first half of 2022. The changes are also described in that section. When calculating totals, minor deviations might occur as a result of rounding.

OPERATING INCOME (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Retail	1,361	1,198
Corporates	3,440	2,910
Other	249	350
Total	**5,050**	**4,458**

NET OPERATING PROFIT/(LOSS) (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Retail	446	131
Corporates	1,607	1,298
Other	87	241
Total	**2,140**	**1,670**

PROFIT/(LOSS) BEFORE TAX (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Retail	432	(222)
Corporates	1,287	646
Other	82	203
Total	**1,801**	**627**

PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS)) (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Retail	299	(152)
Corporates	873	298
Other	95	243
Total	**1,267**	**389**

General comments on the business situation in 2022 and comparison with last year's expectations
The 2022 reporting year was largely characterised by the conflict between Russia and Ukraine that led to soaring energy and food prices. As a result, there was a marked rise in inflation rates in many countries. The main central banks, such as the ECB or the FED, responded to this development with significant monetary tightening and hiked up interest rates considerably. Thus, the 3-month Euribor in 2022 rose from negative 57 basis points to positive 213 basis points at year-end 2022 and the 10-year Overnight Index Swap (OIS) ESTR rate from 12 basis points at the beginning of 2022 to plus 293 basis points at year-end 2022.

Operating income was up by a substantial €420 million or 9.7% in the reporting year, due mainly to the sharp rise of €203 million in net gains on financial assets and liabilities at fair value along with the significant increases of €138 million in net trading income and of €110 million in net interest, while net other expenses/income fell by €77 million. The higher volatility, which was partly due to the conflict between Russia and Ukraine and its impact on markets, led to an increase in trading activities while losses of €94 million were incurred in the course of closing out derivatives with Russian banks as a result of the sanctions imposed on Russia. Due to the rise in interest rates, a significantly higher interest margin was achieved in the deposit-taking business, which was the key factor driving the increase in net interest. This was offset by the increase in the bank levy recognised within the item "Net other expenses/income".

Compared with the previous year, operating costs decreased by a marked 6.9% to €2,611 million in the reporting year in line with the UniCredit Unlocked strategic plan.

The "Net write-downs of loans and provisions for guarantees and commitments" item increased significantly from €114 million in the previous-year period to €299 million in the reporting year. While additions to specific valuation allowances fell from €85 million in the previous year to €38 million in the reporting year, additions to portfolio valuation allowances rose from net €29 million to €261 million. On the one hand, this increase reflects the post model adjustments made to take account of higher geopolitical risks, caused partly by the conflict between Russia and Ukraine. On the other hand, the adjustment of the macroeconomic factors that reflect the deteriorating economic environment had a negative impact.

As the adverse effects from the UniCredit Unlocked strategic plan were eliminated for the most part in the previous year, "Restructuring costs" fell significantly from €617 million in the previous year to €80 million in the reporting year.

There was a sharp rise of €1,142 million to €1,768 million in profit before tax in the reporting year. Compared with the forecast development of HVB Group at the beginning of 2022, operating income rose more strongly. Against the backdrop of the conflict between Russia and Ukraine, net write-downs of loans and provisions for guarantees and commitments also rose significantly and did not decline as originally forecast. However, there was a very high level of uncertainty about the impact that the conflict between Russia and Ukraine would have at the outset of 2022. As expected, there was a substantial decline in "Restructuring costs" in the reporting year.

There was a significant €975 million increase in profit after tax to €1,301 million compared with the previous-year period for the reasons named above. Therefore, the projected sharp rise in profit after tax materialised.

Financial Review (Continued)

At 55.0%, the cost-income ratio is lower than the level in 2021 (64.8%). This means that it improved considerably in contrast to the stable development expected. The RoAC rose a substantial 11.0% in the reporting year after 3.1% in the previous-year period.

The CET1 capital ratio in accordance with approved consolidated financial statements came to 19.6% in the reporting year (previous year: 17.4%) and thus exceeds the forecast development. This rise is attributable to the increase in capital and the decrease in risk-weighted assets as a result of the implementation of capital efficiency measures.

Financial situation

Total assets

The total assets of HVB Group rose by €5.7 billion, or 1.8%, to €318.0 billion as at 31 December 2022 compared with 31 December 2021.

On the assets side, cash and cash balances increased sharply, totalling €36.8 billion as at 31 December 2022 compared with €27.7 billion as at year-end 2021. This rise is almost exclusively due to higher credit balances with central banks, which were up from €21.7 billion in the previous year to €36.3 billion as at 31 December 2022, while cash on hand, at €0.5 billion, declined by €5.5 billion as at 31 December 2022 compared with the previous year.

By contrast, financial assets held for trading fell a marked €3.7 billion to €82.3 billion as at 31 December 2022 compared with €85.9 billion at year-end 2021. This decline represents the net amount from decreases in other financial assets held for trading (down €11.6 billion), equity instruments (down €2.6 billion) and fixed-income securities (down €2.3 billion) along with an increase in the positive fair values of derivative instruments (up €12.8 billion).

The portfolio of financial assets at FVTPL, which consists mainly of securities, fell sharply by €2.6 billion to €4.9 billion compared with year-end 2021. This decline is primarily due to securities reaching final maturity.

Financial assets at FVTOCI, which consists exclusively of securities, declined sharply by €2.2 billion to €9.8 billion compared with the previous year. This decline is primarily due to securities reaching final maturity.

Loans and receivables with banks declined significantly by €1.3 billion to €23.3 billion, which is largely attributable to the decreases in other loans to banks (down €1.1 billion), reverse repos (down €0.7 billion) and cash collateral and pledged credit balances (down €0.4 billion). This was offset by securities (up €0.9 billion).

Loans and receivables with customers were up by a marked €6.1 billion to €154.8 billion, mainly due to increases in securities (up €3.5 billion), mortgage loans (up €2.1 billion) and other loans and receivables (up €1.9 million). By contrast, there were declines in current accounts (down €1.2 billion) and finance lease receivables (down €0.4 billion).

On the liabilities side, the item “Deposits from banks” sharply declined by €10.5 billion to €51.2 billion. This decline is primarily attributable to declines in deposits from central banks (down €10.4 billion), repos (down €1.2 billion) and current accounts (down €0.2 billion). The decline in deposits from central banks reflects the partial repayment of TLTRO III funds totalling €10.8 billion. By contrast, there were increases in term deposits (up €0.8 billion) and cash collateral (up €0.5 billion).

There was a significant increase of €12.8 billion to €147.2 billion in deposits from customers, driven largely by the higher volumes of term deposits (up €22.4 billion) and other liabilities (up €10.8 billion). This was offset by current accounts (down €11.7 billion), savings deposits (down €4.3 billion), cash collateral (down €2.6 billion), repos (down €1.7 billion) and promissory notes (down €0.2 billion).

Compared with year-end 2021, there was a slight decrease in debt securities in issue from €1.0 billion to €31.1 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 decrease.

Financial liabilities held for trading rose a sharp €10.6 billion to €64.3 billion compared with year-end 2021. An amount of €14.2 billion of this increase is attributable to the negative fair values from derivative financial instruments, whereas other financial liabilities held for trading were down by €3.6 billion.

Financial liabilities at FVTPL decreased significantly by €0.7 billion to €4.8 billion as at 31 December 2022 compared with €5.5 billion as at year-end 2021. 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 the decrease mentioned.

Shareholders’ equity shown in the balance sheet rose a substantial €2.0 billion to €19.7 billion as at the reporting date. This rise was supported by consolidated profit of €1.3 billion and other comprehensive income of €1.0 billion, although the UniCredit-internal dividend payment of €0.2 billion for 2021 must be taken into account in this context.

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 €86.9 billion at the reporting date compared with €86.1 billion at year-end 2021. This figure includes contingent liabilities in the form of financial guarantees of €29.6 billion (year-end 2021: €28.1 billion) and other commitments of €57.2 billion (year-end 2021: €58.0 billion) almost exclusively related to irrevocable credit commitments. These contingent liabilities are offset by contingent assets of the same amount.

Financial Review (Continued)

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 €82.1 billion as at 31 December 2022 and were thus €4.8 billion lower than as at year-end 2021 (€86.9 billion), also as a result of measures (including synthetic securitisation) to increase capital efficiency in line with the group-wide UniCredit Unlocked strategic plan. Overall, risk-weighted assets for credit risk (including counterparty default risk) fell by €3.1 billion to €65.7 billion. Furthermore, the risk-weighted asset equivalents for operational risk decreased by €0.2 billion to €8.6 billion. The risk-weighted assets for market risk fell by €1.5 billion and came to €7.8 billion.

As at 31 December 2022, Common Equity Tier 1 capital compliant with the CRR II excluding hybrid capital (CET1 capital) totalled €16.1 billion and Tier 1 capital €17.8 billion. Tier 1 capital rose compared with year-end 2021 (€16.9 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) were 19.6% and 21.6% respectively as at 31 December 2022 (31 December 2021: 17.4% and 19.4% respectively). Own funds came to €19.2 billion as at 31 December 2022 (31 December 2021: €18.3 billion in accordance with approved consolidated financial statements). The own funds ratio was 23.4% as at 31 December 2022 (31 December 2021: 21.0%). The increase in the ratios is attributable to the decrease in risk-weighted assets and the increase in capital.

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 amounted to 5.4% as at 31 December 2022 (31 December 2021 in accordance with approved consolidated financial statements: 5.3%). Article 429a (1) n) CRR II on the temporary exclusion of certain exposures to central banks from the total exposure measure was applied to determine the leverage ratio of HVB Group as 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%. The aforementioned article was not applied as at 31 December 2022.

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

In addition to the ongoing COVID-19 pandemic, the year 2022 was also overshadowed by the conflict between Russia and Ukraine and the associated economic uncertainties, such as restrictions in gas supply, rising inflation, higher volatility on financial markets and the risk of recession. The global effects and consequences of the conflict cannot yet be fully assessed at the present time. The rating agencies continue to closely monitor developments and their impact on the earnings and risk situation of banks.

Moody's
Moody's affirmed HVB's issuer rating at 'A2' and deposit rating at 'A2'/'P-1' on 10 August 2022. The outlook was adjusted from 'stable' to 'negative' following the rating move that changed the rating outlook for Italy and UniCredit S.p.A. from 'stable' to 'negative'. The adjustment in the rating outlook reflects the possibility of HVB's stand-alone rating (Baseline Credit Assessment: BCA) deteriorating if the stand-alone rating of UniCredit S.p.A. were to be downgraded as a result of a deterioration in the operating environment. This takes into account that Moody's has capped the BCA of HVB a notch higher than that of its parent company which, from Moody's perspective, recognises the existing interdependencies due to the Bank's role as the global investment banking hub for the corporate group and Moody's assumptions regarding the resolution strategy.
HVB's stand-alone rating (BCA) was affirmed at 'baa2'. Moody's continues to emphasise the strong capital base, the good asset quality and solid liquidity position of HVB. The rating for HVB's preferred senior unsecured bonds and the counterparty risk rating (CRR) were not affected by the rating move and remain unchanged at 'A2' and 'A1'/'P-1' respectively.

Fitch Ratings
Fitch affirmed HVB's ratings on 7 February 2023; the outlook was adjusted from 'negative' to 'stable'. HVB's issuer default rating (IDR) stands at 'BBB+/F2', the derivative counterparty rating at 'A- (dcr)' and the rating for deposits as well as for preferred senior unsecured bonds remains at 'A-'/'F2'. HVB's long-term issuer default rating (IDR) continues to be determined by the Bank's viability rating (stand-alone rating) which is 'bbb+'. In its rating assessment, Fitch emphasises the very good capital base and the resulting high degree of flexibility of HVB to mitigate possible deteriorations in asset quality due to the weakening economic environment. The outlook for the IDR was changed from 'negative' to 'stable' as according to Fitch's assessment, the capital base will remain at a level appropriate for the viability rating (stand-alone rating) of 'bbb+'.

Standard & Poor's
On 10 August 2022, S&P affirmed the ratings for HVB and the outlook was adjusted from 'negative' to 'stable'. HVB's issuer credit rating (ICR) is 'BBB+'/'A-2', the resolution counterparty rating remains at 'A-'/'A-2' and the rating for preferred senior unsecured debt instruments at 'BBB+'. The rating affirmation and the adjustment of the outlook to 'stable' are to be seen in the context of the review of HVB's financial and operating independence in implementing UniCredit's Single Point of Entry (SPE) resolution strategy. Although S&P rarely awards a rating to subsidiaries with an SPE resolution strategy higher than that of the parent company, HVB's rating was affirmed a notch higher than the rating of UniCredit S.p.A. In its rating assessment, S&P emphasises that HVB's ratings continue to be supported by a strong capital base, the Bank's solid market position in corporate banking as well as a relatively limited dependence in terms of funding and other measures.

Group Parent Company Information (HGB)

Group parent company information (HGB)
UniCredit Bank AG (HVB) has made use of the option provided in Section 315 (5) of the German Commercial Code (Handelsgesetzbuch – HGB) in conjunction with Section 298 (2) HGB and has combined HVB's Management Report with the Group Management Report of HVB Group.

As the Group parent company, HVB determines the business development of HVB Group. The management is carried out on the basis of IFRS results in line with the internal management of UniCredit S.p.A. Therefore, the statements made for HVB Group in this Combined Management Report also apply to HVB to a large extent. Due to the different accounting standards (HGB instead of IFRS), the operating performance and financial position of HVB is dealt with separately. This is done below. Please see the notes to the annual financial statements of HVB for further details.

Relations with affiliates

We have prepared a separate report on our relations with affiliates in the 2022 financial year which contains the following declaration made by the Management Board in accordance with Section 312 of the German Stock Corporation Act (Aktiengesetz – AktG):

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

Operating performance of UniCredit Bank AG (HVB)

	1/1-31/12/2022	1/1-31/12/2021	Change			
INCOME STATEMENT	**€ millions**	**€ millions**		**€ millions**		**in %**
Net interest income	3,470	2,522	+	948	+	37.6
Net fees and commissions	1,172	1,172		—		
Net income from the held-for-trading portfolio	609	509	+	100	+	19.6
Other operating income less other operating expenses	(34)	30		(64)		
OPERATING INCOME	**5,217**	**4,233**	**+**	**984**	**+**	**23.2**
General administrative expenses	(3,420)	(3,909)	+	489		(12.5)
Payroll costs	(1,807)	(2,239)	+	432		(19.3)
Other administrative expenses[1]	(1,613)	(1,670)	+	57		(3.4)
OPERATING RESULT BEFORE PROVISIONS FOR LOSSES ON LOANS AND RECEIVABLES	**1,797**	**324**	**+**	**1,473**	**>+**	**100,0**
Provisions	29	136		(107)		(78.7)
OPERATING RESULT	**1,826**	**460**	**+**	**1,366**	**>+**	**100.0**
Other income less other expenses	10	40		(30)		(75.0)
Extraordinary income/expenses	(13)	—		(13)	-	
PROFIT BEFORE TAX	**1,823**	**500**	**+**	**1,323**	**>+**	**100.0**
Tax	527	(255)	+	782		
NET INCOME FOR THE YEAR	**2,350**	**245**	**+**	**2,105**	**>+**	**100.0**
Transfer to the reserve for shares in a controlling or majority interest-holding company	—	(8)	+	8		(100.0)
Withdrawal from the reserve for shares in a controlling or majority interest-holding company	9	—	+	9		
Transfer to other retained earnings	(1,199)	—		(1,199)		
Withdrawal from other retained earnings	—	8		(8)		(100.0)
PROIT AVAILABLE FOR DISTRIBUTION	**1,160**	**245**	**+**	**915**	**>+**	**100.0**

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

Net interest income
At €3,470 million, the net interest income generated in the reporting year – net interest income/expenses – including current income from equity securities and other variable-yield securities, participating interests and shares in affiliates as well as income from profit-pooling and profit-and-loss transfer agreements is significantly higher than the previous-year figure (€2,522 million). This is primarily due to the considerably higher current income of €714 million (previous year: €272 million). This increase is attributable in particular to gains of €356 million generated as a result of the merger of (real estate) affiliates in the current financial year. The net interest income/expenses increased significantly to €2,724 million (previous year: €2,189 million). In the reporting year, this amount takes into account among other things the positive effects of participation in the TLTRO III programme established in 2020 by the ECB. Furthermore, the increase in margins (now clearly positive market interest rates again) had a positive impact especially in the deposit-taking business.

Net fees and commissions
At €1,172 million, net fees and commissions were on the previous year's level (€1,172 million). A decline in net fees and commissions in the securities and portfolio business with retail customers and from financial and transactional banking services for companies was set against higher fee and commission income from payments.

Net income from the held-for-trading portfolio
Net income from the held-for-trading portfolio increased from €509 million the previous year to €609 million. This was mainly due to earnings contributions from trading in foreign currency products and commodities as a result of high volatilities during the year and increased financing requirements for commodities. In addition, customer activity in structured products remained good.

Other operating income less other operating expenses
Net other operating income less other operating expenses saw a notable decline of €64 million to minus €34 million in the 2022 financial year (previous year: €30 million). This is attributable mainly to significant net negative earnings contributions of €418 million (previous year: positive earnings contribution of €41 million) from plan assets to fulfil liabilities from pension commitments due to the higher level of interest rates. This was partially compensated by a substantial increase in net reversals of provisions not affecting the lending and securities business (€322 million, previous year: €74 million).

General administrative expenses
General administrative expenses were down year on year by €489 million to €3,420 million (previous year: €3,909 million). This decline is due in particular to the restructuring costs for severance payments or early retirement schemes in the course of implementing the UniCredit Unlocked strategic plan recognised in the previous year. In addition, expenses in connection with banking operations were reduced.

Operating result before provisions for losses on loans and receivables
The operating result before provisions for losses on loans and receivables increased significantly by €1,473 million year on year to €1,797 million. The increase was primarily due to the current income earned on shares in affiliates as a result of company mergers recognised in the reporting year, the significant increase in net interest income as well as lower general administrative expenses from the restructuring expenses required the previous year.

This results in a significantly lower cost-income ratio (ratio of general administrative expenses to operating income) of 65.6% after 92.3% in the previous year.

Group Parent Company Information (HGB) (Continued)

Provisions for losses on loans and receivables
The provisions for losses on loans and receivables amounted to €29 million in the reporting period (previous year: €136 million). The net measurement gain on lending operations contained in provisions for losses on loans and receivables totals €322 million (previous year: €4 million). In the reporting year, the method used to calculate general loan loss provisions was adjusted in line with the regulations applicable from 1 January 2022, thus taking better account of the risk of future developments. In the reporting period, the macroeconomic factors were adjusted to reflect the continuing deterioration in the economic environment, which led to an addition to general loan loss provisions. While the models used for calculating the expected credit losses depict the effects of the adjustment of macroeconomic factors, post model adjustments of €191 million, which are to be seen as supplementary measures to the IFRS 9 models, were made for certain sub-portfolios that are particularly sensitive to the current geopolitical risks. This allows the risks arising from the sudden increase in energy costs, inflation and interest rates for both companies and private individuals to be taken into account. Furthermore, new models were introduced that simultaneously resulted in the reversal of portfolio allowances recorded in the previous year. In addition, methodical adjustments in determining the general loan loss provisions were made for specific products. Thus, a post model adjustment of €177 million was made in order to cover the specific risks for (partial) bullet financing. This adjustment is intended to be finally implemented in the models for the determination of the expected credit losses from a technical perspective in 2023 in the course of the further development of these models. The net additions to general loan loss allowances are mainly attributable to these factors. In the previous-year period, net charges resulted from the adjustment made to model parameters, which were largely offset by the favourable performance of the portfolio of performing loans and the macroeconomic environment.

Net additions to specific loan loss provisions of €59 million (previous year: €137 million) were necessary. Specific loan loss provisions on the direct exposure to Russia in connection with the Russia-Ukraine conflict were recognised in a moderate amount as at the reporting date.

A net loss of €292 million was generated with securities held for liquidity purposes (previous year: net gain of €132 million) due to the increase in interest rates in 2022.

Other income less other expenses
The decline of €10 million (previous year: €40 million) in other income less other expenses is largely attributable to the following effects. A loss of €25 million was realised on the redemption of investment securities in the reporting year. In addition, the write-up of €37 million on the participating interest in the affiliate UniCredit Leasing GmbH was lower than the figure of €48 million in the previous year. The expenses resulting from profit and loss agreements were reduced from €10 million in the previous year to €3 million in 2022.

Extraordinary income/expenses
The extraordinary income/expenses of minus €13 million reported represents a merger loss.

Profit before tax
Profit before tax increased markedly year on year by €1,323 million to €1,823 million. The main reason for this is the significantly higher net interest income compared with the previous year as well as the substantial reduction in payroll costs on account of the payroll costs recognised in restructuring costs in the previous year.

Taxes
There was tax income of €527 million in the reporting year (previous year: tax expense of €255 million). This includes net tax income for previous years of €19 million. In the previous year, tax income for previous years had a reducing effect. The tax income for the reporting year also includes tax income of €1,190 million owing to the first-time exercise of the capitalisation option for deferred tax assets, which more than compensated for current tax expense in the reporting year.

Net income for the year and appropriation of profit
In the 2022 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 €1,160 million. This consists of the net income for year of €2,350 million generated in the reporting year less the amount of €1,190 million transferred to other retained earnings. We will propose to the Shareholders' Meeting that a dividend of €1,160 million be paid in total to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €1.45 per share after around €0.31 for the 2021 financial year. The profit available for distribution of €245 million reported in the previous year was distributed to UniCredit on 10 May 2022 in accordance with a resolution adopted by the Shareholders' Meeting on 5 Mai 2022.

Financial position
Total assets
HVB's total assets amounted to €311.7 billion as at 31 December 2022. This represents a year-on-year increase of €20.2 billion.

The balances with central banks contained in the "Cash and cash balances" item (€2.3 billion after €19.7 billion in 2021) were down year on year by €11.9 billion. Cash on hand amounted to €0.5 billion (previous year: €6.0 billion).

Loans and receivables with banks increased very significantly by €24.6 billion to €49.3 billion over the previous year. This is mainly attributable to the increase in overnight deposits under the deposit facility of the Deutsche Bundesbank to €26.5 billion.

Loans and receivables with customers increased by €7.2 billion to €127.6 billion. This was due primarily to the increase in the syndicate business (up €6.4 billion) and in the mortgage loans business (up €2.2 billion). There were also increases in forfeiting (up €0.9 billion), cash loans (up €0.8 billion), holdings of promissory note loans (up €0.4 billion), buyer credits (up €0.4 billion) as well as refinanced special credit facilities (up €0.4 billion). In contrast, holdings of fixed-term deposits declined by €6.1 billion.

The holdings disclosed under securities (without held-for-trading portfolios) increased by €3.5 billion to €59.0 billion as at the reporting date. There were increases in both own bonds (up €1.7 billion) and third-party bonds (up €1.8 billion).

Group Parent Company Information (HGB) (Continued)

At €68.7 billion, assets held for trading were slightly higher than the previous year's level of €67.8 billion. The increase is due in large part to the €7.7 billion increase in derivative financial instruments and the €2.5 billion increase in commodities and emissions trading. In contrast, holdings in securities were down by €8.1 billion.

The shareholdings disclosed under participating interests and shares in affiliates remained more or less unchanged at €1.6 billion.

There was an increase in volumes on the liabilities side in line with the development on the assets side. The change in deposits from banks (down €11.0 billion to €46.8 billion) is mainly the result of the partial repayment of loans under the TLTRO III programme of €10.8 billion.

Deposits from customers increased overall by €11.5 billion to €151.7 billion. The increase is mainly attributable to an increase in fixed-term deposits of €20.5 billion. In contrast, savings deposits decreased by €4.3 billion and demand deposits from current customer accounts by €4.4 billion.

Debt securities in issue rose by €3.5 billion to €31.3 billion. There was a very significant increase in liabilities held for trading (up €9.9 billion to €47.0 billion), which is attributable to €7.4 billion of other liabilities in the trading book, resulting mainly from commodities and emissions trading, as well as €7.5 billion in derivative financial instruments. In contrast, the volume of repurchase transactions decreased by €2.2 billion and securities holdings by €2.9 billion.

The "Provisions" item increased by €0.9 billion to €3.9 billion (previous year €3.0 billion). This is in large part due to provisions for the fulfilment of pension commitments (€0.7 billion) and tax provisions (€0.5 billion), which are set against a decrease in other provisions of €0.3 billion.

Shareholders' equity increased by €2.1 billion to €15.6 billion compared with year-end 2021. The dividend payout of €0.2 billion for the previous year is offset by net income for the year of €2.3 billion in 2022. The subscribed capital and the additional paid-in capital remained unchanged compared with the previous year.

The return on assets is defined in Section 26a KWG as the ratio of net profit to total assets. This amounted to 0.754% as at 31 December 2022 (31 December 2021: 0.084%).

Contingent liabilities and other commitments not recognised in the balance sheet increased to €98.1 billion (previous year: €90.9 billion). This figure includes contingent liabilities (€29.5 billion) from general loan guarantees (€0.6 billion), transaction-related guarantees (€27.1 billion) and trading-related guarantees (€1.8 billion). Other commitments of €68.6 billion (previous year: €62.9 billion) consist solely of irrevocable lending commitments.

Risk-weighted assets, key capital ratios and leverage ratio of HVB
The total risk-weighted assets of HVB (including market risk and operational risk) determined in accordance with the Capital Requirements Regulation II (Kapitaladäquanzverordnung – CRR II) amounted to €80.5 billion as at 31 December 2022 and were thus €0.3 billion lower than at year-end 2021. This is mainly due to the risk-weighted assets for market risk that recorded a decline of €1.6 billion to €7.6 billion. The risk-weighted assets for credit risk (including counterparty default risk) were up by €0.6 billion to €64.7 billion and the risk-weighted asset equivalents for operational risk rose by €0.7 billion to €8.2 billion.

Common Equity Tier 1 capital compliant with CRR II excluding hybrid capital (CET1 capital) amounted to €14.7 billion as at 31 December 2022, while Tier 1 capital of HVB came to €16.4 billion. These figures rose as compared with 31 December 2021 (€13.4 billion and €15.1 billion respectively). The CET1 capital ratio (ratio of Common Equity Tier 1 capital to the total amount of credit risk-weighted assets and risk-weighted asset equivalents for market risk and operational risk) and the Tier 1 capital ratio under CRR II (including market risk and operational risk) amounted to 18.2% and 20.3% respectively as at 31 December 2022 in accordance with approved financial statements (31 December 2021: 16.6% and 18.7% respectively). This rise is attributable to an increase in capital. Own funds totalled €17.8 billion as at 31 December 2022 (31 December 2021: €16.4 billion in accordance with approved financial statements). The own funds ratio was 22.1% as at 31 December 2022 (31 December 2021: 20.3% in accordance with approved financial statements).

The leverage ratio of HVB was 4.5% as at 31 December 2022 (31 December 2021: 4.5% in accordance with approved financial statements). Article 429a (1) (n) CRR II on the temporary exclusion of certain exposures to central banks from the total exposure measure was applied to determine the leverage ratio of HVB as at 31 December 2021. Had the aforementioned article not been applied, the leverage ratio of HVB as at 31 December 2021 would amount to 4.2%. The article named above was not applied as at 31 December 2022.

Financial Review

Report on subsequent events (events after the reporting period)

In January 2023, HVB decided to sell its shares in Comtrade Group B.V. accounted for using the equity method and started sales negotiations. The closing is expected in the first quarter.

Forecast report/Outlook

The Combined Management Report and the rest of the Annual Report include statements, expectations and forecasts also concerning the future. These statements, expectations and forecasts are based on plans and estimates that are supported by the information available to us at the present time. We assume no obligation to update these statements in the light of new information or future events. Forward-looking statements may entail known or unknown risks and uncertainties 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

After global GDP growth of 3.4 percent in 2022, there is likely to be a further notable slowdown in the global economy in 2023. HVB Group is assuming growth of just 1.9 percent followed by a rather weak recovery of 2.6 percent in 2024 (The UniCredit Macro & Markets Outlook: Go for carry as central banks approach peak rates, published on 17 November 2022). On the one hand, headwind is likely to come in 2023 from the high energy costs for companies and consumers, which will reduce real incomes substantially. On the other hand, significantly higher interest rates as a result of the tightening carried out by many central banks will also contribute to the economic slowdown. In response to the high inflation rates, central banks worldwide have tightened their monetary policy and are likely to raise their key interest rates further to begin with in 2023. Interest-rate-sensitive sectors in particular, such as the construction sector, have already slowed down significantly. Due to impact lags, the full effects of the interest rate hikes on the economy are not likely to become apparent until 2023. However, the buffer of comparatively low household and corporate debt levels in many industrialised countries and robust labour markets should prevent an even sharper slowdown in the economy. In addition, the high level of corporate order backlog, which can be gradually worked off as supply chain problems ease, will further dampen the economic slowdown.

HVB Group expects the US economy to grow slightly in 2023 (0.4 percent) and recover moderately in 2024 with GDP growth of 0.9 percent (The UniCredit Macro & Markets Weekly: Markets look beyond peak rates, published on 3 February 2023). In particular, the very sharp interest rate hikes by the Federal Reserve are likely to weigh on the economy. HVB Group expects the key US interest rate to be raised further and to peak at 5.25 percent in the second quarter of 2023. Significant declines in inflation rates are then likely to lead to the first interest rate cuts in the first quarter of 2024. HVB Group is expecting interest rate cuts totalling 150 basis points in 2024 (The UniCredit Macro & Markets Weekly: Markets look beyond peak rates, published on 3 February 2023).

China's growth path is initially subject to considerable uncertainty due to the reversal in Covid policy in December 2022 and sharply rising infection rates before a recovery is likely to set in. However, with the development of the real estate market expected to remain weak and the population presumably declining further, this is likely to contribute to China's growth remaining rather bumpy and subdued by historical standards also in the medium term. HVB Group expects growth of to 4.9 percent in 2023, followed by 4.7 percent in 2024 (The UniCredit Macro & Markets Weekly: Markets look beyond peak rates, published on 3 February 2023).

For the eurozone, HVB Group anticipates slight growth of 0.5 percent for 2023 followed by a further moderate recovery with GDP growth of 1.0 percent in 2024 (The UniCredit Macro & Markets Weekly: Markets looks beyond peak rates, published on 3 February 2023). In this baseline scenario, it is assumed that there will be no supply shortages of natural gas and other energy sources. The inflation rate is expected to average 5.7 percent in 2023 and 2.1 percent in 2024, down from 8.4 percent in 2022. However, the still high annual average in 2023 masks a noticeable slowdown in inflation momentum later in the year, with an expected inflation rate of 3.0 percent in the fourth quarter of 2023. The ECB is likely to initially raise the key interest rate (deposit rate) further to up to 3.5 percent in the summer of 2023. From the second quarter of 2024, HVB Group then expects interest rate cuts totalling 75 basis points over the rest of the year (The UniCredit Macro & Markets Weekly: Markets looks beyond peak rates, published on 3 February 2023).

For 2023, HVB Group is expecting marginal GDP growth at country level in the eurozone of 0.1 percent for Germany followed by a moderate recovery of 1.3 percent in 2024 (The UniCredit Macro & Markets Weekly: Markets looks beyond peak rates, published on 3 February 2023). There is likely to be a similar trend in economic output in the other major nations of the eurozone as well. For France, HVB Group is expecting slight growth of 0.5 percent in 2023 (2024: up 1.1 percent) and for Italy, growth of 0.5 percent in 2023, followed by 0.9 percent in 2024.

In Germany, high energy costs are expected to continue to weigh on private consumption and investment spending for the time being, although government support measures should dampen the negative impact. The still high order backlog in the manufacturing sector and the generally robust labour market are also cushioning the impact. Construction companies also still have a substantial order backlog, although the high cancellation rate, especially in housing construction, suggests a less effective buffer. Government price caps on gas and electricity, together with the normalisation of commodity prices and the easing of bottlenecks in supply chains, are expected to slow inflation rates to around 3.5 percent in the fourth quarter of 2023 and to 2.75 percent in the fourth quarter of 2024. Average consumer prices are still expected to rise by a high 5.7 percent in 2023 and by 2.9 percent in 2024 (2022: 7.9 percent).

Financial Review (Continued)

Banking sector development in 2023

The year 2022 was marked by greater geopolitical risks, persistently high inflation and a significant increase in interest rates. The fundamental indicators for the European banking sector are still very good. In particular, net interest income in the European banking sector has seen a clearly positive development, whereas credit risk costs were able to be maintained at a moderate level.

At the end of March 2022, only 0.3 percent of all loans of European banks were extended to borrowers from Russia, Belarus or Ukraine, which means that the direct impact is bearable for the loan books of European banks. There was, however, a high degree of uncertainty in 2022 about the reliability of gas supplies from Russia and the macroeconomic development going forward. Very high energy prices led to a deterioration in borrowers' credit indicators – both for companies and for private households – but the situation eased at the end of 2022 on the back of mild temperatures, resulting in gas storage levels of over 90 percent in Germany, even in December. On the structural side, Germany put the second liquefied natural gas terminal into operation in mid-January 2023 and can thus import more liquefied natural gas directly. Leading indicators such as purchasing managers' indices and the ifo Institute's Business Climate Index also showed an improvement in their outlooks and a substantial reduction in the likelihood of a recession in the eurozone. This trend is favourable for the outlook for the asset quality of banks. In the third quarter of 2022, the risk costs of European banks amounted to 0.43 percent of the loans outstanding, which is the lowest level seen since the EBA time series started at the beginning of 2018. Despite the high level of uncertainty in 2022, the volume of non-performing loans was further reduced and now only amounts to 1.8 percent of the loans outstanding as at 30 September 2022 compared with 2.0 percent at year-end 2021 (data from the European Banking Authority, EBA). However, the high proportion of 9.5 percent of loans that were classified at Level 2 according to IFRS 9 as at 30 September 2022 is an indicator of an imminent deterioration. This means that the asset quality of European banks is likely to develop unfavourably with a time delay in 2023 – but to a manageable extent due to the availability of risk provisions and the improvement in profitability in the sector.

On the structural side, the profitability of European banks continues to improve. Firstly, an acceleration in digital customer interaction was seen 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 additionally boost profitability in the sector in the medium term. It is to be assumed that the process of consolidation of European banks will continue, although still focusing on domestic consolidation rather than 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 adapting their office space to the new hybrid working models.

The liquidity position of the banking sector is still very good. At the end of September 2022, the average liquidity coverage ratio was 162 percent and the net stable funding ratio (NSFR) 127 percent, thus both considerably higher than the regulatory minimum requirements of 100 percent. The surplus liquidity of European banks remains at a very high level of €4.2 trillion at year-end 2022. In October 2022, the ECB decided to adjust the conditions for TLTRO III operations. As a result, banks prematurely repaid a large amount of the TLTRO III funds in November and December. At the end of the year, banks have a total amount of €1.3 trillion in TLTRO III funds outstanding compared with the original €2.2 trillion that was drawn down. At the same time, there was a slight increase in customer deposits despite higher inflation.

Banks’ capital base remains at a high level, even though the average CET1 capital ratio in the banking sector fell by 0.7 percentage points in 2022 due to a stronger focus placed on dividends and share buybacks. At the end of March 2022, the average CET1 capital ratio of European banks, at 14.8 percent (on a fully loaded basis, EBA data), more than met the regulatory minimum requirements.

To summarise, the banking sector in Europe is in good shape and is well prepared for a weaker phase of growth and a possible increase in defaulting loans. Profitability will continue to benefit from higher interest rates in the medium term. However, banks will need to continue making 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 are continuing to follow the guidelines of our UniCredit Unlocked strategic plan embedded in the group-wide strategic plan. The following statements on future development are based on the corporate planning of HVB Group and thus on the rules governing the segmented income statement.

We expect operating income in the 2023 financial year to be noticeably higher than in the 2022 financial year, despite an expected mild recession in Germany. Owing to the higher level of interest rates on average, we are expecting a notable increase in net interest, net fees and commissions and net trading income in the 2023 financial year.

Thanks to the consistent implementation of the UniCredit Unlocked strategic plan and efficient cost management, we are expecting a slight decrease in operating costs despite the high inflation rates. Against the backdrop of the positive development in operating income and operating costs, we are expecting a marked improvement in the cost-income ratio for the 2023 financial year compared with the 2022 financial year.

After the high one-off charges in the 2022 financial year, in particular for the addition relating to geopolitical post-model adjustments (overlays), we anticipate a sharp decline in net write-downs of loans and provisions for guarantees and commitments for the 2023 financial year.

We expect the normalisation of net write-downs of loans and provisions for guarantees and commitments in particular, but also the positive development in operating income and operating costs, to lead to a very significant increase in profit before tax and a significant increase in profit after tax in the 2023 financial year.

With regard to provisions for risks and charges, we expect a very substantial increase on account of the currently uncertain economic environment, in particular due to a possible increase in the bank levy and an increased contribution to the German deposit guarantee scheme. By contrast, we expect restructuring costs to decrease very significantly in the 2023 financial year. For the RoAC, we anticipate a slight improvement compared with the previous year.

Financial Review (Continued)

We expect net operating profit in the Corporates operating segment to improve very significantly compared with the 2022 financial year. Net operating profit in the Retail business segment is also expected to improve very significantly in the 2023 financial year. For the Other business segment, on the other hand, we expect a sharp decline in net operating profit in the 2023 financial year.

For the 2023 financial year, we anticipate a solid capital base for HVB Group with a CET1 capital ratio that is slightly lower than the figure in 2022.

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

The opportunities described below are offset by risks, such as the repercussions of the Russia-Ukraine conflict and the COVID-19 pandemic, 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 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’s objective in accelerating the implementation of the three cornerstones of the UniCredit Unlocked strategic plan is to increase profitability. Its main focus is on 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 are pursuing a growth strategy in selected business areas to increase our market share, concentrating on capital-efficient growth. We are also forging ahead with a holistic approach to sustainability in accordance with the ESG principles and continuing to make use of the opportunities to cooperate within UniCredit across country and company lines.

In addition, after the previous phase of low interest rates that lasted for many years, growth opportunities are opening up in the conventional banking business for HVB Group as a universal bank with a broad customer and product base in an environment in which market interest rates are now on the rise.

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. Our system of values consisting of integrity, ownership and caring forms the basis for a strong corporate culture and lasting success.

On account of its capital base, HVB Group is, in our opinion, already well prepared for the upcoming 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:

In the **Retail** operating segment, 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 are thus concentrating on growth and on increasing customer loyalty. We will also continue to fundamentally modernise the Private Clients Bank by focusing on a multi-channel service offer.

The **Corporates** operating segment is continuing to seek profitable growth and an expansion of market shares in its corporate banking business through a high level of market penetration, its positioning as a principal or core bank and the acquisition of new customers. As a strategic partner, Corporates provides in-depth support for the entrepreneurial activities of its customers. Among other things, the most important challenges for customers include the topic of sustainability and digitalisation alongside the current geopolitical and macroeconomical uncertainties. For this reason, the growth initiatives of the Corporates operating segment are geared to these customer requirements. 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 precondition 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 the Combined Management Report of the 2022 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:
– Retail
– Corporates
– 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”. Within the framework of the so-called ICAAP, the Bank differentiates between the two perspectives required by the regulatory authorities to ensure capital adequacy, the normative and the economic perspective. In the economic perspective, all risks that can lead to economic losses are covered by the internal capital, which is calculated on the basis of internal processes and methods. This is the basis for the risk-taking capacity as a measure used by HVB Group for economic capital adequacy. In the normative perspective, capital adequacy is additionally ensured by means of multi-year capital planning.

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. Within the framework of the ICAAP, the Bank differentiates between the two perspectives required by the regulatory authorities to ensure capital adequacy, the normative and the economic perspective. In the economic perspective, all risks that can lead to economic losses are covered by the internal capital, which is calculated on the basis of internal processes and methods. This is the basis for the risk-taking capacity as a measure used by HVB Group for economic capital adequacy. In the normative perspective, capital adequacy is additionally ensured by means of multi-year capital planning.

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 / financial investment / small legal entity, counterparty, issuer or country). This potential loss may be brought about either by a default by the borrower who is thus no longer in a position or willing 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 defined as the risk that HVB Group will not be able to meet its payment obligations as they fall due without incurring unacceptable losses.

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.
- **Model risk** is considered within the internal capital and is defined as the risk of model weaknesses due to data errors, incorrect assumptions or incorrect methodology within the scope of the ICAAP calculations. It thus refers to the possibility of the economic capital being estimated incorrectly. For this reason, a model risk premium for the established risk types is added to the aggregated economic capital.
- **Sustainability risk** defines risks with any financial impact arising from the current or future influence of sustainability factors on its counterparties (e.g. borrowers, customers or issuers) or invested assets (especially risks arising from the core activities of HVB Group). Sustainability factors are environmental, social or corporate governance issues that could have a negative impact on the balance sheet, earnings or liquidity position of HVB Group. Sustainability risk is not currently a standalone risk type, but is being successively integrated into relevant risk types.

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 2022, these planning scenarios, also referred to as adverse scenarios, have been derived against the backdrop of the macroeconomic developments. Whereas the first scenario assumes a feebler and thus a less dynamic economic recovery after the COVID-19 pandemic, the second scenario is based on continued high inflation. 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 2022, Credit Risk Operations (CRP), which was created by merging the Central Credit Management (CCM) and Recovery Management (SCS) units, has been responsible for the operational management of credit risk for the 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 Financial Risk (CMR) unit is responsible for monitoring the implementation of the market risk strategy and the ALM & Funding unit within the Chief Financial Officer (CFO) organisation for controlling liquidity risk. The Non Financial Risk 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 units (ORS1 and ORS6). 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 Financial Risk unit, while operational risk and reputational risk are bundled in the Non Financial Risk unit. In addition, the Financial 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 Financial Risk unit while further risk monitoring functions for this risk type are the responsibility of the ALM & Funding 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 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 sustainability risk is currently being monitored and developed further via a qualitative approach as part of a project. For example, aspects of the sustainability risk, and here in particular climate and environmental risks (for example: analysis of physical risks in the credit portfolio), are already taken into consideration in the reporting of established risk types.

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, reputational risk and the model risk quantified as risk mark-up on the established risk types. 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
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 ALM & Funding and Performance and Capital Mgmt units from the Chief Financial Officer (CFO) organisation play a major role in risk monitoring. The ALM & Funding 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.

Performance and Capital Mgmt (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 Group Corporate Centre (GCC). CCP also carries out the reconciliation of net trading income for Client Risk Management jointly with Accounting. The reconciliation of net trading income for Treasury is carried out between Accounting (CFF) and ALM & Funding (CDF).

Risk Report (Continued)

Asset Liability Management
The ALM & Funding 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 the funding structure and 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 ALM & Funding 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".

Committees
The committees and their procedures, composition, tasks and responsibilities are each laid down in their own internal regulations. The list of the committees listed below is not exhaustive.

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 and consists of two separate meetings: Credit Risk Committee and Financial Risk Committee.

Local Transactional Committee
The Local Transactional Committee (LTC) is responsible - within the scope of the authorisation for credit activities and the associated thresholds assigned to it – for assessing and approving the acceptance and review of credit lines. This committee is also charged with certain tasks in connection with equity investments and equity-related investments resulting from debt-to-equity-swap transactions.

Loan Loss Provision Committee
The Loan Loss Provision Committee (LLP) approves decisions on loan loss provisions/write-downs and impairment losses from an amount of €5 million on customer group level and meets once a 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 such as anti-fraud, ICT/cyber security/business continuity strategy and third party risk, reputational risks) and to review the effectiveness of related measures.

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. Liquidity risk is managed quantitatively in terms of cash flow analyses and integrated into the planning process via the funding plan. A qualitative description is provided of the strategic objectives for strategic 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 the credit, market and real estate 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 the 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.

Risk Report (Continued)

The value-oriented management of HVB Group focuses on the measurement of the business activities in accordance with return and risk considerations, with a risk-return target set for each of the business units of HVB Group. The expected economic returns are calculated using the allocated capital principle that is applied group-wide by UniCredit. Within the scope of the principle of dual control, both regulatory capital, in the sense of used core capital (Common Equity Tier 1), and internal capital are allocated to the 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 13.0%. 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 Combined Management Report.

The total capital ratio of HVB Group is 23.4% at 31 December 2022 (31 December 2021: 21.0%).

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%)

	2022		2021	
Broken down by risk type	**€ millions**	**in %**	**€ millions**	**in %**
Credit risk	4,077	41.4	3,609	43.9
Market risk	3,634	36.9	2,125	25.8
Pension risk	1,100	11.2	1,463	17.8
Operational risk	428	4.3	425	5.2
Real estate risk	129	1.3	147	1.8
Business risk	215	2.2	225	2.7
Reputational risk	47	0.5	41	0.5
Aggregated economic capital	**9,629**	**97.9**	**8,036**	**97.6**
Model risk cushion	211	2.1	195	2.4
Internal capital of HVB Group	**9,840**	**100.0**	**8,231**	**100.0**
Included diversification effects	(1,086)		(979)	
Available financial resources of HVB Group	**19,306**		**17,920**	
Risk-taking capacity of HVB Group, in %		**196.2**		**217.7**

Contains rounding differences.

Internal capital rose by €1,609 million in comparison to 31 December 2021.

Internal capital (without pension risk and without the model risk cushion) broken down by operating segment (confidence level 99.90%)

	2022		2021	
Broken down by operating segment	**€ millions**	**in %**	**€ millions**	**in %**
Retail	640	7.5	366	5.6
Corporates	4,517	53.0	4,891	74.4
Other	3,373	39.5	1,316	20.0
Internal capital (without pension risk and without the model risk cushion) of HVB Group	**8,530**	**100.0**	**6,573**	**100.00**

Risk Report (Continued)

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 14 October 2022 and has been in effect since then.

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 €19,306 million as at 31 December 2022 (31 December 2021: €17,920 million).

With internal capital (including the model risk cushion) of €9,840 million, the risk-taking capacity for HVB Group is 196.2% (31 December 2021: 217.7%). This figure is higher than the target of 195% HVB Group set itself in the 2022 risk appetite framework. The decline of 21.5 percentage points in comparison with 31 December 2021 for HVB Group is attributable to growth of €1,609 million or 19.6% in internal capital in 2022. The available financial resources have increased by €1,386 million or 7.7%. The increase in available financial resources is largely due to the positive development of other comprehensive income (OCI as part of Common Equity Tier 1 capital) and of the profit component.

Limit concept

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. Any overshooting of limits is immediately escalated and return to compliance with limits is monitored.

Risk Report (Continued)

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 2022:
- Pandemic scenario (in December 2021) – delayed recovery from the COVID-19 pandemic
- Pandemic+ scenario (up until March 2022) – delayed recovery from the COVID-19 pandemic, an increase in global protectionist tensions and sovereign debt stress in Europe
- Recession scenario (from June 2022) – recession in Europe driven by rising energy prices
- Hawkish scenario (from June 2022) – deep recession in Europe forces the ECB to raise interest rates
- Severe inflation scenario (up until March 2022) – sharp increase in inflation and inflation expectations
- Temporary stagnation (up until June 2022) – stagnation in the German economy
- No recovery scenario (from September 2022) – recession in Germany with only a mild recovery in 2024
- Historical scenario (from December 2020) – historical scenario based on the 2009 financial crisis
- Financial intermediary scenario - a tougher version of 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 in the Financial and Credit Risk Committee as well as any measures required presented to 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.

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 of earnings are monitored each year, as their avoidance is an important indicator of sustainable diversification and hence the viability of the business model in crisis situations.

Risk inventory
The scheduled comprehensive yearly risk inventory at HVB Group was started in the first quarter of 2022. 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 COVID-19 pandemic, the Russia-Ukraine conflict as well as sustainability topics. The outcome of the 2022 risk inventory was presented to HVB's Financial and Credit Risk Committee in September 2022 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 and the Risk Committee of the Supervisory Board 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 countries or industries.

Risk types in detail

1 Credit 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 or willing 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.

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:
- green: limit utilisation is below a defined trigger
- yellow: limit utilisation is below the limit but above the defined trigger
- red: limit utilisation is above the limit

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

Risk Report (Continued)

Credit risk mitigation

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

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

Methods have been implemented to value collateral that meet the requirements of Basel III. Empirically determined loss ratios (LGD secured), realisation periods and haircuts are employed in the valuation. 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 essentially 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), the CRD (Credit Support Deed) 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.

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 market-value-risk-oriented calculation of exposures and limits based on jump-to-default-zero values (allowing for netting effects) is also carried out for issuer risk in the trading book. 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.

Risk Report (Continued)

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.

Geopolitical overlay
In order to take into account the risks arising from the sudden increase in energy costs, inflation and interest rates for both companies and private individuals, geopolitical post-model adjustments were made in 2022.

In this context, the introduction of the post-model adjustments should be seen as a complementary measure to the IFRS 9 models, which are already able to directly and adequately capture the effect of geopolitical crises due to their structure. Thus, the IFRS 9 models, and in particular the satellite models, can map the effect of the macro scenario at portfolio level. Complementary to this, the geopolitical post-model adjustments affect certain sub-portfolios that are particularly vulnerable against the backdrop of existing geopolitical effects and difficult conditions.

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 risk
We employ limit systems as a key element of the management and controlling of counterparty risk as well as issuer risk to prevent an increase in our risk position that does not comply with the strategy. Each new trade is entered and applied to the corresponding limit without delay (the same day). The pre-settlement risk is established on the basis of an internal model method (IMM) and is recognised by the banking supervisory authorities for calculating capital requirements. To reduce counterparty risk relating to financial institutions, HVB 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 €4,283 million, which is €518 million higher than the total reported value as at 31 December 2021 (€3,765 million). The increase in the economic capital for credit risk is the result in particular of the introduction of a new local model for determining the loss ratios (LGD).

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 €17 million (31 December 2021: €18 million).

Risk Report (Continued)

Development of metrics by operating segment

	EXPECTED LOSS[1] € millions		RISK DENSITY[2] in bps	
Broken down by operating segment	**2022**	**2022**	**2022**	**2021**
Retail	97	72	23	18
Corporates	274	278	17	18
Other	3	3	—	1
HVB Group	**374**	**353**	**14**	**14**

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

In 2022, the expected loss of HVB Group increased by €21 million with no change in risk density overall.

The key contributor to this development was the Retail operating segment, in which the expected loss increased by €25 million and the risk density by 5bp.

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

	CREDIT DEFAULT RISK EXPOSURE		OF WHICH COUNTERPARTY RISK		OF WHICH ISSUER RISK IN BANKING BOOK		OF WHICH ISSUER RISK IN TRADING BOOK	
Broken down by operating segment (€ millions)	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Retail	43,122	39,477	70	88	—	—	—	—
Corporates	169,365	163,357	22,324	25,795	16,527	15,573	1,545	2,315
Other	65,210	48,718	1,142	105	28,497	28,584	—	—
HVB Group	**277,697**	**251,552**	**23,536**	**25,988**	**45,024**	**44,157**	**1,545**	**2,315**

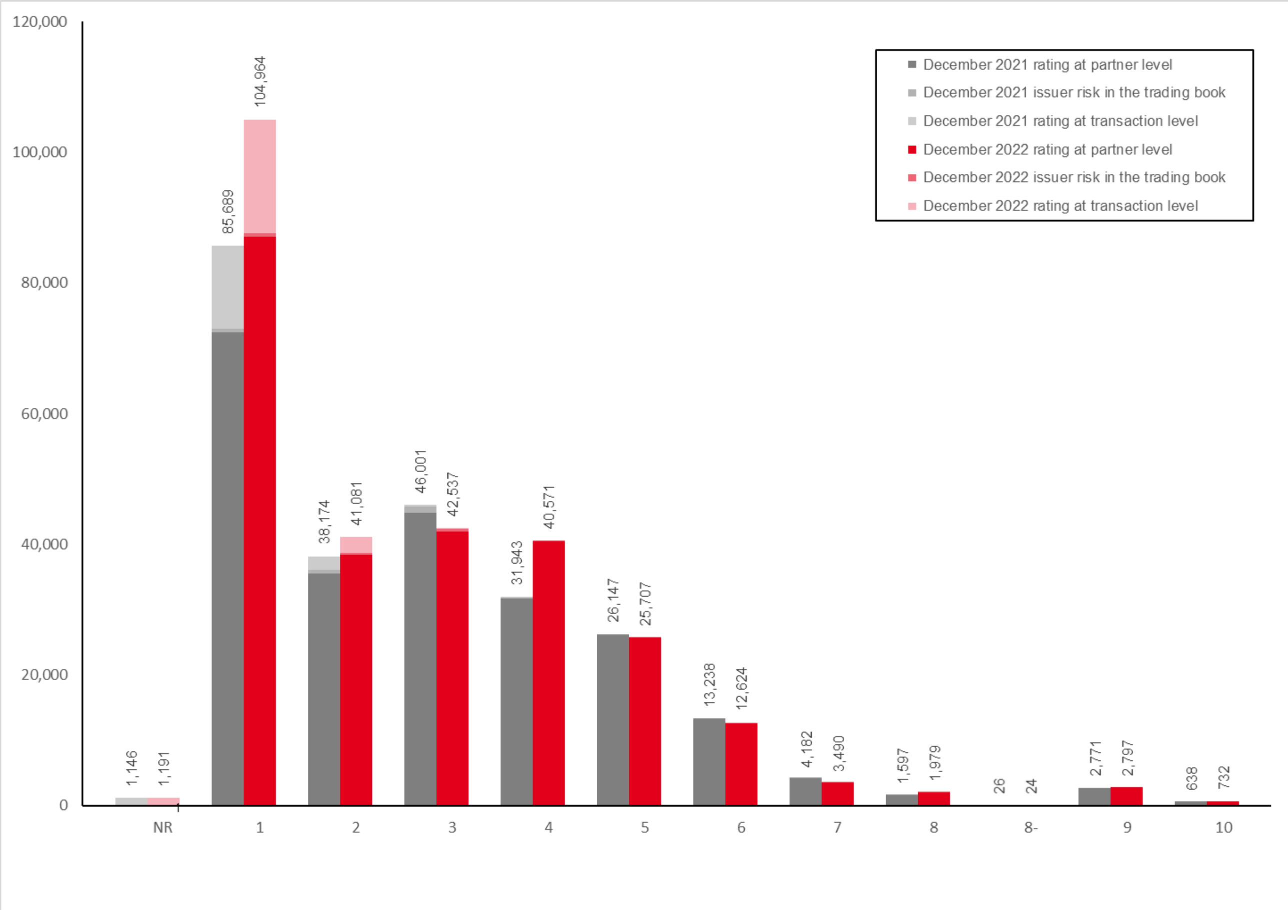
HVB Group's credit default risk exposure increased by €26,145 million in 2022.

The Other operating segment shows an increase in exposure of €16,492 million, which is due above all to higher deposits at the Bundesbank.

The increase of €6,008 million in exposures in the Corporates operating segment is the result, among other things, of an increase in the special products, automotive and real estate industry groups.

In the Retail operating segment, exposure increased by €3,645 million.

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



1 Not rated.

The rating structure of HVB Group changed in the course of 2022, primarily as a result of the increase in exposure of €19,275 million in rating class 1.

The key reason for this is essentially the increase 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 2022	2021	OF WHICH ISSUER RISK IN TRADING BOOK € millions 2022	2021	EXPECTED LOSS[1] € millions 2022	2021	RISK DENSITY[2] in bps 2022	2021
Financial institutions (incl. foreign sovereigns)	74,746	65,270	1,117	1,724	40	30	5	5
Real estate	33,510	28,838	19	31	54	29	16	10
Special products	19,899	16,100	2	—	5	5	3	3
Public sector (incl. German sovereign, excl. public service companies)	18,574	22,313	43	92	—	—	—	—
Energy	13,287	16,004	44	60	12	13	9	8
Machinery, metals	12,276	10,799	21	23	29	35	24	34
Chemicals, pharma, healthcare	11,851	9,599	41	46	33	30	28	32
Automotive	10,578	7,412	28	25	17	17	17	24
Construction, building materials	8,219	7,020	11	54	18	13	22	18
Consumer goods	6,984	5,677	21	15	16	19	23	35
Telecommunication, IT	6,835	5,303	37	59	8	8	12	16
Services	6,754	5,852	33	43	21	19	32	33
Food, beverages	6,468	5,910	20	6	12	11	19	19
Transport, travel	5,662	5,080	22	27	13	12	23	24
Agriculture, forestry	3,634	3,894	6	9	7	9	19	23
Electronics	3,428	2,713	5	21	6	8	18	28
Tourism	2,623	2,600	1	—	9	31	43	159
Media, paper	2,325	2,241	17	6	14	9	60	43
Textile	1,879	1,458	10	9	4	3	21	23
Shipping	1,308	1,672	—	—	7	5	55	34
Public service companies	1,072	1,052	44	59	1	1	6	8
Private customers	25,742	24,701	—	—	49	45	19	18
Other	43	44	3	6	—	1	2	276
HVB Group	**277,697**	**251,552**	**1,545**	**2,315**	**374**	**353**	**14**	**14**

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

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

Financial institutions (including foreign sovereigns)
The exposure in the financial institutions (including foreign sovereigns) industry group increased by €9,476 million as at 31 December 2022 compared with year-end 2021, driven mainly by higher deposits at the Bundesbank. The portfolio's expected loss increased by €10 million with an unchanged risk density of 5bp.

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 client risk management and investment banking of UniCredit and other business activities (such as export finance and guarantees).

Real estate
In the real estate industry, exposure as at 31 December 2022 was significantly higher by €4,672 million compared with year-end 2021. Both the expected loss and the risk density increased, by €25 million and 6bps, respectively. This was due mainly to changes introduced to the exposure calculation as well as the adjusted rating process for commercial real estate.

The financing business remains focused on Germany.

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 €3,739 million in 2022. 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).

In the special products industry group, exposure increased by €3,799 million in 2022 compared with 2021. In this context, the focus remained on customer-related securitisations and ABS/CLO bond investments, which was also in line with the 2022 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 2021.

Energy
Exposure in the energy industry group decreased by €2,717 million as at 31 December 2022. The reduction was influenced mainly by the continuing major volatility of energy and raw material prices with a corresponding impact on the fair value of hedging transactions continues. 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 the internal sustainability standards, the portfolio quality remained almost constant overall with an expected loss of €12 million and a risk density of 9bps.

Risk Report (Continued)

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.

Development of credit default risk exposure of eurozone countries

	CREDIT DEFAULT RISK EXPOSURE		OF WHICH ISSUER RISK IN TRADING BOOK	
Broken down by eurozone countries (€ millions)	**2022**	**2021**	**2022**	**2021**
Germany	191,353	162,031	117	188
France	12,631	11,547	151	183
Ireland	6,866	5,391	4	13
Spain	6,629	7,710	41	66
Italy	6,359	9,264	248	644
Netherlands	4,736	4,429	31	45
Luxembourg	4,532	4,423	26	68
Austria	2,163	2,222	173	410
Belgium	712	446	16	12
Finland	606	693	1	2
Portugal	88	83	8	1
Malta	42	—	—	—
Estonia	22	11	—	—
Greece	16	44	—	—
Cyprus	14	13	—	1
Slovenia	9	13	1	6
Lithuania	5	5	4	4
Slovakia	2	26	2	3
Latvia	—	—	—	—
Supranational organisations and multilateral banks	2,783	2,297	223	223
HVB Group	**239,568**	**210,648**	**1,046**	**1,869**

Italy
The size of the portfolio results from HVB Group's role as group-wide centre of competence for the client risk management and investment banking 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

Broken down by country/region outside the eurozone (€ millions)	CREDIT DEFAULT RISK EXPOSURE E		OF WHICH ISSUER RISK IN TRADING BOOK	
	2022	2021	2022	2021
USA	10,929	8,827	239	211
United Kingdom	6,936	6,061	16	38
Switzerland	6,072	5,925	97	62
Japan	3,383	5,510	—	—
Asia/Oceania (without Japan, China, Hong Kong)	2,311	3,771	1	3
Western Europe (without Switzerland, UK)	1,780	2,221	1	15
China (including Hong Kong)	1,412	2,112	—	—
Eastern Europe (without euro countries)	1,233	1,456	133	80
Near/Middle East	981	1,131	—	—
CIS/Central Asia (without Turkey)	928	1,567	6	26
including Russia	705	1,328	6	24
including Ukraine	4	28	—	—
including Belarus	1	1	—	—
Africa	779	692	—	—
Turkey	725	1,068	—	—
North America (including offshore jurisdictions, without USA)	488	321	6	8
Central/South America	172	242	1	3
Without country classification	—	—	—	—
HVB Group	**38,129**	**40,904**	**500**	**446**

In 2022, the total exposure to customers in countries/regions outside the eurozone fell by €2,775 million, The exposure to customers in Russia decreased by €623 million in 2022,

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 2022 totalled €308.3 billion (31 December 2021: €87.2 billion). The increase of €221.1 billion compared with year-end 2021 is primarily attributable to interest rate derivatives (up €215.6 billion), and here in particular to OTC interest rate swaps (up €211.3 billion). In addition, interest rate/currency swaps increased by €2.7 billion, other interest rate contracts by €2.3 billion and the OTC share/index swaps by €1.8 billion.

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 €6.5 billion as at 31 December 2022 (31 December 2021: €6.8 billion).

Risk Report (Continued)

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

Derivative transactions

	NOMINAL AMOUNT					FAIR VALUE			
	RESIDUAL MATURITY			TOTAL	TOTAL	POSITIVE		NEGATIVE	
€ millions	UP TO 1 YEAR	MORE THAN 1 YEAR UO TO 5 YEARS	MORE THAN 5 YEARS	2022	2021	2022	2021	2022	2021
Interest rate derivatives	**2,539,182**	**2,104,883**	**2,231,940**	**6,876,005**	**5,584,680**	**284,185**	**68,610**	**281,745**	**63,873**
OTC products									
Forward rate agreements	1,185,676	42,913	—	1,228,589	941,783	2,602	48	2,721	45
Interest rate swaps	1,242,116	1,903,822	2,130,912	5,276,850	4,253,240	274,036	62,756	273,961	57,810
Interest rate options									
- purchased	19,201	64,485	47,294	130,980	114,162	4,857	5,435	198	204
- written	20,579	72,122	53,222	145,923	142,065	249	255	4,677	5,662
Other interest rate derivatives	19,442	13,955	512	33,909	42,603	2,441	116	188	152
Exchange-traded products									
Interest rate futures	43,168	7,586	—	50,754	61,177	—	—	—	—
Interest rate options	9,000	—	—	9,000	29,650	—	—	—	—
Foreign exchange derivatives	**228,858**	**42,608**	**2,050**	**273,516**	**262,380**	**4,440**	**2,642**	**4,410**	**2,612**
OTC products									
Foreign exchange forwards	180,400	30,489	2,046	212,935	210,490	3,579	2,192	3,800	2,212
Foreign exchange options									
- purchased	19,827	5,348	2	25,177	23,790	274	204	163	136
- written	22,331	6,771	2	29,104	28,004	264	184	447	264
Other foreign ex-change derivatives	6,275	—	—	6,275	62	323	62	—	—
Exchange-traded products									
Foreign exchange futures	25	—	—	25	34	—	—	—	—
Foreign exchange options	—	—	—	—	—	—	—	—	—
Cross-currency swaps	**40,339**	**108,978**	**65,048**	**214,365**	**211,063**	**7,076**	**4,380**	**8,859**	**3,729**
Equity/index derivatives	**114,596**	**79,363**	**18,215**	**212,174**	**192,850**	**8,167**	**6,669**	**6,002**	**5,845**
OTC products									
Equity/index swaps	5,571	13,288	8,364	27,223	16,480	2,181	368	359	422
Equity/index options									
- purchased	3,250	4,847	3,911	12,008	7,538	532	278	110	12
- written	36,522	15,517	3,218	55,257	29,088	358	297	909	515
Other equity/index derivatives	18,814	678	19	19,511	29,461	1,946	1,819	39	2
Exchange-traded products									
Equity/index futures	21,273	5,511	1,916	28,700	25,829	—	—	—	—
Equity/index options	27,616	39,023	760	67,399	82,843	3,150	3,907	4,585	4,894
Equity swaps	1,550	499	27	2,076	1,611	—	—	—	—
Credit derivatives[1]	**2,563**	**50,617**	**448**	**53,628**	**17,742**	**256**	**210**	**564**	**334**
Other transactions	**38,032**	**19,664**	**1,204**	**58,900**	**61,233**	**4,139**	**4,685**	**3,675**	**7,073**
HVB Group	**2,963,570**	**2,406,113**	**2,318,905**	**7,688,588**	**6,329,948**	**308,263**	**87,197**	**305,255**	**83,466**

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 €1,112,830 million as at 31 December 2022 (of which credit derivatives on a pro-rata basis: €830 million).

Derivative transactions by counterparty type

	FAIR VALUE POSITIVE		FAIR VALUE NEGATIVE	
€ millions	**2022**	**2021**	**2022**	**2021**
Central governments and central banks	3,647	8,206	1,291	1,222
Banks	163,379	45,063	163,480	45,941
Financial institutions	134,680	28,029	134,187	29,264
Other companies and private individuals	6,557	5,899	6,297	7,039
HVB Group	**308,263**	**87,197**	**305,255**	**83,466**

Credit derivatives

	NOMINAL AMOUNT					FAIR VALUE			
	RESIDUAL MATURITY			TOTAL		POSITIVE		NEGATIVE	
€ millions	**UP TO 1 YEAR**	**MORE THAN 1 YEAR UP TO 5 YEARS**	**MORE THAN 5 YEARS**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Banking book	**86**	**717**	**86**	**889**	**475**	**4**	**1**	**—**	**1**
Protection buyer									
Credit default swaps	—	100	20	120	76	—	—	—	1
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	86	613	63	762	396	4	1	—	—
Protection seller									
Credit default swaps	—	—	—	—	—	—	—	—	—
Total return swaps	—	—	—	—	—	—	—	—	—
Credit-linked notes	—	4	3	7	3	—	—	—	—
Trading book	**2,477**	**49,900**	**362**	**52,739**	**17,267**	**252**	**209**	**564**	**333**
Protection buyer									
Credit default swaps	794	24,776	—	25,570	8,353	11	7	233	237
Total return swaps	602	846	—	1,448	379	1	2	267	82
Credit-linked notes	87	413	70	570	796	7	2	2	3
Protection seller									
Credit default swaps	809	23,490	247	24,546	7,133	233	197	20	8
Total return swaps	128	—	—	128	64	—	—	40	2
Credit-linked notes	57	375	45	477	542	—	1	2	1
HVB Group	**2,563**	**50,617**	**448**	**53,628**	**17,742**	**256**	**210**	**564**	**334**

Risk Report (Continued)

Credit derivatives by reference asset

	NOMINAL AMOUNT				
€ millions	CREDIT DEFAULT SWAPS	TOTAL RETURN SWAPS	CREDIT-LINKED NOTES	TOTAL 2022	TOTAL 2021
Public sector bonds	138	128	89	355	567
Corporate bonds	48,614	244	940	49,798	15,747
Equities	—	—	—	—	—
Other assets	1,484	1,204	787	3,475	1,428
HVB Group	**50,236**	**1,576**	**1,816**	**53,628**	**17,742**

Single-name credit derivatives make up 6.1% of the total; multi-name credit derivatives, relating notably to baskets or indices, account for a share of 93.9%.

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. 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 in particular from changes in volatilities is included in option risk.

Strategy

Market risk essentially arises in the Corporates operating segment. As was already the case in previous years, the focus in 2022 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 2022 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 2022 risk strategy was adopted, the FVTPL limit for HVB Group was set at €49 million and the FVOCI limit at €20 million.

Monitoring of the regulatory metrics (stressed VaR) and incremental risk charge (IRC) 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 Corporates operating segment. Whenever limits are exceeded, an escalation process is triggered immediately and the reduction of the positions in question monitored.

The Market Risk Management department has direct access to the front-office systems used in trading operations. The monitoring of trading activities comprises prompt allocation to counterparty 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 and add-ons, in particular for risks from gap options, share repo rates and behavioural models.

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 €3,857 million (31 December 2021: €2,258 million). The increase is mainly due to the increased model risk in the behavioural models owing to the higher interest rates and increased interest rate risks in the banking book.

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 Corporates operating segment of HVB Group.

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

	MARKET RISK OF POSITIONS RECOGNISED AT FVTPL			MARKET RISK OF POSITIONS RECOGNISED AT FVTOCI		
	AVERAGE	PERIOD END		AVERAGE	PERIOD END	
€ millions	**2022**	**31/12/2022**	**31/12/2021**	**2022**	**31/12/2022**	**31/12/2021**
Credit spread risk	4.7	5.4	3.7	6.4	9.1	2.9
Interest rate positions	8.7	9.6	7.1	2.9	3.0	2.3
Foreign exchange positions	3.0	3.9	0.7	0.3	0.4	0.2
Equity/index positions[1]	6.3	13.8	0.4	—	—	—
Commodity risk	10.4	13.8	6.3	—	—	—
HVB Group[1]	**19.0**	**31.5**	**8.2**	**6.8**	**7.9**	**3.4**

1 Because of the diversification effects between the risk categories, the total risk is less than the sum of the individual risks.

The regulatory capital requirements for the quarter-ends of the previous year are described below, broken down by the relevant risk metrics.

Regulatory capital requirements of HVB Group

€ millions	**31/12/2022**	**30/9/2022**	**30/6/2022**	**31/3/2022**	**31/12/2021**
Value at risk	160	232	142	123	76
Stressed value at risk	239	346	227	337	294
Incremental risk charge	87	103	231	255	240
Market risk standard approach	47	53	52	64	51
CVA value at risk	14	14	10	11	7
Stressed CVA value at risk	37	36	33	34	34
CVA standard approach	34	40	37	65	44

Risk Report (Continued)

Regulatory back-testing of the internal model at HVB for 2022

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. Four reportable back-testing outliers occurred in 2022. 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 2022, there were four instances of a limit being exceeded.

In addition to back-testing, further methods are used to check the quality of the model. These involve analysing the risk factors used and adjusting them as required. Risks that cannot be adequately modelled are also monitored and limits set for them if they are material. Furthermore, the suitability of the modelling of the UniCredit risk model used throughout the Group is validated by the “Group Internal Validation” unit.

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. These uncertainties are taken into account in the income statement in the form of valuation adjustments and in capital withdrawals via additional valuation adjustments (AVA).

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).

Interest rate risk in the banking book

The interest rate risk in the banking book describes 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 fluctuations in interest rate movements over several years by hedging deposits and capital in accordance with internal models. Interest rate risk management also takes into account customer behaviour regarding early repayments of loans. Parameters are based on statistical analyses.

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. 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, taking into account the supervisory requirements, 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 2022, 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

	31/12/2022		31/12/2021	
	€ millions	in %	€ millions	in %
+ 200 basis points	(1,954)	(10.2)	(1,644)	(9.0)
- 200 basis points	906	4.7	115	0.6

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 changes in figures compared with year-end 2021 are due to the increased interest rate level.

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). 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. This relates notably to products with unknown and/or undefined maturities and included options. The simulation is calculated with the assumption of a constant balance sheet. The sensitivity of the income (NII sensitivity) then results from the resulting changes in income in relation to the planned net interest income (NII budget) for the current financial year. The results are below the internal early warning indicator of minus 10.0%.

Effects of changes in the interest rate on net interest

	30/12/2022		31/12/2021	
	€ millions	in %	€ millions	in %
Parallel upwards	(195)	(8.5)	(63)	(2.7)
Parallel downwards	74	3.2	23	1.0

The change in results compared with the previous year can be explained by the changed positions held by the Bank as well as the changed interest rate level.

Furthermore, additional stress test scenarios are considered 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:
– intraday/ operational liquidity risk
– short-term liquidity risk
– structural liquidity risk (funding risk)
– contingency liquidity risk
– market liquidity risk

Categories

Intraday/operational liquidity risk
Intraday operational liquidity risk arises when a financial institution cannot meet its current day-to-day 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.

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).

Structural liquidity risk
The structural liquidity risk (funding 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.

Contingency liquidity risk
Contingency liquidity risk refers to a liquidity crisis with a high impact but low probability of occurrence. In this case there is a contingency process that can be effectively activated in the event of a crisis and follows an approved procedure.

Market liquidity risk
Information on the market liquidity risk is provided in the section entitled “Market risk”.

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
A limit has been set for intraday/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).

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.

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.

Risk Report (Continued)

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.

Structural liquidity risk

To measure structural liquidity risk (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. Furthermore, the funding risk is calculated using an internal ratio, the “Structural Liquidity Ratio (SLR)”, for the time horizon greater than one year and greater than three years. These ratios usually take into account the contractual cash flows of assets and liabilities, or internal models for non-terminated products, such as sight deposits and savings deposits. 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 ALM & Funding 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 ALM & Funding 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.

Structural liquidity risk

The task of monitoring the structural liquidity situation at HVB Group has similarly been entrusted to the ALM & Funding 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 structural liquidity risk (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 ALM & Funding 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 Financial 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 €54.1 billion at HVB Group for the three-month maturity bucket at 31 December 2022 (31 December 2021: €41.5 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 €18.8 billion at the end of 2022 (31 December 2021: €12.1 billion).

Institution-specific, market-wide and combined scenarios are included in the calculation of our stress tests. The calculations at the end of 2022 showed that the available liquidity reserves will cover the refinancing requirements beyond the minimum period required in each case.

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 2022 with a value of more than 100%.

Structural liquidity risk

The structural liquidity risk (funding risk) of HVB Group was again low in 2022 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 2022, HVB Group had obtained longer-term funding with a volume of €8.5 billion (31 December 2021: €14.4 billion), €5.9 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 2022 based on CRR II requirements. The internal ratio “structural liquidity ratio greater than one year and greater than three years” was over 100% in this period. On account of their ratings, our Pfandbriefe still remain an important funding instrument.

Breakdown of sources of funding of HVB Group	in %
Deposits from customers	56.6
Deposits from banks	10.2
Debt securities (including Pfandbriefe)	12.0
Repos[1]	1.2
Equity	7.6
Central banks	8.4
Financial liabilities held for trading[2]	2.3
Other	(0.1)
Financial assets at fair value through profit or loss	1.9

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 (for example outflows on unsecured funding, low funding plan fulfilment rates, no stress haircuts on the bond position), market-wide (for example outflows on unsecured funding, outflows due to margin requirements from derivatives transactions, stress haircuts on the bond position) and combined scenarios when conducting our stress tests. The calculations at the end of the year 2022 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. The primary aim is 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.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.

Risk Report (Continued)

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 precautions taken for crisis and emergency situations are adapted constantly to accommodate new threats.

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

The Legal 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.

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 internal control system (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. With its decisions of 6 April 2022 and 17 November 2022, the BGH confirmed two criminal judgements in other cum/ex cases of the Regional Court of Bonn, thus further solidifying its case law. 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 is also monitoring the current development following an important decision of the Federal Tax Court (BFH) dated 29 September 2021, through which the BFH acknowledged the transfer of economic ownership in case of a stock loan transaction contrary to a previous decision.

HVB has made provisions.

Risk Report (Continued)

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 proceeding is stayed.

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.

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. On 14 March 2022, the court granted UniCredit Capital Markets LLC motion to dismiss while denying HVB’s motion to dismiss. The court has since denied HVB’s motion for reconsideration, HVB has answered the operative complaint, and discovery has commenced. On 7 November 2022, plaintiffs sought leave to file a fifth amended class action complaint, which would continue to name HVB among others (but not UniCredit Capital Markets LLC) as a defendant.

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. The vast majority of the clients has already agreed.

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 Southern 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).

Claims in relation to sanctions legislation
Two aircraft leasing companies have filed lawsuits in March and April 2022 against HVB´s foreign branch in London before a London court. The claims relate to payments arising under certain letters of credit, all of which are governed by English law. The disputes hinge on the interpretation of sanctions legislation and its effect on the letters of credit. After the trial, the required UK licences authorising payments under the letter of credits were granted and HVB London branch made payments of the principal under the letters of credit to the claimants in the meantime. The proceedings now only concern possible payments regarding interest and legal costs.

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.

Risk Report (Continued)

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, financial investment risk and model risk as well as the risk type strategic risk, which is described exclusively in qualitative terms. The risk arising from outsourcing activities and sustainability risk 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).

Real estate management ensures value- and cost-optimised management, the operation of the buildings and the fulfilment of the UniCredit Bank AG’s space requirements in terms of size, quality and cost optimisation. 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.

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, occupancy rate, required investment and the price development on the real estate market. ESG criteria are also becoming important factors for portfolio strategy, maintenance and investment decisions. 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.

The Russian-Ukraine conflict and the resulting economic consequences have led to rising costs, especially in the area of energy and construction. It remains to be seen to what extent this trend will continue or whether further effects will be noticeable. Likewise, the effects of the current inflation trend as well as possible consequences of a change in financing interest rates on the development of real estate values cannot yet be estimated.

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 2022 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 Integrated Risk (CRI3) unit and calculated by the Data & Intelligence (CDI3). The Credit Risk Control (CRI4) unit is responsible for reporting. 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 €291 million at 31 December 2022, which represents a decrease of €22 million (31 December 2021: €313 million). The fully diversified economic capital for real estate risk at HVB Group stands at €129 million (31 December 2021: €147 million).

The risk figures relate to a portfolio valued at €2,767 million.

Breakdown of the real estate portfolio by type

	PORTFOLIO VALUE € millions		SHARE in %	
	2022	**2021**	**2022**	**2021**
Real estate used by the Bank	2,231	2,227	80.6	80.5
Real estate not used by the Bank	536	539	19.4	192.5
HVB Group	**2,767**	**2,766**	**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.

Risk Report (Continued)

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 Integrated Risk (CRI3) unit and calculated by the Data & Intelligence (CDI3) unit. The Credit Risk Control (CRI4) unit is responsible for reporting. 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 €337 million at 31 December 2022 (31 December 2021: €344 million). The fully diversified economic capital for HVB Group's business risk totals €215 million as at 31 December 2022 (31 December 2021: €225 million).

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

Pension risk

In risk management the risks are calculated and monitored at regular intervals using a model devised specifically for pension risk. A risk figure is determined periodically using calculations based on changes in key risk parameters for both the various plan assets and the cash flows on the obligations side. A figure of €1,167 million was determined as at 30 December 2022 for the total pension risk of HVB Group (31 December 2021: €1,555 million). The decrease compared with year-end 2021 is primarily due to a significantly lower assumed shock on investments which offsets a 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 in determining pension obligations. The massive increase in yields in the past year led to a considerable reduction in the present value of the obligations, which significantly overcompensated for the decline on the investment side. The funding situation has improved significantly. Looking ahead, the rise in interest rates makes it easier to generate returns on plan assets from the fixed-income securities segment. The sharp rise in inflation has also led to a reassessment of medium- and longer-term inflation assumptions, partly offsetting the positive effect of higher interest rates. The central banks seem to be determined to fight inflation by raising benchmark interest rates. However, this could also impair economic development and, as a result, lead to an increase in the range of fluctuation on the capital markets with potentially negative effects 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.

Breakdown of the financial investment portfolio

	PORTFOLIO VALUE € millions		SHARE in %	
	2022	2021	2022	2021
Private equity investments	10	10	4.0	4.0
Other investments[1]	227	229	96.0	96.0
HVB Group	**237**	**239**	**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.

Risk Report (Continued)

Strategic risk

As a universal bank, HVB Group is a provider of banking and financial services with a focus on Germany. It offers a comprehensive range of banking and financial products and services to private and corporate clients, public institutions and international companies, was well as institutional clients. 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 – Distortions, for example those caused by the Russia-Ukraine conflict, create economic uncertainties such as higher inflation or disruptions in the energy supply that could have negative effects on the earnings situation of HVB Group.
– Strategic orientation of the business model of HVB Group – Delays in the required adjustments of business units 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.

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 final decision based on the risk analysis and qualitative assessment is the responsibility of the Non Financial Risks and Controls Committee or the head of Non Financial Risk.

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. For this purpose, senior management is interviewed about current reputational risks. The senior managers then have the opportunity to review the reputational risk identified in their unit 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.

The individual business areas and central units are responsible for reputational risk management. Overall responsibility for monitoring rests with the Non Financial Risk unit (CRO organisation). The Non Financial Risk 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.

Risk Report (Continued)

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 Non Financial Risk 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 macroeconomic scenario.

Model risk

Model risk is taken into account via a premium, which reflects the risk of model weaknesses due to data errors, inaccurate assumptions and incorrect methodology within the framework of ICAAP calculations. The estimation of this economic capital component is based on an internally developed methodology. The results of this methodology are converted into model risk percentages based on defined scoring functions and added to the risk types. A model risk percentage is also taken into account for the risk aggregation model, which aims to estimate the diversification benefit. In this case the relevant model risk percentage is applied directly to the diversification benefit. The model risk premium is also taken into account in the limitation of internal capital.

The model risk premium amounted to €210 million as at 31 December 2022 (31 December 2021: €195 million).

Sustainability risk

HVB Group focuses in particular on the “Climate & Environment” (C&E) component.

Climate and environment (C&E) factors relate to the quality and functioning of the natural environment and systems and include factors such as climate change, biodiversity, energy consumption, air pollution, and waste management. These are factors that can have a negative financial impact through various risk drivers.

These can be categorised into physical and transitional risks:
- Physical risks relate to adverse financial effects from climate change, including more frequent extreme weather events and gradual global warming, as well as environmental degradation (e.g. water and land pollution, biodiversity loss and deforestation). Physical risks are divided into “acute” caused by extreme weather events (such as droughts, floods and storms) and “chronic” caused by ongoing climate change (such as rising sea levels, loss of biodiversity, scarcity of resources). These can directly result in damage to buildings and reduced productivity.
- Transitional risks relate to the financial loss to the institution that may result directly or indirectly from the process of transitioning to a low-carbon and more environmentally friendly, sustainable economy. For example, this could be triggered by an abrupt shift in climate and environmental policy, technological progress or changing consumer behaviour.

Sustainability risks are materialising across the traditional types of financial risk (credit risk, market risk, operational and reputational risks, liquidity and funding risks) and are being successively integrated into the relevant types of risk.

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 otherwise be performed by the outsourcing company itself. This includes outsourcing arrangements within UniCredit as well as the subcontracting of outsourced activities and functions to subcontractors.

Outsourcing risk is considered a cross-risk-type risk at HVB 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 HVB Group, no new critical/material outsourcing contract was concluded by HVB in 2022. As part of the increase in efficiency, the back-office activities of UniCredit Services S.C.p.A. carried out from Germany were transferred back to HVB with effect from 1 July 2022, thus significantly reducing the scope of the corresponding outsourcing contracts with UniCredit Services S.C.p.A. or its legal successor from 1 October 2022 (UniCredit S.p.A.). As part of the change in the business model of the London branch to a "non-booking branch", the contract between the London branch and UniCredit S.p.A. for the "Global Control Room" for trading activities was terminated at the end of 2022. The change in contracts 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 Finance-internal 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 Combined Management Report. 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 Combined Management Report 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, 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 Finance 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. or its legal successor UniCredit S.p.A. is monitored and managed by the Retained Organisation of the Chief Operating Officer (COO).

Organisational structure and tasks of the Finance organisation

For purposes of the financial reporting processes, Finance 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 in relation to 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.

ICS – Internal Control System (Continued)

Performance and Capital Management (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 the Group Corporate Centre (GCC) are assigned to CCP. In addition, CCP carries out the reconciliation of the result for Client Risk Management jointly with Accounting. The reconciliation of the result 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 Finance 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.

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, 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 Finance-internal controls, there are also checking and control steps in the upstream processes.

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 comparison of the totals with 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 and HGB is primarily governed by the orientation of the operating units. The determination of the holding category is determined individually for each (trading) book and the related trading strategy. The Accounting department is incorporated as an authorising body to ensure compliance with individual requirements relating to classification based on the respective accounting standard.
– Booking standards based on the respective holding category – initiated by transactions – are defined in the accounting systems.
– The income calculated for purposes of financial reporting is 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 determines the valuation of financial instruments in the front office systems and checks this. 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 between the CRO and Finance.
– In accordance with the separation of functions, the back office handles the processing of HVB trades. 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.

ICS – Internal Control System (Continued)

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 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.

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 Finance organisation.

UniCredit Services S.C.p.A. or its legal successor UniCredit S.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. or its legal successor UniCredit S.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 the processes involved in 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 as a whole, 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.

ICS – Internal Control System (Continued)

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 Combined Management Report 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 by the persons responsible for the process and controls.

Consolidated Statement of Total Comprehensive Income

Consolidated Income Statement

INCOME/EXPENSE (€ millions)	NOTE	1/1-31/12/2022	1/1-31/12/2021
Interest income		3,897	3,299
of which calculated using the effective interest method (based on classification according to IFRS 9)		3,022	2,253
Negative interest on financial assets		(187)	(376)
Interest expense		(1,455)	(1,040)
Negative interest on financial liabilities		371	633
Net interest	36	2,626	2,516
Dividends and other income from equity investments	37	31	28
Net fees and commissions	38	1,120	1,115
Net trading income	39	793	655
Net gains/(losses) on financial assets and liabilities at fair value	40	288	85
Net gains/(losses) on derecognition of financial instruments measured at cost	41	29	(9)
Net other expenses/income	42	(138)	(61)
Payroll costs		(1,415)	(1,485)
Other administrative expenses		(1,087)	(1,202)
Amortisation, depreciation and impairment losses on intangible and tangible assets		(109)	(119)
Operating costs	43	(2,611)	(2,806)
Net write-downs of loans and provisions for guarantees and commitments	44	(299)	(114)
Provisions for risks and charges	45	11	(153)
Restructuring costs	46	(80)	(617)
Net gains/(losses) on remeasurement of consolidated companies	47	(2)	(13)
PROFIT/(LOSS) BEFORE TAX		**1,768**	**626**
Income tax for the period	48	(467)	(300)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))		**1,301**	**326**
attributable to the shareholder of UniCredit Bank AG		1,301	325
attributable to minorities		—	1

Consolidated Statement of Total Comprehensive Income

€ millions	1/1-31/12/2022	1/1-31/12/2021
Profit/(loss) after tax recognised in the income statement (consolidated profit/(loss))	**1,301**	**326**
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)	951	196
Allocation to/withdrawal from the revaluation surplus for owner-occupied property (IAS 16)	42	95
Change in the fair value of financial liabilities at FVTPL attributable to changes in the default risk (own credit spread reserve)	27	(45)
Other changes	3	1
Taxes on income and expenses not to be reclassified to the income statement in future periods	(32)	(198)
Income and expenses to be reclassified to the income statement in future periods		
Changes from foreign currency translation	7	7
Changes in the measurement of financial instruments (hedge reserve)	(19)	—
Unrealised gains/(losses)	(15)	—
Gains/(losses) reclassified to the income statement	(4)	—
Changes in the measurement of financial instruments at FVTOCI (FVTOCI reserve)	(30)	4
Unrealised gains/(losses)	(13)	6
Gains/(losses) reclassified to the income statement	(17)	(2)
Other changes	(1)	(2)
Taxes on income and expenses to be reclassified to the income statement in future periods	14	(1)
Total income and expenses recognised in equity through other comprehensive income	**962**	**57**
Total comprehensive income	**2,263**	**383**
of which:		
attributable to the shareholder of UniCredit Bank AG	2,263	382
attributable to minorities	—	1

Consolidated Balance Sheet

ASSETS (€ millions)	NOTE	31/12/2022	31/12/2021
Cash and cash balances	49	36,833	27,692
Financial assets held for trading	50	82,258	85,914
Financial assets at FVTPL	51	4,933	7,534
Financial assets at FVTOCI	52	9,837	12,006
Loans and receivables with banks (at cost)	53	23,336	24,622
Loans and receivables with customers (at cost)	54	154,776	148,709
Hedging derivatives	56	636	231
Hedge adjustment of hedged items in the portfolio fair value hedge		6	24
Investments in associates and joint ventures accounted for using the equity method	57	13	12
Property, plant and equipment	58	2,368	2,450
Investment properties	59	335	360
Intangible assets	60	6	8
Tax assets		992	909
Current tax assets		147	165
Deferred tax assets		845	744
Non-current assets or disposal groups held for sale	61	715	695
Other assets	62	962	1,138
TOTAL ASSETS		**318,006**	**312,304**

LIABILITIES (€ millions)	NOTE	31/12/2022	31/12/2021
Deposits from banks	64	51,181	61,707
Deposits from customers	65	147,152	134,340
Debt securities in issue	66	31,140	32,180
Financial liabilities held for trading	67	64,304	53,659
Financial liabilities at FVTPL	68	4,818	5,510
Hedging derivatives	69	200	500
Hedge adjustment of hedged items in the portfolio fair value hedge	70	(5,474)	617
Tax liabilities		1,357	988
Current tax liabilities		993	530
Deferred tax liabilities		364	458
Liabilities of disposal groups held for sale	71	580	565
Other liabilities	72	1,231	1,697
Provisions	73	1,778	2,751
Shareholders' equity	74	19,739	17,790
Shareholders' equity attributable to the shareholder of UniCredit Bank AG		18,048	16,099
Subscribed capital		2,407	2,407
Additional paid-in capital		9,791	9,791
Other reserves		4,652	3,589
Currency reserves		23	16
Changes in valuation of financial instruments		15	51
Hedge reserve		4	19
FVTOCI reserve		11	32
Profit available for distribution		1,160	245
Additional equity instruments		1,700	1,700
Minority interests		(9)	(9)
TOTAL LIABILITIES		**318,006**	**312,304**

In the 2022 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 €1,160 million. This consists of the net income for the year of €2,350 million generated in the reporting year less the amount of €1,190 million transferred to other retained earnings. We will propose to the Shareholders' Meeting that a dividend of €1,160 million be paid in total to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €1.45 per share after around €0.31 for the 2021 financial year. The profit available for distribution of €245 million reported in the previous year was distributed to UniCredit on 10 May 2022 in accordance with a resolution adopted by the Shareholders' Meeting on 5 Mai 2022.

Statement of Changes in Consolidated Shareholders' Equity

			OTHER RESERVES				
€ millions	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)	CURRENCY RESERVE
Shareholders' equity as at 1/1/2022	**2,407**	**9,791**	**3,589**	**(55)**	**945**	**(1,949)**	**16**
Consolidated profit/(loss) recognised in the consolidated income statement	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Total income and expenses recognised in equity through other comprehensive income[3]	**—**	**—**	**991**	**18**	**22**	**949**	**7**
Unrealised gains/(losses) due to changes in measurement	—	—	40	18	22	—	—
Gains/(losses) reclassified to the income statement	—	—	—	—	—	—	—
Actuarial gains/(losses) on defined benefit plans	—	—	949	—	—	949	—
Changes from foreign currency translation	—	—	—	—	—	—	7
Other changes	—	—	2	—	—	—	—
Total other changes in equity	**—**	**—**	**72**	**—**	**(10)**	**(7)**	**—**
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	—	—	141	—	—	—	—
Changes in group of consolidated companies	—	—	(1)	—	—	(7)	—
Capital decreases	—	—	—	—	—	—	—
Shareholders' equity as at 31/12/2022	**2,407**	**9,791**	**4,652**	**(37)**	**957**	**(1,007)**	**23**
Shareholders' equity as at 1/1/2021	**2,407**	**9,791**	**3,528**	**(24)**	**892**	**(1,964)**	**9**
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**	**7**
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	—	—	—	—	—	—	7
Other changes	—	—	1	—	—	1	—
Total other changes in equity	**—**	**—**	**12**	**—**	**(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	—	—	80	—	—	—	—
Changes in group of consolidated companies	—	—	—	—	(3)	1	—
Capital decreases	—	—	—	—	—	—	—
Shareholders' equity as at 31/12/2021	**2,407**	**9,791**	**3,589**	**(55)**	**945**	**(1,949)**	**16**

1 The Shareholders' Meeting of 5 May 2022 resolved to distribute the 2021 profit available for distribution to our sole shareholder UniCredit S.p.A. (UniCredit), Milan, Italy.
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.
2 Attributable to the shareholder UniCredit Bank AG.
3 Recognised through the consolidated statement of total comprehensive income.
4 Instruments are held entirely by UniCredit S.p.A.

€ millions	CHANGE IN MEASUREMENT OF FINANCIAL INSTRUMENTS HEDGE RESERVE	FVTOCI RESERVE	PROFIT AVAILABLE FOR DISTRI-BUTION[1]	TOTAL SHAREHOLDERS' EQUITY ATTRIBUTABLE TO THE SHARE-HOLDER OF HVB[2]	ADDI-TIONAL EQUITY INSTRU-MENTS[4]	MINORITY INTERESTS	TOTAL SHARE-HOLDERS' EQUITY
Shareholders' equity as at 1/1/2022	**19**	**32**	**245**	**16,099**	**1,700**	**(9)**	**17,790**
Consolidated profit/(loss) recognised in the consolidated income statement	**—**	**—**	**1,301**	**1,301**	**—**	**—**	**1,301**
Total income and expenses recognised in equity through other comprehensive income[3]	**(15)**	**(21)**	**—**	**962**	**—**	**—**	**962**
Unrealised gains/(losses) due to changes in measurement	(12)	(9)	—	19	—	—	**19**
Gains/(losses) reclassified to the income statement	(3)	(12)	—	(15)	—	—	**(15)**
Actuarial gains/(losses) on defined benefit plans	—	—	—	949	—	—	**949**
Changes from foreign currency translation	—	—	—	7	—	—	**7**
Other changes	—	—	—	2	—	—	**2**
Total other changes in equity	**—**	**—**	**(386)**	**(314)**	**—**	**—**	**(314)**
Capital increase	—	—	—	—	—	—	**—**
Reclassification from equity reserves to retained earnings	—	—	—	—	—	—	**—**
Dividend payouts	—	—	(245)	(245)	—	—	**(245)**
Payouts on additional equity instruments	—	—	—	(68)	—	—	**(68)**
Transfers to/withdrawals from profit available for distribution	—	—	(141)	—	—	—	**—**
Changes in group of consolidated companies	—	—	—	(1)	—	—	**(1)**
Capital decreases	—	—	—	—	—	—	**—**
Shareholders' equity as at 31/12/2022	**4**	**11**	**1,160**	**18,048**	**1,700**	**(9)**	**19,739**
Shareholders' equity as at 1/1/2021	**21**	**29**	**400**	**16,185**	**1,700**	**(10)**	**17,875**
Consolidated profit/(loss) recognised in the consolidated income statement	**—**	**—**	**325**	**325**	**—**	**1**	**326**
Total income and expenses recognised in equity through other comprehensive income[3]	**(2)**	**3**	**—**	**57**	**—**	**—**	**57**
Unrealised gains/(losses) due to changes in measurement	—	4	—	39	—	—	**39**
Gains/(losses) reclassified to the income statement	—	(1)	—	(1)	—	—	**(1)**
Actuarial gains/(losses) on defined benefit plans	—	—	—	13	—	—	**13**
Changes from foreign currency translation	—	—	—	7	—	—	**7**
Other changes	(2)	—	—	(1)	—	—	**(1)**
Total other changes in equity	**—**	**—**	**(480)**	**(468)**	**—**	**—**	**(468)**
Capital increase	—	—	—	—	—	—	**—**
Reclassification from equity reserves to retained earnings	—	—	—	—	—	—	**—**
Dividend payouts	—	—	(400)	(400)	—	—	**(400)**
Payouts on additional equity instruments	—	—	—	(68)	—	—	**(68)**
Transfers to/withdrawals from profit available for distribution	—	—	(80)	—	—	—	**—**
Changes in group of consolidated companies	—	—	—	—	—	—	**—**
Capital decreases	—	—	—	—	—	—	**—**
Shareholders' equity as at 31/12/2021	**19**	**32**	**245**	**16,099**	**1,700**	**(9)**	**17,790**

Consolidated Cash Flow Statement

€ millions	2022	2021
CONSOLIDATED PROFIT/(LOSS)	**1,301**	**326**
Write-downs, provisions for losses on, and write-ups of, loans and receivables and additions to provisions for losses on guarantees and indemnities	356	162
Write-downs and depreciation less write-ups on non-current assets	108	178
Change in other non-cash positions	(5,740)	3,898
Gains/(losses) on the disposal of non-current assets	(12)	3
Other adjustments (net interest and dividend income from the income statement, taxes on income paid)	(2,899)	(2,292)
Subtotal	**(6,886)**	**2,275**
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	17,550	(11,975)
Financial assets at FVTPL	2,601	3,910
Financial assets at FVTOCI	2,169	465
Loans and receivables with banks (at cost)	1,267	9,705
Loans and receivables with customers (at cost)	(5,872)	(4,719)
Other assets from operating activities	292	(698)
Deposits from banks	(10,762)	(11,670)
Deposits from customers	12,684	(9,398)
Debt securities in issue	(1,035)	502
Other liabilities from operating activities	(5,563)	146
Taxes on income	(94)	(155)
Interest received	4,182	3,600
Interest paid	(1,501)	(1,419)
Dividends received	352	284
CASH FLOW FROM OPERATING ACTIVITIES	**9,384**	**(19,147)**
Proceeds from the sale of investments	30	15
Proceeds from the sale of property, plant and equipment	105	57
Payments for the acquisition of investments	(1)	(17)
Payments for the acquisition of property, plant and equipment	(75)	(92)
Effects of the change in the group of companies included in consolidation	—	—
Effect of the disposal of discontinued operations	—	—
CASH FLOW FROM INVESTING ACTIVITIES	**59**	**(37)**
Change in additional paid-in capital	—	—
Dividend payments	(245)	(400)
Issue of subordinated liabilities and hybrid capital	—	—
Payouts on additional equity instruments (after tax)	(68)	(68)
Repayment/buy-back of subordinated liabilities and hybrid capital	—	(147)
Changes in cash from other change in equity	11	(40)
CASH FLOW FROM FINANCING ACTIVITIES	**(302)**	**(655)**
CASH AND CASH EQUIVALENTS AT END OF PREVIOUS PERIOD	**27,692**	**47,531**
CASH FLOW FROM OPERATING ACTIVITIES	**9,384**	**(19,147)**
CASH FLOW FROM INVESTING ACTIVITIES	**59**	**(37)**
CASH FLOW FROM FINANCING ACTIVITIES	**(302)**	**(655)**
Effects of exchange rate changes	—	—
Less non-current assets or disposal groups held for sale	—	—
CASH AND CASH EQUIVALENTS AT END OF PERIOD	**36,833**	**27,692**

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 2022 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 28 February 2023 and will be submitted to the Supervisory Board on 10 March 2023 for approval.

The Combined Management Report meets the requirements of Section 315 (1) and (4) HGB and incorporates a risk report pursuant to Section 315 (2) No. 1 HGB.

UniCredit Bank AG (HVB) has exercised the option provided by Section 315 (5) HGB in conjunction with Section 298 (2) HGB and has combined HVB's Management Report with HVB Group's Management's Discussion and Analysis.

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. Stuttgart Kronprinzstraße KG, Grünwald
– Grundstücksgesellschaft Simon beschränkt haftende Kommanditgesellschaft, Munich
– HAWA Grundstücks GmbH & Co. OHG Immobilienverwaltung, Munich
– H.F.S. Leasingfonds Deutschland 7 GmbH & Co. KG, Munich
– HVB Gesellschaft für Gebäude mbH & Co. KG, 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
– 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
– 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 to 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.

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 or amended IFRS accounting rules is described in the Note "First-time adoption of new IFRS accounting rules". Where significant accounting and valuation errors from earlier periods are corrected, the amounts involved are adjusted retroactively as a general rule. 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.

UniCredit Leasing GmbH

Against the backdrop of current market developments (the increase in interest rates in particular) the general conditions deteriorated in the first half of 2022 for a potential purchaser of UniCredit Leasing GmbH with its subsidiaries. As a result, the initiated sales process was unable to be brought to a close. In the second quarter of 2022, HVB therefore decided to end the sales process and to keep UniCredit Leasing GmbH with its subsidiaries. Compliant with IFRS 5.28 requirements for the sales process of subsidiaries, HVB retrospectively reclassified UniCredit Leasing GmbH with its subsidiaries which means that the current and earlier financial years are presented as though UniCredit Leasing GmbH with its subsidiaries had not been classified as non-current assets or disposal groups held for sale as at year-end 2021. This adjustment is explained below, otherwise the consolidated financial statements are presented after retrospective adjustment and no further reference is made to this change.

Following the measurement rule of IFRS 5.27, the assets and liabilities of UniCredit Leasing GmbH with its subsidiaries are recognised on the basis of the amortised acquisition cost at the time before these were classified as non-current assets or disposal groups held for sale as at year-end 2021. The scheduled depreciation and amortisation on non-current assets that was suspended from 1 January 2022 will be taken retrospectively and the write-downs on operating leases and finance lease receivables recognised as at year-end 2021 will be reversed as these write-downs were not due to impairments relating to the respective assets but to the expected lower selling price for the disposal group of assets and liabilities as a whole. As UniCredit Leasing GmbH with its subsidiaries is not a cash generating unit or a business area from HVB's perspective, the measurement of the assets and liabilities concerned is to be based on the principle of individual measurement.

The previous-year figures were subsequently adjusted so that the write-down of UniCredit Leasing GmbH with its subsidiaries to the lower expected sales proceeds recognised in the income statement in the 2021 financial year was reversed. As a result, net other expenses/income is €81 million higher. In addition, the assets and liabilities of UniCredit Leasing GmbH with its subsidiaries are again shown under the respective balance sheet item as at 31 December 2021 and not as non-current assets or disposal groups held for sale or as liabilities of disposal groups held for sale.

Accounting and Valuation (Continued)

€ millions	CARRYING AMOUNT RECOGNISED AS AT 31/12/2021 IN THE CONSOLIDATED FINANCIAL STATEMENTS 2021	ADJUSTMENT OF PREVIOUS-YEAR FIGURES	CARRYING AMOUNT RECOGNISED AS AT 31/12/2021 IN THE CONSOLIDATED FINANCIAL STATEMENTS 2022
ASSETS			
Loans and receivables with banks (at cost)	24,620	—	24,620
Loans and receivables with customers (at cost)	146,794	1,806	148,600
Hedge adjustment of hedged items in the portfolio fair value hedge	24	—	24
Property, plant and equipment	2,356	94	2,450
Intangible assets	4	4	8
Tax assets	908	1	909
Non-current assets or disposal groups held for sale	2,519	(1,824)	695
Other assets	1,138	—	1,138
LIABILITIES			
Deposits from banks	61,250	457	61,707
Deposits from customers	134,340	—	134,340
Tax liabilities	980	8	988
Liabilities of disposal groups held for sale	1,068	(503)	565
Other liabilities	1,565	21	1,586
Provisions	2,734	17	2,751
Shareholders' equity	17,709	81	17,790

Fees from the lending business yet to be amortised
In the course of internal analyses, it was determined that fees received for unutilised credit commitments that are to be deferred over the term of the commitment were deducted from the loan receivables on the assets side for a specific HVB credit system. As these fees to be deferred relate to unutilised credit commitments, they no longer relate to loan receivables, the acquisition cost of which could reduce the amounts received. Instead, these fees to be deferred are to be recognised under “Other liabilities” as deferred income and accruals. HVB has retrospectively changed the recognition of these amounts. Consequently, items to be deferred of €135 million in the reporting year (previous year: €111 million) are recognised as “Other liabilities”. In addition to the adjustments made to the previous-year balance sheet items shown in the chapter entitled “UniCredit Leasing GmbH”, the previous-year balance sheet items affected by the change in recognition of the fees from the lending business yet to be amortised were also adjusted.

Deferred taxes
In the context of measuring deferred tax assets, it is necessary to check whether sufficient taxable profits will be generated that can be offset against deductible temporary differences, tax losses or tax credits not yet used (impairment test for deferred tax assets). A planning horizon of five years was taken as a basis for determining whether there will be sufficient taxable profits in relation to the same tax authority and the same taxable entity in the period in which the deductible temporary difference is reversed. In the course of checking whether the five-year planning horizon is still appropriate, HVB found that the reasons for limiting the period no longer apply. Therefore, the period was extended to cover the total term of the deductible temporary differences. Compliant with IAS 8.38 the effects from the adjustment of this estimate are prospectively recognised so that income of €131 million is recognised in the income statement under the “Income tax for the period” item and an amount of €301 million through other comprehensive income under the “Taxes on income and expenses not to be reclassified to the income statement in future periods” item in the first half of 2022.

Extension of the low credit exemption (investment grade) of securities to loans
To date, HVB has only applied the general assumption to securities that the credit risk on a financial instrument has not increased significantly since initial recognition if the financial instrument has a low risk of default at the reporting date (IFRS 9.5.5.10). In the first half of the year, loan receivables were also included in this exemption, which resulted in income of €4 million. Due to the immateriality of the effect, the previous-year figures were not adjusted accordingly, which means that the transition was recognised prospectively in profit or loss in the first half of 2022.

Renaming of the item "Credit impairment losses IFRS 9" to "Net write-downs of loans and provisions for guarantees and commitments"
HVB changed the name of the balance sheet item "Credit impairment losses IFRS 9" to "Net write-downs of loans and provisions for guarantees and commitments", however there is no change to the content of this item.

Renaming of the item from "Gains/losses on disposals of investments" to "Net gains/losses on remeasurement of consolidated companies"
Renaming this item increases the transparency of the presentation as the net gains or losses shown here relate solely to consolidated companies that are either fully consolidated or valued at equity. The content of the item remains unchanged.

Changes in estimates are recognised in profit or loss in 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 is adjusted.

The consolidated financial statements are prepared on the assumption that the Bank will continue as a going concern. Accounting and valuation in accordance with IFRS contains values that have been determined permissibly using estimates and assumptions. The estimates and assumptions used are based on past experience and other factors such as planning, expectations and forecasts of future events that appear reasonable 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.

The following matters in particular are affected by estimates, assumptions and discretionary decisions:
– Determination of impairments (IFRS 9):
  Scenarios of the expected cash flows of debt instruments serve as a basis for determining the expected credit defaults. This means that, to determine the impairments, assumptions and forecasts regarding probabilities of default must be made for the payments still to 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. In the financial year, further uncertainty in making estimates arose in particular from macroeconomic scenarios and post model adjustments on account of the current economic situation.

Accounting and Valuation (Continued)

– Determination of fair value:
  HVB Group employs internal valuation models to determine the fair value of financial instruments for which no price is available on an active market. The application of these internal valuation models requires, among other things, assumptions and forecasts, the scope of which depends on the complexity of the financial instruments and the valuation parameters partly derived from market data.
  Determining the fair value of real estate as non-financial assets also involves a certain degree of discretionary decision-making. As owner-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. For example, when using the income approach to determine the fair value of real estate, significant cash flows such as the expected rental income, management costs or other significant parameters such as the expected useful life or the expected vacancy rate are estimated and can subsequently lead to uncertainties in making estimates.
– Provisions:
  Provisions are recognised for present or future obligations and cover the expenditure required to fulfil such obligations. In the process, it is necessary to estimate the amount of this expenditure or these costs and also the time when the obligations are expected to be fulfilled. This involves making assumptions about the actual amount of the costs incurred and, in the case of longer-term provisions, also determining possible cost increases up until the date of fulfilment. In the case of provisions for contingent losses (e.g. for provisions for rental guarantees), it is necessary to estimate both the potential inflows and the potential outflows in order to determine the imminent loss as a difference. For details on the assumptions and estimates made regarding pension provisions, we refer to the Note “Provisions”.
– 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 recognised in accordance with IFRS and the values recognised 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 taken as a basis that are valid or have already been 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. When determining whether sufficient taxable profit will be available in relation to the same tax authority and the same taxable entity in the period in which the deductible temporary difference is reversed, a five-year planning horizon was previously taken as a basis. When reviewing whether the five-year planning horizon is still appropriate, HVB determined that the reasons for limiting the period no longer apply. Consequently, the period was extended to the entire term of the deductible temporary differences. The assumptions made in this connection are subject to uncertainty, as they present a forecast of future developments.
  Furthermore, deferred tax assets are recognised for unused tax losses carried forward and unused tax credits to the extent that their recoverability is justified. 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 also 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 are forfeited if they leave UniCredit first. This makes it necessary to forecast the proportion of employees who 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 2022 financial year are the same as those applied in the consolidated financial statements for 2021, with the exception of the adjustments described in this note and the new IFRS rules to be applied as described in the Note “First-time adoption of new IFRS accounting rules”.

4 First-time 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 2022 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 2022 financial year:
– Amendments to IFRS 3 “Business Combinations” – Reference to the Conceptual Framework (issued on 14 May 2020 / adopted into European law on 28 June 2021).
– 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).
– 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).
– 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).
– 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.

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.

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

HVB Group has decided against the voluntary early adoption of the standards and interpretations adopted or revised by the IASB, which are subject to mandatory adoption for the 2023 financial year or thereafter. HVB Group will adopt 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:

– 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.
– Amendments to IAS 12 "Income Taxes" – Deferred Tax related to Assets and Liabilities arising from a Single Transaction (issued on 7 May 2021 / adopted into European law on 11 August 2022). 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 (issued on 9 December 2021 / adopted into European law on 8 September 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), Classification of Liabilities as Current or Non-current: Deferral of Effective Date (issued on 15 July 2020) and Non-current Liabilities with Covenants (issued on 31 October 2022). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2024.
– Amendments to IFRS 16 "Leases" – Lease Liability in a Sale and Leaseback (issued on 22 September 2022). The rules are subject to mandatory adoption for the first time for financial years beginning on or after 1 January 2024.

HVB Group does not expect these new or amended rules to be adopted 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 107 (previous year: 122) controlled companies, of which 36 (previous year: 39) are classified as structured entities within the meaning of IFRS 12.

	2022	2021
Total controlled companies	254	295
Consolidated companies	107	122
of which structured entities according to IFRS 12	36	39
Non-consolidated companies	147	173
Joint ventures	—	1
of which accounted for using the equity method	—	—
Associates	3	2
of which accounted for using the equity method	1	1

At the reporting date, we had a total of 149 (previous year: 175) 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 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 0.19% (previous year: 5.32%) of the consolidated profit of HVB Group, while such companies provide around 0.16% (previous year: 0.12%) 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 0.11% (previous year: 0.0000002%) of the consolidated profit, their share in the Group capital is 0.0002% (previous year: 0.0003%). 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. The fully consolidated companies prepared their annual financial statements for the period ending 31 December 2022.

In accordance with IFRS 12, 36 (previous year: 39) 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).

Accounting and Valuation (Continued)

The non-controlling interests at 31 December 2022 have no material effect on the consolidated financial statements of HVB Group either individually or in aggregate. At 31 December 2022, third parties hold non-controlling interests in 41 (previous year: 44) 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.

The following companies were newly added to the group of companies included in consolidation at HVB Group in 2022:

– Elektra Purchase No. 350 DAC, Dublin
– PaDel Finance 01 DAC, Dublin
– Rosenkavalier 2022 UG, Frankfurt/Main
– Wealthcap Immobilien Deutschland 46 GmbH & Co. KG, Munich
– Wealthcap Objekt-Vorrat 35 GmbH & Co KG, Munich
– Wealthcap Object-Vorrat 37 GmbH & Co. KG, Munich

The following companies left the group of companies included in consolidation of HVB Group in 2022 due to merger, accretion, imminent or completed liquidation or cessation of control:

– Acis Immobilien- und Projektentwicklungs GmbH & Co. Oberbaum City KG, Grünwald
– European-Office-Fonds, Munich
– GELDILUX-TS-2015 S.A., Luxembourg
– H.F.S. Leasingfonds Deutschland 1 GmbH & Co. KG (Immobilienleasing), Munich
– HVB Capital LLC, Wilmington, Delaware
– HVB Capital LLC III, Wilmington, Delaware
– HVZ GmbH & Co. Objekt KG, Munich
– Hypo-Bank Verwaltungszentrum GmbH & Co. KG Objekt Arabellastrasse, Munich
– Ice Creek Pool No. 2 DAC, Dublin
– Wealthcap Objekt Berlin III 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 in 2022 for materiality reasons:

– HAWA Grundstücks GmbH & Co. OHG Hotelverwaltung, Munich
– HVB Capital LLC II, Wilmington, Delaware
– HVB Funding Trust, Wilmington, Delaware
– HVB Funding Trust II, Wilmington, Delaware
– HVB Funding Trust III, New York
– MOC Verwaltungs GmbH & Co. Immobilien KG, Munich
– NF Objekte Berlin GmbH, Munich
– Sirius Immobilien- und Projektentwicklungs GmbH, Munich
– Solos Immobilen- und Projektentwicklungs GmbH & Co. Sirius Beteiligungs KG, Munich

On account of the deconsolidation of the companies listed above, HVB Group realised a deconsolidation result of minus €4 million (previous-year period: minus €11 million) in accordance with IFRS 10.25 in the income statement under the item “Net gains/losses on remeasurement of consolidated companies”.

Associates
No financial statements at 31 December 2022 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 2022

There were no significant events at this company between the date when the above financial statements were prepared and 31 December 2022 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.

Accounting and Valuation (Continued)

Consolidation is performed by offsetting the purchase price of a subsidiary 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 enterprise 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 enterprise acquired is a business. If in an exceptional case the enterprise 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 enterprises 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 an enterprise 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 enterprise 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 an enterprise 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 intragroup transactions are eliminated.

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 2021 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)
– 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

Finance lease receivables are no longer defined as a separate class in the reporting year. Instead these are combined with the loans and receivables with customers (at cost) class. The respective business operations were conducted primarily by the HVB subsidiary UniCredit Leasing GmbH with its subsidiaries. These already discontinued conducting new business in August 2020 and have been handling the existing volume of business since then. Against this backdrop, there has been a significant decline in the portfolio of finance lease receivables with the result that it is no longer necessary to present these as a separate class for reasons of materiality. The volume of finance lease receivables, which consists solely of loans and receivables with customers, is shown in the Note “Loans and receivables with customers (at cost)” as a separate loan type.

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 notes to the consolidated financial statements and in part in the Risk Report within the Combined Management Report. For information on credit risk, market risk and liquidity risk, please refer to the subsection with the same name in the section “Risk types in detail” in the Risk Report. 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 measurement or portfolio categories and measured in line with this classification. In addition, debt instruments are to 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.

Accounting and Valuation (Continued)

Financial assets are derecognised when either the contractual rights or obligations to pay have expired, for example due to repayment, or all the risks and rewards have essentially been transferred to third parties. In exceptional cases, a significant change in the contractual terms of receivables measured at cost also leads to derecognition. HVB Group did not carry out any transactions in which all the risks and rewards were essentially either transferred or retained. Transactions where the contractual rights to an asset are transferred to third parties but the risks and rewards are essentially retained do not result in the derecognition of the assets.

A liability is derecognised if it has been settled or, in exceptional cases, if there has been a significant amendment in the contractual terms of the liability.

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 subcategories:

– 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 set off for OTC derivatives concluded with the same central counterparty (CCP).
– Assets mandatorily 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 mandatory measurement 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 mandatorily at fair value through profit or loss as well as 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 has not designated any assets at fair value through profit or loss.

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)

Accounting and Valuation (Continued)

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.

The transition has been completed with the exception of USD Libor benchmark rates, the transition of which is planned in 2023. The carrying amount of the derivatives with USD Libor benchmark rates that have not yet been transitioned amounts to €5.2 billion on the assets side and €6.3 billion on the liabilities side, and €5.1 billion for assets with USD Libor benchmark rates.

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 as 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. These are measured using the model for expected credit losses.

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. These are measured using the model for expected credit losses. An exception to this rule are credit commitments where the assets resulting from utilisation 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 along with the principles covering general fair value hedges. The hedge accounting approaches used in HVB Group are presented in the Note “Gains/losses on financial assets and liabilities at fair value”.

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.

Accounting and Valuation (Continued)

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.

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 accordingly against interest rate risk as part of the portfolio fair value hedge. The currency component contained in the CCIRS is not included in the recognised hedge relationship. The fair value result includes the total change in value of the CCIRS.

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 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”.

Accounting and Valuation (Continued)

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

On 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.

The expected credit losses are calculated by multiplying the risk parameters probability of default (PD), loss given default (LGD) and exposure at default (EaD). For details on the presentation of the measurement and management of credit risk, please refer to the statements made on credit risk in the "Risk Report" section of this Combined Management Report.

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 (taking into account forward-looking information and macroeconomic factors):
– allocation of the asset to a stage
– calculation of the expected loss associated with the asset

Allocation to a stage

The three-stage model introduced under IFRS 9 is to be applied consistently to financial instruments that are measured either at amortised cost or at fair value through other comprehensive income. Net write-downs of loans and provisions for guarantees and commitments take into account either the expected losses in the form of one-year losses or the lifetime expected credit loss. Depending on the extent to which the credit risk has increased since initial recognition, the model distinguishes between three stages:
– Stage 1 contains all the financial instruments for which there has been no significant increase in credit risk at the reporting date compared with the date of initial recognition; the expected losses are determined for these in the amount of the 1-year losses.
– Stage 2 contains financial instruments which, although not yet in default, have undergone a significant increase in credit risk since initial recognition; the expected losses are calculated in the amount of the default probability-weighted credit losses of the borrower over the residual period (lifetime expected credit loss).

– Stage 3 contains credit-impaired financial instruments. IFRS 9 does not include a definition of the term “default”. Instead, it requires the reporting entity to provide its own definition that is consistent with its credit risk management practice and is applied consistently to all PD, LGD and EAD parameters. HVB Group defines the term “default” in line with the definition of debtor default according to Article 178 CRR. In particular, the different treatment of multiple defaults in the internal PD, LGD and EAD models is retained in order to preserve internal consistency with IRB approaches as these provide important input data for the IFRS 9 models for the determination of the expected credit loss. In this context, it should be noted that, in addition to quantitative criteria, qualitative criteria are also taken into account for determining a default.

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. The accounting for these instruments is described below in this note under “Impairment losses on receivables in default (Stage 3)”.

HVB Group has exercised the option pursuant to IFRS 9.5.5.10 according to which it can be assumed for debt instruments with a low credit default risk that no significant increase in the credit default risk has occurred. If there is an investment grade rating available, the debt instruments concerned are allocated to Stage 1. An investment grade rating exists if there is a one-year IFRS 9 PD of less than 0.3%.

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.

Method for determining a significant increase in the credit risk (transfer to/from Stage 2)
To identify a significant increase in credit risk leading to a transfer from Stage 1 to Stage 2, the Bank has chosen a statistical approach which applies both quantitative and non-quantitative transfer criteria. The aim is to define a trigger level for the maximum acceptable deviation between the PD measurement upon initial recognition of the financial instrument and the PD as at the reporting date. If the credit risk has significantly increased on the reporting date, the financial instrument is transferred to a different stage. As soon as the credit risk has decreased again, it is transferred from Stage 2 to Stage 1 taking account of a risk-based probation period. The defined trigger levels are determined for each homogeneous portfolio (for example retail, corporate customers). This represents a quantile in each case that determines the average expected portfolio deterioration that is calculated taking account of the default rate. The financial instruments classified at Stage 2 fluctuate around the quantile depending on the current economic environment and expectations about the future economic cycle, whereby the fluctuations might be greater if the macroeconomic information is specified by sector.

Quantitative criteria: transfer risk model
The target quantitative transfer criterion is based on the idea that a credit risk is considered to have increased significantly if the ratio between the lifetime PD as at the reporting date and the lifetime PD on initial recognition (extension of credit) exceeds a predefined trigger level that was determined on the basis of historical data. The most important influencing factors for the quantitative transfer criterion are the estimated probabilities of default of the debtor (PD) on initial recognition, the residual term and the age of the financial instrument as at the reporting date.

Accounting and Valuation (Continued)

A statistical model based on quantile regression was introduced to implement the quantitative component for the allocation of assets to stages. The quantiles and how the individual influencing factors are taken into account (such as the PD on the date of the commitment, age and residual term) differ depending on the portfolio. Essentially, the historical default rate of the portfolio concerned is used as a basis to determine the quantile.

Qualitative criteria for allocation to Stage 2
In addition to the quantitative transfer criteria from the statistical transfer model, further criteria are defined that trigger a transfer in levels. For example, the payment default criterion (30 days past due) is taken into account as a qualitative Stage 2 criterion. Moreover, the qualitative criteria for a transfer to Stage 2 have been expanded and are based on both specific criteria and internal processes. This serves to ensure that changes indicating financial difficulties automatically and rapidly result in a transfer. This includes:

- Tripling of the lifetime PD at the reporting date: a transfer to Stage 2 is triggered if the lifetime PD at the reporting date is three times higher than the PD on initial recognition of the financial instrument, provided that the financial instrument is not classified as a financial instrument with a low credit risk as defined by IFRS 9.5.5.10. Such an approach is in line with the general expectation that was addressed to banks in the ECB's letter entitled "Identification and measurement of credit risk in the context of the coronavirus (Covid-19)" and is also contained in the ECB Asset Quality Review Manual.
- Introduction of a trigger level for the PD of at least 20% as a criterion for Stage 2: this trigger level serves to identify financial instruments that have a high risk of being migrated to Stage 2 or even to Stage 3. This trigger level is also described in the ECB Asset Quality Review Manual.
- Expansion of the qualitative Stage 2 criteria to include results from internal credit risk monitoring processes: debtors subject to close, internal credit monitoring are allocated to Stage 2 as inclusion in closer internal credit monitoring is likewise seen as a significant increase in the credit risk.
- Another criterion for allocation to Stage 2: non-defaulting debtors to whom concessions were made due to current or expected financial problems to maintain principal payments and solvency are allocated at least to Stage 2 (forborne performing).
- Introduction of a three-month probation period for a transfer from Stage 2 to Stage 1 if quantitative and/or qualitative conditions underlying the significant increase in credit risk are not met. IFRS 9.B5.5.27 implies that a debtor must furnish proof of consistently good payment conduct over a specific period before the credit risk can be considered to be lower. In line with this, a probation period has been introduced, which means that after a debtor's creditworthiness has improved or after meeting the criterion for transfer to Stage 1, the debtor must generally meet the criteria for allocation to Stage 1 for a further three months before the transfer is actually made. A risk-based probation period is applied solely for non-defaulting forborne cases. This ensures that the transactions remain at Stage 2 for a minimum period that complies with the regulatory probation period/minimum duration before they are allocated to Stage 1 again. This serves to prevent a premature transfer to Stage 1 as the debtor still has an increased credit risk compared with the other financial instruments in Stage 1.

Determination of the expected credit loss (ECL)
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. This primarily applies to conservativity premiums, adjustments to phases of economic weakness, minimum regulatory requirements and indirect costs. Furthermore, all legally valid collateral has been taken into account.
– 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 in scenario analyses is included and 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, which are 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. In addition, 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 forecast of 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. In the reporting year. the new LGD model developed according to the EBA “Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures“ was introduced as an IRB model. The effect on the ECL was already anticipated in 2021 with the aid of an LGD post model adjustment. This was able to be completely reversed on the introduction of the new LGD model.
– To determine the multi-year exposure at default (EaD), the parameters used by the regulatory authorities are adjusted for conservative elements due purely to 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 contractual 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.

Regular calibrations and expansions of the time series are carried out in the course of the annual model review, which means that information on the determination of ECLs is based on updated information. 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 the 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.

Accounting and Valuation (Continued)

Forward-looking macroeconomic scenarios
The process for incorporating macroeconomic scenarios into the ECL determination 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 scenario), 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 attributed probabilities of occurrence.

At year-end 2022, the baseline scenario is attributed a probability of occurrence of 60% and the adverse scenario a probability of occurrence of 40%. In this context, the classification of the scenarios remains unchanged compared with the half-year and does not envisage a positive scenario.

The multifaceted effects on the global economy in the wake of the COVID-19 pandemic were made more complex and severe by the invasion of Ukraine by Russian forces in February 2022. At year-end 2022, there is still uncertainty in assessing risks, some of which are interdependent. The supply bottlenecks seen at the end of 2021 continued to ease in the course of 2022. The energy supply bottlenecks and rising energy costs caused by trade restrictions and sanctions are driving the high inflation rate up and leading to higher interest rates. Overall, the risk situation has become more acute compared to the first half of the year. HVB Group has used two main scenarios to present the forecasts for the continuation of these trends: firstly, a mild recession scenario (baseline scenario) and secondly, the severe recession scenario (adverse scenario).

– The baseline scenario reflects the mild recession expected by HVB Group. It shows the decline in Russian gas exports in line with recent observations. It is assumed that most countries will not need to put gas rationing in place. The countermeasures already taken by countries (high storage levels, LNG terminals and reductions in the use of gas) are considered compensatory to counteract low (or even a complete breakdown in) Russian gas supplies. The scenario is marked by high energy prices, weak global trade and a persistent shortage of supply that also affects food and commodity prices. The average oil price is expected to gradually return to normal in 2023 with an annual average of around USD 100 per barrel. In addition, a restrictive ECB interest rate policy is assumed.
  The baseline scenario assumes deteriorating growth prospects along with subdued global growth in 2022 and even less growth in 2023. The slow-down reflects the tighter financial conditions, rising energy bills in Europe and the contagion effect of less economic momentum in the USA, Europe and China. Supply bottlenecks have eased further but are still at a high level compared with the situation before the COVID-19 pandemic. High surplus savings and the tight labour market indicate that the recession will tend to be mild.
  In the USA, GDP growth is expected to be close to zero. In particular, the manufacturing sector and interest-sensitive sectors (housing and consumer goods) have come under pressure. Inflation is expected to fall by year-end 2022, thus reducing the gap to the target of 2%. In addition, it is assumed that the key interest rates of the FED in the USA will rise again by the third quarter before a downward trend sets in.
  In the eurozone, there will be a standstill in GDP growth in 2023 with a technical recession expected towards the end of the first quarter of 2023. Inflation will increase in the final months of 2022 and will only gradually fall again in 2023. In terms of monetary policy, the ECB deposit facility rate is expected to be raised again at the end of 2022 and in 2023 before a downward trend in interest rates sets in.

The German economy is likely to have already entered a recession in the course of summer 2022. A contraction in economic activity is expected for three quarters in a row (from the third quarter of 2022 until the first quarter of 2023). For Germany, a decline in GDP from 1.4% in 2022 to minus 0.2% in 2023 is expected before GDP growth is anticipated to recover to 1.6% in 2024 and 2025. In this context, it is assumed that sufficient gas will be available to support the activities of companies. The main reasons for the recession from the third quarter of 2022 until the first quarter of 2023 are rising gas and electricity prices and the cooling of the global economy. These two factors are already having a negative effect on the manufacturing sector. Particularly energy-intensive sectors such as chemicals, base metals etc., which account for around three quarters of the total industrial energy consumption in Germany, are severely affected. In response to higher energy prices, households have reduced spending. The downward pressure both in companies and in the domestic sector will become stronger in the coming months despite the German government having recently announced its third aid package.

– The adverse scenario depicts the scenario of a “severe recession”. In this scenario, it is assumed that there will be a complete halt in Russian gas supplies with little substitution from other sources which will lead to interruptions in the supply chain. The severe recession scenario is consistent with a further escalation of the Russia-Ukraine conflict.
  Higher energy prices compared with the baseline scenario (an oil price expected to be around 25%-30% higher on average for 2023 to 2025) and a sharp rise in food and commodity prices will drive inflation up. A high level of uncertainty, the erosion of real incomes and further supply interruptions beyond the effects of the COVID-19 pandemic will lead the European economy into a recession in 2023. For Germany, GDP is expected to contract more strongly compared with the baseline scenario, with GDP declining to minus 3.4% for 2023 and recovering to 2.3% in 2024 and 2.0% in 2025. Furthermore, inflation is expected to be higher in 2023 and 2024 and consequently, interest rates higher in the medium term. In line with the baseline scenario, it is assumed that inflation will settle at the ECB target of 2% in 2025. The assumptions regarding ECB monetary policy reflect the assumptions in the baseline scenario.

Post model adjustments

The multifaceted effects on the global economy in the wake of the COVID-19 pandemic have become more complex and severe since February 2022. At year-end 2022, there is still uncertainty when assessing risks that are partly interdependent. The supply bottlenecks that existed at year-end 2021 continued to ease over 2022. The Bank took this as an opportunity to completely reverse the loan-loss provisions set aside in 2021 in respect of the COVID-19 pandemic and supply bottlenecks and carry out a revaluation.

Geopolitical post model adjustments due to the Russia-Ukraine crisis

During 2022, the uncertainties about economic activities that arose on account of the COVID-19 pandemic gradually dissipated. This was impressively shown by the lifting of measures taken by governments to combat the pandemic. The supply chain risk has also lost importance as a new geopolitical situation has developed. In actual fact, the beginning of the Russia-Ukraine conflict acted as headwind for economic growth. The economic forecasts for the eurozone have been revised, inflation pressure has increased and the rise in interest rates has accelerated.

To take account of risks resulting from the sudden increase in energy costs, inflation and interest rates both for companies and private individuals, geopolitical post model adjustments were made in 2022.

Accounting and Valuation (Continued)

In this context, the introduction of post model adjustments is to be seen as a supplementary measure to the IFRS 9 models that, on account of their structure alone, are able to capture the effect of geopolitical crises directly and to an appropriate extent. For example, IFRS 9 models and particularly the satellite models can depict the impact of the macro-scenario at portfolio level. In addition, the geopolitical post model adjustments affect certain sub-portfolios that are particularly susceptible in view of the existing geopolitical impact and adverse conditions.

The geopolitical post model adjustment amounts to €191 million at 31 December 2022 and is based on the following components:

- Companies from energy-intensive sectors as these are more susceptible to the consequences of the Russia-Ukraine crisis, in particular in terms of energy supply and the related increase in prices
- Individual customers,
    - with a variable interest mortgage loan (without overdue instalments) as these are seen as being particularly susceptible to rising interest and inflation rates, or
    - that are overdue with one instalment payment on at least one loan, as these customers are seen as being particularly vulnerable in the light of the current situation.

The financial instruments meeting the above criteria are identified for the calculation. As a next step, a satellite model is applied to determine the impact on the default rates, which are based on the macroeconomic conditions of a multi-year recession scenario. The resulting adjusted default rates serve as a basis for determining the additional general valuation allowances per financial instrument identified.

Russia exposure

The expected credit loss relating to credit facilities with Russia as a risk country is calculated on the basis of an internal rating, which is comparable to an external CCC rating. In the process, the risk is determined at transaction level. Furthermore, the offshore risk is seen as additionally increased, which resulted in a post model adjustment of €19 million.

(Partly) bullet financing

In the course of 2022, the method for calculating the expected credit losses for credit products maturing at the end of the term was revised. Most of the principal repayments or the total principal repayment is made for these products shortly before the financing reaches maturity. There is no reduction of the risk over the course of time, which is reflected in the level of exposure. Instead, bullet financing is subject to a considerable refinancing risk on the part of the borrower, which is characterised in particular by the current economic risks. Therefore, this risk component is included when taking account of the classification at Stage 2 as well as in the respective PD lifetime definition. As the technical realisation and implementation requires a lead time, the revised method is intended to be finally implemented in the ECL models from a technical perspective in 2023. To anticipate the resulting effect at year-end, a post model adjustment of €177 million at transaction level was carried out. This approach is in line with regulatory requirements.

Sensitivity of expected credit losses
The sensitivity of the expected credit loss compliant with IFRS 9 relating to the German GDP in the fourth quarter of 2022 as an important factor for the determination of the expected credit losses was estimated.

In the process, the sensitivity was determined based on the ratio
– of the difference between the expected credit loss for the adverse scenario compared with the baseline scenario
– and the GDP deviation (on a three-year cumulative basis) between the two scenarios in percentage points

The implicit assumptions for this are:
– GDP forecast (over three years) is assumed as being the most relevant economic factor and thus as an indicator for the severity of the scenario
– For each legal entity, the GDP of the reference country is taken into account when calculating the respective sensitivity
– In view of the relevance, it is assumed that the percentage ECL sensitivity (compared with three-year GDP deviations) of portfolios, which are managed uniformly at UniCredit level, is identical to the Italian percentage ECL sensitivity.

Taking the current IFRS 9 scenarios and portfolios into account, the results are as follows:
In the event of a decline in GDP by one percentage point (cumulative over three years), the expected credit loss is expected to increase by around +5%.

Deterioration in creditworthiness (Stage 3)
The HVB Group units responsible for the restructuring or workout of non-performing exposures determine the future incoming payments for credit-impaired 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 credit-impaired exposures that are insignificant in terms of amount in line with the method used in determining the expected credit losses.

If the creditworthiness of the borrower of a debt instrument has deteriorated, 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, a deterioration in creditworthiness has occurred when a material liability of the borrower is past due 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 are generally discounted using the original effective 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.

Accounting and Valuation (Continued)

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 generally compounded at the original effective interest rate of the debt instrument over the reporting period. 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 initially recognised.

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 the general treatment of transfer risks (country risk), please refer to the presentation of credit risk in the Risk Report.

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. Credit losses expected upon initial recognition are already taken into consideration in the carrying amount (fair value) when posting assets. The carrying amount (fair value) upon recognition represents the present value of the expected payments that are discounted at the credit-risk-adjusted market interest rate. As a result, no impairment is recorded for POCI assets upon initial recognition. In the course of subsequent measurement, these assets are measured on the basis of the loss anticipated over the (residual) term to maturity; however, in the case of higher expected inflows than assumed upon initial recognition, 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. 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 there is a further substantial adjustment to the conditions. 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 creditworthiness, such a waiver represents objective evidence of the borrower defaulting. The derecognition of payments due or of future repayments of principal caused by an issued waiver is recognised in the income statement, provided an allowance had not already been set aside for this in the past.

If the modification of the contractual agreement does not result in the derecognition of the receivable or part of the receivable on account of the waiver of payments due or of future repayments of principal 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 contractual modification). 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 “Net write-downs of loans and provisions for guarantees and commitments”.

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 generally subject to scheduled depreciation on a straight-line basis over the shorter of the expected useful life of the right-of-use asset or the underlying asset and the term of the lease agreement. A detailed description of the leases including the consequences of any agreements, e.g. on purchase options, is provided in the Note “Lease operations”.

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 the higher of the fair value less costs to sell and the value in use. The recoverable amount is generally 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.

Accounting and Valuation (Continued)

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.

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.

Accounting and Valuation (Continued)

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 generally amortised on a straight-line basis over the shorter of the expected useful life of the right-of-use asset or the underlying asset and the term of the lease. If, however, 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 remaining economic life of the underlying asset. 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, written down 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.

Any 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 HVB 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”.

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.

Accounting and Valuation (Continued)

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 described. Lease income from operating leases is recognised on a straight-line basis over the term of the respective lease and shown under other income in the “Net other expenses/income” item. 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 must review these values at regular intervals.

Any 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.

Accounting and Valuation (Continued)

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.

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. or its legal successor UniCredit S.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 previous years, 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.

At its meeting on 27 October 2022, the ECB's Governing Council decided to adjust the interest rate for TLTRO III operations: the previous interest rate regulation ends on 23 November 2022. From this date onwards, only the average rate for main refinancing operations and the average rate on the deposit facility will be applicable to TLTRO III operations for the final interest period (from 23 November 2022 until repayment of the TLTRO III operations). This means that it is no longer necessary to calculate the average over the entire term of the respective TLTRO III operation as previously. In parallel, a repayment option was introduced on 23 November 2022 in addition to the old conditions. HVB made use of this option and repaid a partial amount. The change in conditions is a material amendment of the contractual conditions so that the TLTRO III operations recognised so far must be derecognised.

Accounting and Valuation (Continued)

The TLTRO III operations recognised to date in the balance sheet have been accrued until 23 November 2022 or until derecognition based on the effective interest rate method described above. In return, a refinancing operation with the ECB is entered on 23 November 2022 at standardised, variable interest at the amount of the contractual repayment claim of the previous TLTRO III operations. This is the partial amount that HVB did not repay to the ECB on that date. The adjustment of the conditions also reflects the change in the ECB's objective for the TLTRO III programme: these conditions no longer serve to achieve price stability in the Eurosystem and to stimulate economic development by expanding the lending volume but are now purely refinancing operations between the ECB and banks.

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 with the exception of the own credit spread 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
Changes in the hedged amount of hedged items are carried on an aggregated basis 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.

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.

Provisions are generally set aside at the expense of the respective expense items, only provisions for legal risks, provisions for onerous contracts and other items falling under the scope of IAS 37 are set aside or revised via the item “Transfers to provisions”.

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.

Accounting and Valuation (Continued)

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 out 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 amounts recognised in accordance with IFRS and the amounts recognised 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 presentation of future tax assets and liabilities (liability method), they are calculated using the relevant local tax rates that are expected to apply when the differences are reversed. Deferred tax assets and liabilities are netted provided the offsetting requirements defined in IAS 12 are met.

In the context of measuring deferred taxes, it is necessary to check whether sufficient taxable income/expenses are generated that can be offset against the temporary tax differences (impairment test for deferred taxes). For this purpose, it is also necessary to estimate a time period within which such offsetting can take place. This estimate of the time period must be continuously reviewed, analogously to all other estimates, to determine whether the assumptions made are still correct. In the course of this review, HVB concluded that an adjustment of the period is appropriate in order to take account of the period in which the taxable result is generated. Therefore, this period for the recognition of deferred taxes in connection with pensions was extended to the total term of the pension commitments granted and for the remaining temporary differences to 10 years from the previous uniform five years. Compliant with IAS 8.38, the effects from adjusting the estimate are prospectively recognised which means that income of €131 million is recognised in the income statement under the item "Income tax for the period" and an amount of €301 million in other comprehensive income under the item "Taxes on income and expenses not to be reclassified to the income statement in future periods" in the 2022 financial year.

Segment Reporting

29 Changes in segment reporting

In the course of the first half of 2022, HVB Group aligned its internal management with UniCredit's management. We carried out this alignment retroactively. HVB Group is therefore managed internally on the basis of the same parameters also used to manage HVB Group from UniCredit's perspective. Consequently, HVB Group is UniCredit's "Germany" segment. The uniform management concepts increase the transparency of the HVB subgroup's financial statements, as the information provided in HVB Group's segment reporting is compatible with the information that UniCredit communicates to the capital market.

HVB Group is thus divided into the following operating segments as at 31 December 2022:

– Retail
– Corporates
– Other

The adjustment made in 2022 mainly concerns the new structure of the operating segments. The presentation of the segmented income statement has remained largely unchanged compared with the previous year. Management on the basis of loans and receivables with banks is no longer carried out. The differences between the segmented income statement and the income statement are addressed in the reconciliation. The changes in recognition in 2022 relate to the following items:

– Losses from the closing of derivatives on account of the sanctions imposed on Russian banks are not shown under net trading income but instead under net write-downs of loans and provisions for guarantees and commitments (€94 million); this only affects the first half of 2022.
– Reallocation of the share in commission in connection with the placement of securities and derivatives in the amount of €113 million from net trading income to net fees and commissions in the reporting period (previous-year period: €74 million).
– Elimination of €9 million in net write-downs of loans and provisions for guarantees and commitments posted in HVB for group-affiliated companies in Russia, as this is an internal group matter from the Group's perspective which is eliminated in the course of consolidation and is therefore irrelevant for tax purposes (only concerns the reporting period).
– Reallocation of interest expense for pension provisions in the amount of €6 million from payroll costs to interest expense in the reporting period (previous-year period: €11 million).
– The calculation of the return on investment for the average tied core capital has been changed such that the base rate according to the book of own funds plus a premium in the amount of the average spread curve for the medium- and long-term lending business of HVB Group is now only applied to the average tied core capital in respect of credit risk and no longer to the total average tied core capital. Only the base rate according to the book of own funds is now applied to the remaining average tied core capital calculated.
– Imputed cost of equity, for which an amount of €17 million was recognised in the previous-year period, has not been charged.
– Contrary to the presentation in the income statement, the integration of the local activities of UniCredit Services S.C.p.A. into HVB is presented retrospectively in the segmented income statement. The retrospective adjustment is made to compare current figures with the previous-year figures. In the previous-year period, this resulted mainly in a €40 million increase in payroll costs and a €51 million decrease in other administrative expenses. In addition, there were retrospective adjustments in the reporting year until the activities were integrated into HVB. This mainly involves a €18 million increase in payroll costs and a €24 million decrease in other administrative expenses.

Due to rounding, minor deviations can occur when calculating totals and percentages.

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:

- Retail
- Corporates
- Other

Segment reporting is based on the internal organisational and management structure together with internal financial reporting which reflect the perspective of the UniCredit corporate group and thus do not take facts into account that are not relevant for the UniCredit corporate group. 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 profit or loss after tax serves as the relevant result. The segment data are determined in principle in accordance with International Financial Reporting Standards (IFRS) and adjusted for the facts presented below. 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 13.00% (previous year: 12.00%) 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 according to the book of own funds. Like in the previous year, it amounts to 0.49% in the 2022 financial year. In addition, a premium for credit risk is charged in the amount of the average spread curve for the medium- and long-term lending business of HVB Group. This percentage rate changed to 0.40% in the 2022 financial year after 0.43% in the previous year. This rate is set for one year in advance as part of each budgeting process. 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 Operations Germany (COO), Chief Digital & Information Officer (CDIO) and Corporate Center business areas 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 business area.

The profit of €3 million (previous year: €12 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 previous year. The company is assigned to the Corporates 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 €13 million (previous year: €12 million). In the reporting year, a write-up of €2 million was made on the carrying amount of the companies accounted for using the equity method (previous year: value adjustment of €2 million), which is reported under net income from investments.

31 Components of segment reporting by operating segment

Retail operating segment

The Retail operating segment is subdivided into the Retail and Private business areas. The Retail business area serves retail customers as well as small business customers requiring simple and standardised products and advice in all areas of demand. The Private business area bundles wealth management and private banking customers.

In the retail customer business, HVB’s financial concept promotes a high standard of quality in advisory services. 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 are set to 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 Smart Banking service model used in this context is based on the seamless integration of the branch network as well as remote and digital channels for customers requiring standardised products and services.

In line with the universal bank model, the range of products and services of the Retail operating segment enables comprehensive customer support to be provided. In the Retail business area, 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 short- and long-term business loans for small business customers. In the Private business area, customised portfolio concepts, financing solutions as well as the brokerage of corporate investments are also offered to high net worth private customers with an entrepreneurial background.

Corporates operating segment

The Corporates operating segment bundles the corporate banking business. In this context, we position ourselves as a strategic partner with complete and customised solutions for corporate customers. This segment covers the SME and Large Corporates business areas and serves the entire spectrum of small and medium-sized through to large companies.

In the SME business area, we maintain regional presence in the market. In doing so, we use differentiated relationship models to target our corporate customers depending on the needs of each customer. This enables resources to be distributed in line with heterogeneous market conditions and thus the earnings potential to be effectively exploited in each region.

Segment Reporting (Continued)

Regional relationship management covers tailored financing offers, for example through the use of subsidies 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 and special advisory services are offered, like in the Mergers & Acquisitions business area.

The Large Corporates business area covers large corporate customers requiring highly complex services who are managed in the Industry Coverage sub-area. The quality of service in this sub-area lies in exploiting our strengths – our wide range of products, in-depth sector know-how and creation of customised customer solutions – in our customer relationships whilst assuming a leading core bank role. In addition to the brokerage of insurance products and ESG products, the range of products and services also covers the entire product portfolio of Client Solutions.

Furthermore, the customer relationship management of Financial Institutions (FI), the proprietary Private Investor Products business ("PIP") as well as activities in our international network are shown within the Large Corporates business area.

In the Financial Institutions business, selected FI customers are provided with the entire UniCredit platform simply and efficiently and served in dedicated teams for banks, insurances, fund managers and public institutions. In PIP, we offer private investors risk management solutions and investment products through our own or third-party networks. As a rule, the complete range of the Bank's products is available to corporate customers and to financial institutions at HVB's foreign branches.

In detail, the range of products and services of Corporates includes the following products of Client Solutions, UniCredit's global product factory:

- Specialised Lending (SL) provides access to financial services with a diversified range of products that extends from core banking relationship products through to highly specialised and structured financing.
- Advisory & Capital Markets (A&CM) offers our customers access to market-leading capital procurement and advisory services by combining M&A expertise with content creation at industry sector level.
- Transactions & Payments 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.
- Client Risk Management is a customer-oriented product area that supports business with UniCredit's corporate and institutional customers as an integral part of the value chain. This product area extends over all asset classes: interest, currencies, 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 third-party networks.

Other business area
The Other business area (Central Functions) combines the remaining areas not directly relating to customers: Operations Germany (COO), Chief Digital & Information Officer (CDIO), Corporate Center and Treasury. Furthermore, payments recognised through profit or loss between the individual companies belonging to and consolidated within HVB Group are also reported under this area. The respective amounts are of minor importance.

The COO business area sees itself as a central internal service provider for the Bank's day-to-day operations. While the Bank's sales units conclude business transactions with customers, the COO business area attends to the further handling of internal processes insofar as these are within its remit. The activities of the COO cover core banking and investment banking operations. In addition, the COO business area is responsible for the physical security of the Bank's customers, employees and assets, crisis management, strategic real estate management, logistics, cost management, outsourcing and third-party management. Payments, securities settlement, parts of back-office processing, purchasing and facility management are purchased from outside sources and managed through what is known as the Retained Organisation functions in COO.

CDIO manages the entire digital transformation of HVB. The division supports the achievement of business and corporate objectives vis-à-vis customers and employees and fosters a digital culture within HVB Group through targeted initiatives with internal and external stakeholders.

CDIO bears overall responsibility for the digital agenda for retail and corporate customers, including steering the digital roadmap. This involves creating state-of-the-art customer experiences across all channels (e.g. online, app, remote, smart banking, branches) and digital products (e.g. accounts and payments, lending, deposits and investments as core banking products) and providing support in simplifying related products.

The division is also responsible for promoting and coordinating the implementation of HVB's data strategy, supporting relevant functions relating to data architectures and products, developing local data products and enhances analytical skills for both the retail and the corporate customer business. CDIO protects HVB's digital services against risks in the context of information security threats in line with the Group's digital security strategy and at the same time fosters the introduction of best practices for cyber security. Further focal points are the management and control of the most important IT governance processes. In addition, CDIO is the central unit for simplifying processes, for contract management with specific partners and service providers as well as for monitoring products and services provided to HVB Group by the Group's IT structures.

The Corporate Center includes the Finance, CRO (Chief Risk Office) and CEO (Chief Executive Office) business units as well as profits and losses generated by other banking activities, consolidated subsidiaries and non-consolidated holdings that are not assigned to any other business area. Furthermore, this business area incorporates the net income from securities portfolios for which the Management Board is responsible. It also contains components of profit or loss from decisions taken by management with regard to asset/liability management. In addition, the Corporate Center business area incorporates the Real Estate Restructuring customer portfolio.

Treasury is responsible for funding, interest rate management and cash pooling. The main components of income come from securities portfolios where income is generated through maturity transformation and spread components. Further earnings drivers are short-term interest rate and liquidity management where spreads contribute to profits. Collateral Trading generates both interest and commission income.

Segment Reporting (Continued)

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 is contained in the disclosures regarding the income statement in these notes to the consolidated financial statements.

32 Income statement, broken down by operating segment

Income statement, broken down by operating segment for the period from 1 January to 31 December 2022

INCOME/EXPENSES (€ millions)	RETAIL	CORPORATES	OTHER	HVB GROUP
Net interest	783	1,782	28	2,593
Dividends and other income from equity investments	1	3	1	5
Net fees and commissions	517	698	(25)	1,190
Net trading income	39	913	204	1,156
Net other expenses/income	21	44	41	106
OPERATING INCOME	**1,361**	**3,440**	**249**	**5,050**
Payroll costs	(376)	(492)	(549)	(1,417)
Other administrative expenses	(594)	(927)	529	(992)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(5)	(15)	(89)	(109)
Operating costs	**(975)**	**(1,434)**	**(109)**	**(2,518)**
OPERATING PROFIT/(LOSS)	**386**	**2,006**	**140**	**2,532**
Net write-downs of loans and provisions for guarantees and commitments	60	(399)	(53)	(392)
NET OPERATING PROFIT/(LOSS)	**446**	**1,607**	**87**	**2,140**
Provisions for risks and charges	(8)	(246)	(9)	(263)
Restructuring costs	2	(78)	(5)	(81)
Net income from investments	(8)	4	9	5
PROFIT/(LOSS) BEFORE TAX	**432**	**1,287**	**82**	**1,801**
Income tax for the period	(133)	(414)	13	(534)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**299**	**873**	**95**	**1,267**
attributable to the shareholder of UniCredit Bank AG	299	873	95	1,267
attributable to minorities	—	—	—	—

Reconciliation of the segmented income statement to the income statement from 1 January to 31 December 2022

INCOME/EXPENSES (€ millions)	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSI-FICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
Net interest	2,593	33	—	2,626
Reallocation of net interest from specific held-for-trading portfolios		55	—	
Compounding of provisions and of provisions for contingent liabilities		(5)	—	
Effect of derecognition of TLTRO III		(23)	—	
Interest expense for pension provisions		6	—	
Dividends and other income from equity investments	5	27	—	31
Dividends from assets mandatorily at FVTPL		27	—	
Net fees and commissions	1,190	(70)	—	1,120
Expense for purchased securities services for held-for-trading portfolios		43	—	
Share of commission from the placement of securities and derivatives		(113)	—	
Net trading income	1,156	(363)	—	793
Financial assets mandatorily at FVTPL		69	—	
Financial liabilities designated at FVTPL		113	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		(17)	—	
Hedge accounting effects		(404)	—	
Fair value measurement of equity instruments		(46)	—	
Buy-backs of securities issued – recognised at cost		(4)	—	
Net gains/(losses) on the sale of performing securities (hold-to-maturity business model)		(5)	—	
Dividends from assets mandatorily at FVTPL		(27)	—	
Reallocation of net interest from specific held-for-trading portfolios		(55)	—	
Closing costs for derivatives with Russian banks		(94)	—	
Share of commission from the placement of securities and derivatives		113	—	
Net gains/(losses) on the sale of non-performing securities (hold-to-maturity business model)		(6)	—	
Net gains/(losses) on financial assets and liabilities at fair value	n/a	288	—	288
Financial assets mandatorily at FVTPL		(69)	—	
Financial liabilities designated at FVTPL		(113)	—	
Net gains/(losses) on the sale of securities (held-for-sale business model)		17	—	
Hedge accounting effects		404	—	
Fair value measurement of equity instruments		46	—	
Net gains/(losses) on non-consolidated subsidiaries mandatorily at FVTPL		3	—	
Net gains/(losses) on derecognition of financial instruments measured at cost	n/a	29	—	29
Net gains/(losses) on the sale of performing loans and receivables, and securities (hold-to-maturity business model)		2	—	
Effect of derecognition of TLTRO III		23	—	
Buy-backs of securities issued – recognised at cost		4	—	
Net other expenses/income	106	(241)	(4)	(138)
Net gains/(losses) on the sale of performing loans and receivables (hold-to-maturity business model)		3	—	
Income from the valuation/disposal of investment properties and operating leases		(4)	—	
European bank levy		(241)	—	
Other effects		1	7	
Elimination of UCI-intragroup transaction CEE		—	(27)	
Adjustment of managerial scope of consolidation		—	15	
Retrospective intragroup transfer from UniCredit Services S.C.p.At		—	1	
OPERATING INCOME	**5,050**	**(297)**	**(4)**	**4,749**
Payroll costs	(1,417)	(6)	8	(1,415)
Adjustment of managerial scope of consolidation		—	(10)	
Retrospective intragroup transfer from UniCredit Services S.C.p.A.		—	18	
Interest expense for pension provisions		(6)	—	
Other administrative expenses	(992)	(67)	(29)	(1,087)
Adjustment of managerial scope of consolidation		—	(5)	

Segment Reporting (Continued)

INCOME/EXPENSES (€ millions)	INCOME STATEMENT, BROKEN DOWN BY OPERATING SEGMENT	RECLASSI-FICATION	ACCOUNTING AND VALUATION DIFFERENCES	CONSOLIDATED INCOME STATEMENT
Retrospective intragroup transfer from UniCredit Services S.C.p.A		—	(24)	
Deposit insurance scheme		(30)	—	
Other effects		(1)	—	
Expense for purchased securities services for held-for-trading portfolios		(43)	—	
Depreciation on leasehold improvements in buildings		7	—	
Amortisation, depreciation and impairment losses on intangible and tangible assets	(109)	(1)	1	(109)
Depreciation on leasehold improvements in buildings		(7)	—	
Retrospective intragroup transfer from UniCredit Services S.C.p.A		—	1	
Net write-ups and write-downs on land and buildings		6	—	
Operating costs	**(2,518)**	**(74)**	**(20)**	**(2,611)**
OPERATING PROFIT/(LOSS)	**2,532**	**(371)**	**(24)**	**2,138**
Net write-downs of loans and provisions for guarantees and commitments	(392)	102	(9)	(299)
Impairments/writebacks of securities at cost and at FVTOCI		1	—	
Net gains/(losses) on the sale of non-performing securities (hold-to-maturity business model)		6	—	
Compounding of provisions for contingent liabilities		1	—	
Closing costs for derivatives with Russian banks		94	—	
Valuation allowances relating to group-affiliated companies in Russia		—	(9)	
NET OPERATING PROFIT/(LOSS)	**2,140**	**(269)**	**(33)**	**1,839**
Provisions for risks and charges	(263)	275	—	11
European bank levy and deposit guarantee scheme		271	—	
Compounding of provisions		4	—	
Irrevocable payment commitments provided for bank levy and deposit guarantee scheme recognised as an expense		—	—	
Restructuring costs	(81)	—	—	(80)
Net income from investments	5	(4)	(1)	—
Impairments/writebacks of debt securities at cost and at FVTOCI		(1)	—	
Income from the valuation/disposal of investment properties and operating leases		4	—	
Net gains/losses on remeasurement of consolidated companies		2	(1)	
Net gains/(losses) on non-consolidated subsidiaries mandatorily at FVTPL		(3)	—	
Net write-ups and write-downs on land and buildings		(6)	—	
Net gains/(losses) on remeasurement of consolidated companies	n/a	(2)	—	(2)
PROFIT/(LOSS) BEFORE TAX	**1,801**	**—**	**(34)**	**1,768**
Income tax for the period	(534)	—	68	(467)
Tax on valuation allowances relating to group-affiliated companies in Russia		—	—	
Elimination of UCI-intragroup transaction CEE		—	8	
Other effects		—	(2)	
Differences arising from the adjustment of the estimated deferred taxes between UniCredit and HVB		—	62	
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**1,267**	**—**	**34**	**1,301**
attributable to the shareholder of UniCredit Bank AG	1,267	—	34	1,301
attributable to minorities	—	—	—	—

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

INCOME/EXPENSES (€ millions)	RETAIL	CORPORATES	OTHER	HVB GROUP
Net interest	619	1,636	267	2,522
Dividends and other income from equity investments	1	12	4	17
Net fees and commissions	516	653	(21)	1,148
Net trading income	41	583	38	662
Net other expenses/income	21	26	62	109
OPERATING INCOME	**1,198**	**2,910**	**350**	**4,458**
Payroll costs	(401)	(536)	(567)	(1,504)
Other administrative expenses	(624)	(972)	541	(1,055)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(5)	(16)	(91)	(112)
Operating costs	**(1,030)**	**(1,524)**	**(117)**	**(2,671)**
OPERATING PROFIT/(LOSS)	**168**	**1,386**	**233**	**1,787**
Net write-downs of loans and provisions for guarantees and commitments	(37)	(88)	8	(117)
NET OPERATING PROFIT/(LOSS)	**131**	**1,298**	**241**	**1,670**
Provisions for risks and charges	(61)	(328)	(19)	(408)
Restructuring costs	(289)	(322)	(6)	(617)
Net income from investments	(3)	(2)	(13)	(18)
PROFIT/(LOSS) BEFORE TAX	**(222)**	**646**	**203**	**627**
Income tax for the period	70	(348)	40	(238)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**(152)**	**298**	**243**	**389**
attributable to the shareholder of UniCredit Bank AG	(151)	298	242	389
attributable to minorities	—	—	—	—

Segment Reporting (Continued)

Development of the Retail operating segment

INCOME/EXPENSES (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Net interest	783	619
Dividends and other income from equity investments	1	1
Net fees and commissions	517	516
Net trading income	39	41
Net other expenses/income	21	21
OPERATING INCOME	**1,361**	**1,198**
Payroll costs	(376)	(401)
Other administrative expenses	(594)	(624)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(5)	(5)
Operating costs	**(975)**	**(1,030)**
OPERATING PROFIT/(LOSS)	**386**	**168**
Net write-downs of loans and provisions for guarantees and commitments	60	(37)
NET OPERATING PROFIT/(LOSS)	**446**	**131**
Provisions for risks and charges	(8)	(61)
Restructuring costs	2	(289)
Net income from investments	(8)	(3)
PROFIT/(LOSS) BEFORE TAX	**432**	**(222)**
Income tax for the period	(133)	70
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**299**	**(152)**
attributable to the shareholder of UniCredit Bank AG	299	(151)
attributable to minorities	—	—
Cost-income ratio in % (Ratio of operating costs to operating income)	71.6	86.0

In the 2022 reporting year, the Retail operating segment generated an operating profit (before net write-downs of loans and provisions for guarantees and commitments) of €386 million, which is thus a sharp €218 million, or 129.8%, higher than the previous year's level.

At €1,361 million, operating income was a marked €163 million, or 13.6%, up on the previous year's level of €1,198 million. Net interest of €783 million contained in operating income was a sharp €164 million, or 26.5%, higher than the figure of €619 million recorded in the previous-year period due to the significant rise in interest rates in the second half of 2022. Net interest generated in the lending business was kept stable, with a weaker consumer lending business being compensated by a further marked rise in the real estate financing business. By contrast, there was a sharp increase in net interest from deposit-taking operations due to the rise in the (meanwhile again clearly positive) market interest rates.

Compared with the previous-year period, net fees and commissions increased by a slight €1 million to €517 million. Despite the difficult market environment, there was only a slight decrease in the securities business, which was offset by higher income generated with financial and transactional banking services.

There was a marked decline of €2 million in net trading income, which was down from €41 million in the previous-year period to €39 million in the reporting period.

Net other expenses/income reports income of €21 million for the reporting period and thus matches the level posted in the previous year.

Compared with the previous-year period, operating costs fell a marked €55 million, or 5.3%, to €975 million in the reporting period. This is due to payroll costs that fell noticeably by €25 million, or 6.2%, to €376 million compared with the previous-year period. Compared with the previous-year period, other administrative expenses were also down by a marked €30 million, or 4.8%, to €594 million on the back of lower costs of marketing and back-office activities in particular.

The cost-income ratio fell significantly to 71.6% in the current reporting period compared with 86.0% in the previous-year period.

The item "Net write-downs of loans and provisions for guarantees and commitments" shows a net reversal of €60 million compared with a net addition of €37 million in the previous-year period. This is due to reversals of general valuation allowances on the loan portfolio on account of an extension of the time series based on the new PD model for private customers introduced at year-end 2021.

Net operating profit of €446 million was a sharp €315 million higher than the profit of €131 million generated in the previous-year period.

In the reporting period, there was a net expense of €8 million from provisions for risks and charges compared with the €61 million in the previous-year period. The delta is mainly due to the provision set aside in 2021 to cover the consequences of the BGH judgement on the invalidity of certain clauses contained in general business conditions and to the reversal of product provisions no longer required in 2022. In addition, the contributions to deposit guarantee schemes fell in 2022.

Net income from investments reports a negative result of €8 million in the reporting period and was thus €5 million or 166.7% lower than the negative result of €3 million posted in the same period of the previous year.

Overall, the Retail operating segment generated profit before tax of €432 million in the reporting period, which is considerably higher than the previous-year loss of €222 million as a result of the significant increase in operating income, a marked decline in operating costs, the sharp decline in provisions for risks and charges and the sharp decrease in restructuring costs.

At minus €133 million, income tax for the period shows a sharp increase in tax expense in the reporting period compared with tax income of €70 million in the previous-year period.

The Retail operating segment reports a profit after tax of €299 million for the reporting period, which is significantly higher than the negative comparative figure of €151 million in the previous-year period.

Segment Reporting (Continued)

Development of the Corporates operating segment

INCOME/EXPENSES (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Net interest	1,782	1,636
Dividends and other income from equity investments	3	12
Net fees and commissions	698	653
Net trading income	913	583
Net other expenses/income	44	26
OPERATING INCOME	**3,440**	**2,910**
Payroll costs	(492)	(536)
Other administrative expenses	(927)	(972)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(15)	(16)
Operating costs	**(1,434)**	**(1,524)**
OPERATING PROFIT/(LOSS)	**2,006**	**1,386**
Net write-downs of loans and provisions for guarantees and commitments	(399)	(88)
NET OPERATING PROFIT/(LOSS)	**1,607**	**1,298**
Provisions for risks and charges	(246)	(328)
Restructuring costs	(78)	(322)
Net income from investments	4	(2)
PROFIT/(LOSS) BEFORE TAX	**1,287**	**646**
Income tax for the period	(414)	(348)
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**873**	**298**
attributable to the shareholder of UniCredit Bank AG	873	298
attributable to minorities	—	—
Cost-income ratio in % (Ratio of operating costs to operating income)	41.7	52.4

The Corporates operating segment generated operating income of €3,440 million in the reporting period, which was thus up a sharp 18.2% on the income of €2,910 million in the previous-year period.

There was a significant rise of €146 million to €1,782 million in net interest compared with the previous-year period. This figure was driven primarily by a substantial increase in deposit-taking operations with a considerable expansion in volumes along with higher margins (on the back of rising market interest rates).

The item “Dividends and other income from equity investments” totalled €3 million (previous-year period: €12 million).

Net fees and commissions increased a marked €45 million, or 6.9%, to €698 million in the reporting period compared with the previous-year figure of €653 million. This development is based on significantly higher income from the placement of structured products and brokerage. The income is partially offset by lower commission in the lending and capital market business, which was weighed down particularly by the market uncertainties in 2022.

There was a significant rise of €330 million to €913 million in net trading income compared with the previous-year period. This was mainly due to income from exceptionally strong business in the fixed income, currencies & commodities as well as equity & brokerage trading areas that compensated for the negative impact of valuation adjustments.

Net other expenses/income shows income of €44 million, which is thus a sharp €18 million or 69.2% higher than the figure of €26 million reported in the previous-year period. This positive development is largely attributable to income from the premature termination of lease agreements and to return flows from debtor warrants of previously consolidated companies.

At €1,434 million in the reporting period, operating costs are a notable €90 million or 5.9% lower than the €1,524 million recorded for the same period in the previous year. There was a distinct decline of €44 million, or 8.2%, to €492 million in payroll costs. Other administrative expenses of €927 million also fell a marked 4.6% compared with the previous-year period. In addition, depreciation and amortisation, at €15 million, was also down by 6.3% compared with the level reported in the previous year. The decline in payroll costs is attributable to the development in full-time positions, lower variable payments coupled with lower payments for pension obligations. This decline was partially offset by the one-time inflation compensation paid to employees at the end of the year.

Due to the considerable increase in income, the cost-income ratio fell to 41.7% in the reporting period after 52.4% in the previous-year period.

With a net addition of €399 million, the item "Net write-downs of loans and provisions for guarantees and commitments" deteriorated sharply by €311 million compared with the €88 million in the previous-year period. This development is primarily attributable to high net additions especially in general valuation allowances.

Net operating profit recognised in the current reporting period totals €1,607 million, which is €309 million higher than the profit of €1,298 million generated in the previous-year period.

There were net provisions for risks and charges of €246 million in the reporting period after €328 million in the previous-year period. This decline is largely due to the provision set aside for the fine imposed for infringing cartel law in connection with trading in EU government bonds in 2021, which more than compensates for the higher payments to the SRF (European bank levy) in 2022.

Restructuring costs were down by €244 million, decreasing from €322 million in the previous-year period to €78 million in the reporting period. Restructuring costs are incurred as a result of the implementation of the three-year UniCredit Unlocked strategy plan launched in 2021, although the costs arose for the most part when the strategy plan first began in 2021. Therefore, there was a sharp decline in these costs in the reporting year over those in the previous year.

Net income from investments reports income of €4 million in the reporting period.

The Corporates operating segment generated profit before tax of €1,287 million in the reporting period, which is thus significantly higher than the previous year's profit of €646 million.

At €414 million, income tax for the period shows a sharp increase in tax expense in the reporting period compared with a tax expense of €348 million in the previous-year period.

The Corporates operating segment reports profit after tax of €873 million for the reporting period compared with the profit of €298 million in the previous-year period.

Segment Reporting (Continued)

Development of the Other operating segment

INCOME/EXPENSES (€ millions)	1/1-31/12/2022	1/1-31/12/2021
Net interest	28	267
Dividends and other income from equity investments	1	4
Net fees and commissions	(25)	(21)
Net trading income	204	38
Net other expenses/income	41	62
OPERATING INCOME	**249**	**350**
Payroll costs	(549)	(567)
Other administrative expenses	529	541
Amortisation, depreciation and impairment losses on intangible and tangible assets	(89)	(91)
Operating costs	**(109)**	**(117)**
OPERATING PROFIT/(LOSS)	**140**	**233**
Net write-downs of loans and provisions for guarantees and commitments	(53)	8
NET OPERATING PROFIT/(LOSS)	**87**	**241**
Provisions for risks and charges	(9)	(19)
Restructuring costs	(5)	(6)
Net income from investments	9	(13)
PROFIT/(LOSS) BEFORE TAX	**82**	**203**
Income tax for the period	13	40
PROFIT/(LOSS) AFTER TAX (CONSOLIDATED PROFIT/(LOSS))	**95**	**243**
attributable to the shareholder of UniCredit Bank AG	95	242
attributable to minorities	—	—
Cost-income ratio in % (Ratio of operating costs to operating income)	43.8	33.4

The Other operating segment generated operating income of €249 million in the reporting period, which is thus a sharp €101 million, or 28.9%, lower than the figure of €350 million reported in the previous-year period.

At €28 million, net interest decreased significantly by €239 million compared with the previous-year period. Among other things, the change in TLTRO conditions, lower early repayment penalties and other effects from the rising interest rate environment weighed on net interest. In addition, the Bank saw a decline in interest on back tax payments compared with the previous year.

At €204 million, net trading income rose sharply by €166 million. The rise is largely due to gains of €43 million on premature repayments, income of €57 million from FX instruments in CEE currencies and €37 million in G10 currencies. Furthermore, write-ups of €16 million on financial instruments measured at fair value contributed to the result.

The significant decline of €8 million in operating costs to €109 million is largely due to the decline in payroll costs in connection with a lower headcount.

The Other operating segment generated operating profit of €140 million in the reporting period, which was thus down by a very substantial €93 million compared with the €233 million reported in the previous-year period.

On account of the sharp decrease in operating income and the significant decline in operating costs, the cost-income ratio increased to 43.8% in the reporting period after 33.4% in the previous-year period.

The “Net write-downs of loans and provisions for guarantees and commitments” item reports a net addition of €53 million compared with a net reversal of €8 million in the previous-year period. This development is mainly driven by credit losses of €75 million in connection with the closing of derivatives with Russian banks.

Net operating profit thus comes to €87 million, which is a very substantial €154 million lower than the profit of €241 million reported in the previous-year period.

Provisions for risks and charges show an expense of €9 million in the reporting period and are thus considerably lower than the amount of €19 million recognised in the previous-year period.

Restructuring costs total €5 million in the reporting period compared with restructuring costs of €6 million in the previous-year period.

At €9 million, net income from investments posted a significant improvement of €22 million compared with the previous-year period, largely due to the valuation of real estate.

Overall, the Other operating segment reported a sharp decrease in profit before tax of €82 million in the reporting period compared with the profit before tax of €203 million in the previous-year period.

Income tax for the period fell a very substantial €13 million in the reporting period after a tax expense of €40 million in the previous-year period. This development is primarily due to lower tax refunds compared with the previous year.

The Other operating segment reports consolidated profit of €95 million for the reporting period, which represents a very substantial decrease of €148 million compared with the previous year’s figure of €243 million.

Segment Reporting (Continued)

33 Balance sheet figures, broken down by operating segment

€ millions	RETAIL	CORPORATES	OTHER	HVB GROUP[2]
Loans and receivables with customers (at cost)[1]				
31/12/2022	36,669	92,001	2,445	131,115
31/12/2021	35,481	90,113	2,752	128,345
Deposits from customers				
31/12/2022	64,302	71,365	11,141	146,809
31/12/2021	56,942	63,007	13,982	133,930
Risk-weighted assets compliant with Basel III (including equivalents for market risk and operational risk)				
31/12/2022	11,947	64,498	4,685	81,130
31/12/2021	10,779	68,271	3,466	82,516

1 "Loans and receivables with customers (at cost)" do 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]

	2022	2021
Retail	3,685	3,987
Corporates	2,785	3,047
Other	4,396	4,372
Total	**10,866**	**11,406**

1 In full-time equivalents (FTEs).

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	2022		2021	
	OPERATING INCOME	OPERATING PROFIT/(LOSS)	OPERATING INCOME	OPERATING PROFIT/(LOSS)
Germany	4,828	1,837	4,384	1,237
Italy	167	(19)	207	111
Luxembourg	46	38	46	34
United Kingdom	83	231	144	183
Rest of Europe	14	57	18	45
Americas	93	35	98	45
Asia	41	(15)	42	5
Consolidation	(523)	(26)	(610)	(137)
HVB Group	**4,749**	**2,138**	**4,329**	**1,523**

Total assets, broken down by region

€ millions	2022	2021
Germany	339,005	298,006
Italy	27,374	27,449
Luxembourg	4,379	11,808
United Kingdom	112	5,680
Rest of Europe	8,598	8,251
Americas	4,598	4,881
Asia	3,493	8,184
Consolidation	(69,553)	(51,955)
HVB Group	**318,006**	**312,304**

Property, plant and equipment, broken down by region

€ millions	2022	2021
Germany	2,253	2,329
Italy	24	18
Luxembourg	69	70
United Kingdom	4	10
Rest of Europe	1	1
Americas	13	15
Asia	4	7
Consolidation	—	—
HVB Group	**2,368**	**2,450**

Segment Reporting (Continued)

Investment properties, broken down by region

€ millions	2022	2021
Germany	234	260
Italy	—	—
Luxembourg	101	100
United Kingdom	—	—
Rest of Europe	—	—
Americas	—	—
Asia	—	—
Consolidation	—	—
HVB Group	**335**	**360**

Employees, broken down by region[1]

	2022	2021
Germany	10,051	10,456
Italy	328	244
Luxembourg	31	31
United Kingdom	161	266
Rest of Europe	127	178
Africa	—	—
Americas	84	103
Asia	84	128
HVB Group	**10,866**	**11,406**

1 In full-time equivalents (FTEs).

Notes to the Income Statement

36 Net interest

€ millions	2022	2021
Interest income	3,897	3,299
from financial assets at cost	2,955	2,213
from financial assets at FVTOCI	67	40
from financial assets at FVTPL and hedging derivatives	401	526
from financial assets held for trading	400	243
other interest income	74	277
Negative interest on financial assets	(187)	(376)
Interest expense	(1,455)	(1,040)
from financial liabilities at cost	(1,051)	(626)
of which from lease liabilities	(4)	(5)
from financial liabilities at FVTPL and hedging derivatives	(66)	(70)
from financial liabilities held for trading	(360)	(258)
other interest expense	22	(86)
Negative interest on financial liabilities	371	633
Net interest	**2,626**	**2,516**

In the reporting year, HVB Group generated €39 million (previous-year period: €31 million) in interest income on impaired financial assets that are valued at cost.

Net interest in the current reporting year also includes interest income of €42 million in connection with the reduction in statutory interest on tax refunds and payments of tax arrears from 6% to 1.8%. This was recognised in interest expense under the other interest expense item as the reversal of a provision set aside.

Net interest in the previous-year period included interest income of €155 million in connection with a tax refund that was offset by interest expense of €44 million in connection with a tax provision.

The negative interest on financial liabilities contains €107 million relating to the ECB's TLTRO III programme (previous-year period: €261 million). When calculating the effective interest for these liabilities, expected premiums were 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). The year-on-year decline is due on the one hand to the shorter term and on the other hand to the ECB's interest rate adjustments until the liabilities were derecognised from the TLTRO III programme, which resulted in a corresponding adjustment to the effective interest rate.

Notes to the Income Statement (Continued)

Net interest attributable to related parties

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

€ millions	2022	2021
Non-consolidated affiliates	(50)	(59)
of which:		
UniCredit S.p.A.	(61)	(75)
sister companies	10	13
subsidiaries	1	3
Joint ventures	—	—
Associates	—	1
Other investees	6	8
Total	**(44)**	**(50)**

37 Dividends and other income from equity investments

€ millions	2022	2021
Dividends and other similar income	28	16
Companies accounted for using the equity method	3	12
Total	**31**	**28**

The amount reported for companies accounted for using the equity method in the previous year 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.

38 Net fees and commissions

€ millions	2022	2021
Fee and commission income	1,487	1,426
Securities services for customers	696	671
Payment transactions	319	299
Lending business	147	160
Guarantees	149	136
Distribution of third-party products	107	100
Other commission income	69	60
Fee and commission expense	(367)	(311)
Securities services for customers	(224)	(171)
Payment transactions	(77)	(71)
Lending business	(9)	(6)
Guarantees	(5)	(6)
Distribution of third-party products	—	—
Other commission expense	(52)	(57)
Net fees and commissions	**1,120**	**1,115**

In the reporting year, there was a significant expansion in the volume of bonds placed through the sales channels of UniCredit S.p.A. by issuers outside the Group. These business activities are reported in the table under "Securities services for customers". As a result, there was a substantial increase in HVB's fee and commission income generated in the issuing business. HVB's fee and commission expense vis-à-vis UniCredit S.p.A. also increased significantly for placing the bonds with the latter's customers. While the increase in fee and commission income from "Securities services for customers" was offset in part by declines in other areas, the substantial increase in fee and commission expense for "Securities services for customers" is attributable to the placing of bonds as described above.

In the second quarter of the previous year, the German Federal High Court (Bundesgerichtshof – BGH) held that the clauses concerning fee and contract amendments contained in banks' general business conditions were invalid. The BGH ruling affects business relationships with consumers. As consumer silence over contract amendments was generally considered as giving consent in the past, it is assumed that these might be invalid retrospectively due to the BGH ruling. HVB therefore adapted the recognition of prices as well as fee and commission income through profit or loss to the new legal situation from the second quarter of 2021. This resulted in a decline in fee and commission income totalling a low one-digit million sum in 2021. In the meantime, HVB has contacted most of those customers affected and obtained their active consent to HVB's current general business conditions and current prices, which means that the prices as well as the fee and commission income for these customers were recognised in full for the services provided. In order to reimburse fees for which the basis had retrospectively ceased to apply in whole or in part, provisions were set aside in 2021 and used to reimburse fees to the customers affected. This process has meanwhile been completed for the most part as sufficient provisions were set aside in the previous year. Consequently, the BGH ruling in the second quarter of 2021 named above had no impact of any relevance on the fee and commission income in the reporting period.

Net fees and commissions include fee and commission income of €69 million (previous-year period: €73 million) and fee and commission expense of €– million (previous-year period: €– million) that relate to financial instruments not measured at fair value through profit or loss.

Notes to the Income Statement (Continued)

The fee and commission income reported under this item consists of income from contracts with customers (IFRS 15). Fee and commission income and fee and commission expense charged for individual services are recognised as soon as the service has been provided. In particular, this includes fees for processing securities transactions, payment services, commission in the lending business that is not similar in nature to interest and is not charged pro rata temporis as well as fee and commission income for the brokerage of third-party products. In contrast, deferred income is recognised for fees and commissions relating to a specific period. In particular, this includes account management fees, guarantee commissions and commission in the lending business that are charged pro rata temporis.

The agreed fees relate to the respective group of banking services. It is not necessary to divide the agreed fees between various service obligations that differ in nature. If fees for a package of services are agreed, this is customary in the sector and results in comparable fee and commission income. For example, an account management fee can also include the provision of payment services when using the account. Income from both services represents fee and commission income from payments.

Net fees and commissions from related parties
The item “Net fees and commissions” includes the following amounts attributable to related parties:

€ millions	**2022**	**2021**
Non-consolidated affiliates	(50)	(19)
of which:		
UniCredit S.p.A.	(38)	2
sister companies	(12)	(21)
subsidiaries	—	—
Joint ventures	—	—
Associates	—	—
Other investees	1	—
Total	**(49)**	**(19)**

39 Net trading income
Net trading income totals €793 million in the reporting period (previous-year period: €655 million).

Net trading income includes valuation discounts in the context of the fair value measurement of derivatives, particularly credit value adjustments and funding value adjustments. The reduction in valuation discounts in connection with the fair value measurement had a positive impact and resulted in income of €62 million (previous-year period: €158 million).

In addition, net trading income was weighed down by losses in connection with the closing out of derivatives transactions with Russian banks totalling €94 million as a result of the sanctions against Russia.

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

€ millions	2022	2021
Financial assets mandatorily at FVTPL	(66)	(43)
Financial liabilities designated at FVTPL	(113)	47
Derecognition from other comprehensive income	17	2
Hedge accounting effects	404	61
Fair value equity	46	18
Total	**288**	**85**

€ millions	2022	2021
Fair value hedges	404	61
Changes in fair value of hedged items	5,350	1,176
Portfolio fair value hedges	6,205	1,390
Micro fair value hedges	(855)	(214)
Changes in fair value of hedging instruments	(4,946)	(1,115)
Portfolio fair value hedges	(5,780)	(1,289)
Micro fair value hedges	834	174
Cash flow hedges	—	—
Net gains/(losses) on cash flow hedges (only ineffective part)	—	—
Total	**404**	**61**

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

Hedge effectiveness is measured prospectively based on sensitivity as well as retrospectively using dollar offset or regression analysis. Sources of ineffectiveness are management within a range of 80%/125%, lack of a 1:1 ratio between the hedged item and the hedging transaction as well as discounting differences between the hedged item and hedging transactions.

Notes to the Income Statement (Continued)

Micro fair value hedge for holdings at FVTOCI

€ millions	REMAINING TERM: LESS THAN 1 YEAR	REMAINING TERM: 1 YEAR TO 5 YEARS	REMAINING TERM: MORE THAN 5 YEARS	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: ASSETS	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: LIABILITIES	CARRYING AMOUNTS: ASSETS	CARRYING AMOUNTS: LIABILITIES	CHANGE IN FAIR VALUE USED TO RECOGNISE AN INEFFECTIVENESS IN THE HEDGE FOR THE PERIOD
Balance as at 31/12/2022								
Nominal								
Hedged items								
EUR	2,487	3,414	1,190	—	—	—	—	—
USD	32	3,101	83	—	—	—	—	—
Hedging transactions								
EUR	2,487	3,404	1,190	—	—	—	—	—
USD	32	3,132	82	—	—	—	—	—
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	(1)	(1)	—	—	—	—	—
USD	—	(1)	—	—	—	—	—	—
Hedging transactions								
EUR	—	1	1	—	—	—	—	—
USD	—	1	—	—	—	—	—	—
Carrying amounts								
Hedged items	—	—	—	(661)	—	9,733	—	—
Hedging transactions	—	—	—	—	—	401	2	—
Hedge result								(23)
Hedged items	—	—	—	—	—	—	—	(786)
Hedging transactions	—	—	—	—	—	—	—	763
Balance as 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	—	—	—	—	—	—	—	—
Carrying amounts								
Hedged items	—	—	—	59	—	11,941	—	—
Hedging transactions	—	—	—	—	—	7	193	—
Hedge result								(40)
Hedged items	—	—	—	—	—	—	—	(207)
Hedging transactions	—	—	—	—	—	—	—	167

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.

Notes to the Income Statement (Continued)

Micro fair value hedge for holdings at cost

The micro fair value hedges for holdings at cost (loans and receivables with customers) are shown 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 as at 31/12/2022								
Nominal								
Hedged items								
JPY	2,559	—	711	—	—	—	—	—
USD	—	317	50	—	—	—	—	—
Hedging transactions								
JPY	2,641	200	1,562	—	—	—	—	—
USD	—	318	50	—	—	—	—	—
Interest rate sensitivities in BPV								
Hedged items								
JPY	—	—	—	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
Hedging transactions								
JPY	—	—	—	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
Carrying amounts								
Hedged items	—	—	—	(72)	—	3,660	—	—
Hedging transactions	—	—	—	—	—	—	46	—
Hedge result								2
Hedged items	—	—	—	—	—	—	—	(69)
Hedging transactions	—	—	—	—	—	—	—	71
Balance as 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	—	—	—	—	—	—	—	—
Carrying amounts								
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 as at 31/12/2022								
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	4	17	—	—	—	—	—
USD	—	1	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Hedging transactions								
EUR	—	(4)	(17)	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Carrying amounts								
Hedged items	—	—	—	6	(5,474)	—	—	—
Hedging derivatives	—	—	—	—	—	235	152	—
Hedge result								425
Hedged items	—	—	—	—	—	—	—	6,205
Hedging transactions	—	—	—	—	—	—	—	(5,780)
Balance as at 31/12/2021								
Interest rate sensitivities in BPV								
Hedged items								
EUR	—	3	17	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Hedging transactions								
EUR	—	(3)	(17)	—	—	—	—	—
USD	—	—	—	—	—	—	—	—
CHF	—	—	—	—	—	—	—	—
Carrying amounts								
Hedged items	—	—	—	24	617	—	—	—
Hedging derivatives	—	—	—	—	—	224	307	—
Hedge result								101
Hedged items	—	—	—	—	—	—	—	1,390
Hedging transactions	—	—	—	—	—	—	—	(1,289)

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 rate-relevant cash flows of the hedged items (loans and receivables with banks (at cost), loans and receivables with customers (at cost), deposits from banks, deposits from customers and debt securities) 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. The designated hedge relationships are dedesignated every two weeks and then redesignated. 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%).

At the beginning of the second half of the year, HVB established a separate portfolio fair value hedge to hedge interest rate risks arising from the liabilities under the ECB’s TLTRO III programme. The average interest rate for main refinancing operations is applied to these liabilities over the entire term plus an interest rate discount for the special interest rate periods depending on the increase in net lending. At the end of the first half of 2022, the interest rate discounts for the special interest rate periods were fixed depending on the increase in net lending. Therefore, further adjustments to the interest rate for main refinancing operations only produce a disproportionately low change in the interest rate for the TLTRO III liabilities as the changed interest rates are included in the calculation of the average interest rate weighted only on the basis of their pro rata interest period for the remaining term of contract of the TLTRO liabilities until June 2023. As a result, interest rate sensitivities arise for the liabilities taken on. The present value of the bullet TLTRO III liabilities (expected repayment amount discounted at the changed market interest rate as at the respective reporting date) reacts more strongly to a change in interest rates than the interest on the TLTRO III liability for the remaining term, which results from the average interest rate for the entire term of the TLTRO III liability. This interest rate risk arising from the TLTRO III liabilities was hedged for the change in the interest rate risk through interest rate hedging derivatives. The prospective hedge effectiveness was achieved as the interest rate sensitivity of the hedged interest rate risk of the portfolio corresponds to the interest rate sensitivity of the interest rate hedging instruments.

Through the ECB’s decision on 27 October 2022, the interest rate conditions of the TLTRO III liabilities were amended with effect as per 23 November 2022. From this date onwards, liabilities under the TLTRO III programme will no longer bear interest at the average interest rate over the entire original term, but at the average ECB key interest rate for the period from 23 November 2022 until the liabilities are repaid. Therefore, from the date of the ECB’s decision to amend the conditions, the prospective hedge effectiveness for this portfolio fair value hedge was no longer achieved and was therefore terminated. At the time the portfolio fair value hedge was terminated, the hedge adjustment amounted to €141 million, which was deferred from this date for the residual term. On derecognition of the TLTRO III liabilities on 23 November 2022, the remaining hedge adjustment of €134 million was derecognised in the income statement on account of the material amendment to the terms of contract.

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

€ millions	2022	2021
Loans and receivables (performing)	(3)	(7)
Buy-backs of securities issued and other liabilities	28	(5)
Promissory notes (assets side)	4	3
Total	**29**	**(9)**

The ECB's amendment of the conditions for the TLTRO III programme resulted in the derecognition of the previous liabilities before the original maturity date was reached. The repayment amounts vis-à-vis the ECB that were determined are €157.7 million lower than the carrying amount on the date of derecognition determined using the effective interest method (please refer to the Note "Liabilities" under Accounting and Valuation for details on the accounting method). As, among other things, premiums that were incurred, depending on whether certain lending criteria were met, reduce the repayment amount in full, the latter is lower than the amortised carrying amount. When calculating the carrying amount, these premiums were deferred over the longer original term. A final repayment amount which is lower than the carrying amount results in a gain on disposal for the liability since the difference between the derecognised carrying amount and the repayment made can be recognised in the income statement. This was offset by the derecognition of the hedge adjustment of €134.3 million, which is also to be derecognised in the income statement due to the full derecognition of the hedged items from the portfolio fair value hedge terminated for the TLTRO III programme (please refer to the Note "Gains/losses on financial assets and liabilities at fair value" for details on the presentation of the portfolio fair value hedge for the TLTRO III programme). As a result, a gain of €23.4 million was generated on the derecognition of the TLTRO III programme, which is shown as the result from "Buybacks of securities issued and other liabilities".

In the previous year, 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 the years before. 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".

Notes to the Income Statement (Continued)

42 Net other expenses/income

€ millions	2022	2021
Other income	189	257
Sale of land and buildings	—	—
Rental income	43	61
Valuation/disposals of investment properties	13	42
Other	133	154
Other expenses	(327)	(318)
Sale of land and buildings	—	—
Valuation/disposals of investment properties	(17)	(16)
Expenses of investment properties	(7)	(9)
Bank levy	(241)	(193)
Other	(62)	(100)
Total	**(138)**	**(61)**

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.

Net other expenses/income attributable to related parties
The item "Net other expenses/income" includes the following amounts attributable to related parties:

€ millions	2022	2021
Non-consolidated affiliates	38	92
of which:		
UniCredit S.p.A.	44	15
sister companies	(6)	76
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**38**	**92**

43 Operating costs

€ millions	2022	2021
Payroll costs	(1,415)	(1,485)
Wages and salaries	(1,138)	(1,187)
Social security costs	(172)	(182)
Expenses for pensions and similar employee benefits	(105)	(116)
Other administrative expenses	(1,087)	(1,202)
Amortisation, depreciation and impairment losses	(109)	(119)
on property, plant and equipment	(54)	(65)
on software and other intangible assets, excluding goodwill	(4)	(3)
on right-of-use assets (leases)	(51)	(51)
Total	**(2,611)**	**(2,806)**

Wages and salaries includes payments of €4 million (previous-year period: €4 million) made upon the termination of employment contracts. The expenses for similar payments in the context of restructuring measures are recognised under the "Restructuring costs" item in the income statement and explained in the Note "Restructuring costs".

Operating costs of related parties
The item "Operating costs" includes the following amounts attributable to related parties:

€ millions	2022	2021
Non-consolidated affiliates	(564)	(605)
of which:		
UniCredit S.p.A.	(546)	(21)
sister companies	(6)	(572)
subsidiaries	(12)	(12)
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**(564)**	**(605)**

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). These also involve share-based payments (equity-settled).

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 eligible as beneficiaries under 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 subject to the rules of IFRS 2.

Notes to the Income Statement (Continued)

The cash component is disbursed in tranches over a period of up to eight years. This group of employees thus received 20% to 30% of the bonus for 2021 in cash with the grant at the beginning of 2022, and a further 5% to 20% will be disbursed after the end of the financial years 2023, 2024, 2025, 2026, 2027 and 2028.

For the remaining bonus amount, the eligible employees received a grant at the beginning of 2022 for the allocation of shares in UniCredit S.p.A. as part of the bonus for 2021, which will be transferred to the eligible employees after the end of the financial years 2022 to 2027.

The deferred payment after the end of the financial years 2023, 2024, 2025, 2026, 2027 and 2028 and the allocation of shares after the end of the financial years 2022 to 2027 to the eligible employees is subject to the provision that, as part of a malus arrangement, it is ensured that there is no loss or significant reduction in the results both at the level of UniCredit or at the level of the individual eligible employee. 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 2022 regarding the granted shares, adjusted for a discount for expected dividends during the vesting period.

In the reporting period, 1.8 million UniCredit S.p.A. shares were granted as a component of the bonus granted for 2021, with a fair value of €21.0 million. If a capital measure is implemented after the grant date, the number of shares granted will be adjusted accordingly. The shares granted in 2022 as part of the bonus for 2021 will be transferred in 2023, 2024, 2025, 2026, 2027 and 2028.

The following table shows the fair values per share at the time of granting the shares:

	2022
Fair value of the shares to be transferred in 2023 (€ per share)	12.498
Fair value of the shares to be transferred in 2024 (€ per share)	11.957
Fair value of the shares to be transferred in 2025 (€ per share)	11.268
Fair value of the shares to be transferred in 2026 (€ per share)	10.295
Fair value of the shares to be transferred in 2027 (€ per share)	9.329
Fair value of the shares to be transferred in 2028 (€ per share)	8.371

The granted bonuses are recognised in the income statement on a pro rata basis over the respective vesting period.

Cash component bonuses for the 2022 financial year falling due for disbursement in 2023 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 are partly subject to further performance targets. Accordingly, the vesting period for the bonus granted 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 2022 are recognised as expense in the respective period (starting with the 2022 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 grants made by HVB Group once the conditions for granting shares have been met. HVB Group reimburses the expenses accruing in this connection 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 grant 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.

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.

The decision on the extent 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.

	2022
Fair value of the shares to be transferred in 2026 (€ per share)	9.869
Fair value of the shares to be transferred in 2027 (€ per share)	8.920
Fair value of the shares to be transferred in 2028 (€ per share)	7.972
Fair value of the shares to be transferred in 2029 (€ per share)	7.028
Fair value of the shares to be transferred in 2030 (€ per share)	6.089

UniCredit S.p.A. delivers shares to the employees for grants made by HVB Group once the conditions for granting shares have been met. HVB Group reimburses the expenses accruing in this connection 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):

	2022		2021	
	TOTAL	AVERAGE MATURITY	TOTAL	AVERAGE MATURITY
Outstanding at start of period	**6,488,205**	**November 2023**	**8,289,459**	**January 2023**
Additions				
Newly granted shares	1,799,255	May 2024	1,596,790	April 2023
From corporate transfers	101,067	March 2025	155,384	November 2023
Conditionally granted shares	—	n/a	—	n/a
Disposals				
Forfeited shares	149,020	September 2025	82,930	July 2025
Transferred shares	2,511,874	May 2022	3,075,528	May 2021
From corporate transfers	30,270	April 2023	389,647	June 2023
Expired shares	515,746	July 2026	5,323	July 2026
Total at end of period	**5,181,617**	**June 2024**	**6,488,205**	**November 2023**

Notes to the Income Statement (Continued)

In the 2022 financial year, prorated expenses of €21 million (previous-year period: €19 million) accrued for the share component arising from the bonuses promised for 2018 to 2022 in the form of share-based payments compliant with IFRS 2. These expenses are recognised under payroll costs. The provision set aside totalled €60 million (previous-year period: €67 million). The provision covers HVB's future reimbursement of the expense from share-based payments to UniCredit S.p.A.

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

€ millions	**2022**	**2021**
Additions	(1,244)	(993)
Allowances for losses on loans and receivables at cost	(1,038)	(681)
Allowances for losses on loans and receivables at FVTOCI	—	(4)
Allowances for losses on guarantees and indemnities	(206)	(308)
Reversals	887	825
Allowances for losses on loans and receivables at cost	549	531
Allowances for losses on loans and receivables at FVTOCI	3	3
Allowances for losses on guarantees and indemnities	335	291
Gains/(losses) from non-substantial modification	—	1
Recoveries from write-offs of loans and receivables	52	48
Gains/(losses) on the disposal of impaired loans and receivables	6	5
Total	**(299)**	**(114)**

In the reporting period, net additions to net write-downs of loans and provisions for guarantees and commitments totalled €299 million after €114 million in the previous-year period, representing a sharp increase of €185 million or 162%. The individual effects that offset each other are described below.

In the reporting period, a net amount of €261 million was allocated to portfolio allowances following a net addition of €29 million in the previous-year period. On the one hand, the macroeconomic factors were adjusted to reflect the continuing deterioration in the economic environment in the reporting period, which led to an addition to general valuation allowances. To take account of the risks arising from the sudden increase in energy costs, inflation and interest rates both for companies and for private individuals, geopolitical post model adjustments were made in 2022. In this context, the introduction of these post model adjustments is to be seen as an additional measure to the IFRS 9 models as these are able to adequately cover the effect of geopolitical crises directly due to their structure. On the other hand, new models were introduced that simultaneously resulted in the reversal of portfolio allowances recorded in the previous year. In addition, methodical adjustments were made for specific products when determining the general valuation allowances that resulted in a net addition. The net additions to general valuation allowances are largely attributable to these factors. In the previous-year period, net charges resulted from the adjustment made to model parameters, which were largely offset by the favourable performance of the portfolio of performing loans and the macroeconomic environment.

In the reporting year, the net additions to specific valuation allowances total €38 million after €85 million in the previous-year period. Additions to specific valuation allowances on account of defaults were more than compensated for by reversals of existing specific valuation allowances. A moderate level of specific valuation allowances was set aside at the reporting date for direct Russia exposure in connection with the Russia-Ukraine conflict.

Net write-downs of loans and provisions for guarantees and commitments attributable to related parties
The item “Net write-downs of loans and provisions for guarantees and commitments” includes the following amounts attributable to related parties:

€ millions	**2022**	**2021**
Non-consolidated affiliates	(9)	—
of which:		
UniCredit S.p.A.	—	—
sister companies	(9)	—
Joint ventures	—	—
Associates	—	—
Other investees	—	—
Total	**(9)**	**—**

45 Provisions for risks and charges
In the reporting period, net income of €11 million was generated from the reversal of provisions. This is offset by net expenses of €153 million from the addition to provisions for risks and charges reported in the previous-year period. No individual items of significance occurred in the reporting period whereas in the previous-year period an amount of €69 million related to a provision set aside for penalty payments to the EU Commission, which imposed these for cartel law infringements in connection with EU government bonds.

46 Restructuring costs
Restructuring costs totalled €80 million in the reporting year (previous-year period: €617 million). In both years, restructuring costs are attributable to the implementation of the UniCredit Unlocked strategy plan.

In the reporting year, restructuring costs were incurred, among other things, due to the planned migration of various trading systems to a central trading system. In this connection, activities are also being transferred from the previous locations to a central location. The historically grown structure of HVB Group’s trading systems is to be made significantly easier by transferring the respective activities to one trading platform. This will allow considerable synergies to be leveraged and the complexity of the IT infrastructure to be reduced. Furthermore, an amount of €46 million of the restructuring costs relates to payroll costs.

In the previous year, restructuring costs are based on measures resulting from the implementation of the UniCredit Unlocked 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. 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.

Notes to the Income Statement (Continued)

47 Net gains/losses on remeasurement of consolidated companies

€ millions	2022	2021
Shares in affiliates	(4)	(11)
Disposal of companies accounted for using the equity method	—	—
Net gains/losses on companies accounted for using the equity method	2	(2)
Total	**(2)**	**(13)**

In the reporting year, losses on shares in affiliates are primarily losses on the deconsolidation of immaterial subsidiaries. In the reporting year and in the previous year, the net gain on companies accounted for using the equity method is mainly attributable to Comtrade Group B.V., Rotterdam.

48 Income tax for the period

€ millions	2022	2021
Current taxes	(660)	(274)
Deferred taxes	193	(26)
Total	**(467)**	**(300)**

The current tax expense for the reporting period includes income totalling €20 million for previous years (previous-year period: €54 million).

The deferred tax income in the reporting year contains income totalling €141 million from value adjustments made to deferred tax assets on tax losses carried forward and temporary differences. Of this income €131 million relates to the reversal of valuation allowances set aside in the previous year at HVB and €10 million to the write-up on tax losses carried forward at two subsidiaries. For further details, please refer to the Note "Consistency".

The differences between computed and recognised income tax are shown in the following reconciliation.

€ millions	2022	2021
Profit before tax	1,768	626
Applicable tax rate	31.8%	31.8%
Computed income taxes	(562)	(199)
Tax effects		
from previous years and changes in tax rates	(3)	29
from foreign income	22	22
from non-taxable income	73	31
from different tax laws	(28)	(23)
from non-deductible expenses	(110)	(145)
from value adjustments and the non-recognition of deferred taxes	141	(18)
from amortisation of goodwill	—	—
from other differences	—	3
Recognised income taxes	**(467)**	**(300)**

An applicable tax rate of 31.76% (previous-year period: 31.76%) has been taken as a basis 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 significantly affected 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 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	2022	2021
Deferred tax assets		
Other financial instruments at FVTPL	31	56
Other financial instruments credit risk (recycled at equity)	17	25
Financial instruments at FVTOCI	4	4
Loans and receivables with banks (at cost)/customers (at cost)/ deposits from banks/customers	262	153
Hedging derivatives and hedge adjustment of hedged items (P&L)	474	362
Hedging derivatives and hedge adjustment of hedged items (OCI)	2	—
Property, plant and equipment/intangible assets	292	322
Other assets/other liabilities	106	54
Provisions, pension fund and similar (P&L)	117	94
Pensions fund (OCI)	470	472
Losses carried forward/tax credits	9	18
Other	2	2
Total deferred tax assets	**1,786**	**1,562**
Offsetting effect	(941)	(818)
Recognised deferred tax assets	**845**	**744**
Deferred tax liabilities		
Other financial instruments at FVTPL	75	58
Financial instruments at FVTOCI	10	17
Loans and receivables with banks (at cost)/customers (at cost)/ deposits from banks/customers	150	188
Hedging derivatives and hedge adjustment of hedged items (P&L)	368	368
Hedging derivatives and hedge adjustment of hedged items (OCI)	3	6
Property, plant and equipment/intangible assets (P&L)	32	67
Property, plant and equipment/intangible assets (OCI)	464	445
Other assets/other liabilities	149	97
Other (P&L)	53	23
Other (OCI)	1	7
Total deferred tax liabilities	**1,305**	**1,276**
Offsetting effect	(941)	(818)
Recognised deferred tax liabilities	**364**	**458**

Notes to the Income Statement (Continued)

Deferred taxes are normally measured using the local tax rates of the respective tax jurisdiction. Our domestic companies use the uniform corporate income tax rate that is not dependent on any dividend distribution including the solidarity surcharge of 15.8% as well as the trade tax rate that depends on the applicable assessment rate. 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 tax rate was applied analogously for other domestic and foreign units. Changes in tax rates have been taken into account, provided they had already been enacted at the reporting date.

For the 2021 financial year, deferred taxes were adjusted for a group of companies as a result of the reversal of IFRS 5. Due to the retrospective change, the amount of the deferred tax assets/liabilities of the previous year attributable to the respective balance sheet items loans and receivables with banks/customers/ deposits from banks/customers, property, plant and equipment as well as other assets/other liabilities has changed. Furthermore, the offsetting effect was adjusted by €202 million respectively, which means that the balance of deferred tax liabilities increased overall by €8 million in 2021.

The year-on-year change in deferred tax liabilities/assets without affecting profit or loss can be seen in the table above.

In the 2022 financial year, an amount of €301 million is recognised through other comprehensive income without affecting profit or loss. In addition, value adjustments to deferred tax balances relating to foreign branches are recognised in the income statement at an amount of €1 million. For further details, please refer to the Note "Consistency".

Compliant with IAS 12, no deferred tax assets have been recognised for further corporate tax losses carried forward of HVB Group amounting to €486 million (previous-year period: €819 million), most of which do not expire, and trade tax losses carried forward amounting to €518 million (previous year period: €916 million), as well as for deductible temporary differences of €0 million (previous-year period: €1,364 million).

The deferred tax assets were calculated using plans of the individual business areas, which are based on segment-specific and general macroeconomic assumptions. For the adjustment of the planning horizon, please refer to the Accounting and Valuation section on recoverability. Measurement was carried out taking into account possible restrictions regarding timing imposed by local regulations and any rules on minimum taxation for tax losses carried forward. Uncertainty is inherent in making 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 measurement of the volume of deferred taxes already capitalised or to be capitalised.

Notes to the Balance Sheet

49 Cash and cash balances

€ millions	2022	2021
Cash on hand	489	6,006
Balances with central banks	36,344	21,686
Total	**36,833**	**27,692**

50 Financial assets held for trading

€ millions	2022	2021
On-balance sheet financial instruments	21,376	37,863
Fixed-income securities	6,826	9,085
Equity instruments	5,107	7,746
Other financial assets held for trading	9,443	21,032
Positive fair values of derivative financial instruments	60,882	48,051
Total	**82,258**	**85,914**
of which subordinated assets	—	9

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	2022	2021
Non-consolidated affiliates	26,777	14,178
of which:		
UniCredit S.p.A.	20,849	11,200
sister companies[1]	5,928	2,978
Joint ventures	—	—
Associates	40	39
Other investees	—	3
Total	**26,817**	**14,220**

1 Mostly derivative transactions involving UniCredit Bank Austria AG.

51 Financial assets at FVTPL

€ millions	2022	2021
Fixed-income securities	3,417	6,376
Equity instruments	418	135
Loans and promissory notes	1,004	932
Other	94	91
Total	**4,933**	**7,534**
of which:		
subordinated loans and receivables	5	23
past-due loans and receivables	—	—

Notes to the Balance Sheet (Continued)

52 Financial assets at FVTOCI

Financial assets at FVTOCI total €9,837 million as at the reporting date (previous year: €12,006 million).

Changes in carrying amounts

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance as at 1/1/2022	**11,956**	**50**	**—**	**—**	**12,006**
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]	(2,132)	(37)	—	—	(2,169)
Derecognition (due to uncollectibility)	—	—	—	—	—
Other changes	—	—	—	—	—
Balance as at 31/12/2022	**9,824**	**13**	**—**	**—**	**9,837**
Balance as 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 uncollectibility)	—	—	—	—	—
Other changes	—	—	—	—	—
Balance as at 31/12/2021	**11,956**	**50**	**—**	**—**	**12,006**

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
31/12/2022					
Not rated	33	—	—	—	33
Rating class 1-4	9,791	—	—	—	9,791
Rating class 5-8	—	13	—	—	13
Rating class 9-10	—	—	—	—	—
Fair value as at 31/12/2022	**9,824**	**13**	**—**	**—**	**9,837**
Impairment recognised in other comprehensive income for these instruments	—	1	—	—	1
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 as at 31/12/2021	**11,956**	**50**	**—**	**—**	**12,006**
Impairment recognised in other comprehensive income for these instruments	—	4	—	—	4

The impairment of securities holdings totals €1 million (previous year: €4 million). The impairment decreased by €3 million whereas it increased by €1 million in the previous year.

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.

53 Loans and receivables with banks (at cost)

€ millions	2022	2021
Current accounts	1,796	1,881
Cash collateral and pledged credit balances	5,596	5,979
Reverse repos	9,363	10,081
Securities	3,873	2,947
Other loans to banks	2,669	3,734
Non-performing loans and receivables	39	—
Total	**23,336**	**24,622**
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 as at 1/1/2022	**24,523**	**104**	**1**	**—**	**24,628**
Addition due to new business	13,397	—	—	33	13,430
Change in carrying amount within the stage	2,216	46	—	—	2,262
Transfers to another stage due to deterioration in credit quality	(160)	133	27	—	—
from Stage 1 to Stage 2	(133)	133	—	—	—
from Stage 2 to Stage 3	—	—	—	—	—
from Stage 1 to Stage 3	(27)	—	27	—	—
Transfers to another stage due to improvement in credit quality	141	(141)	—	—	—
from Stage 2 to Stage 1	141	(141)	—	—	—
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	(16,922)	(53)	—	—	(16,975)
Disposals due to write-offs/write downs of loans and receivables	—	—	—	—	—
Foreign currency movements and other changes	31	18	—	—	49
Balance as at 31/12/2022	**23,226**	**107**	**28**	**33**	**23,394**
Balance as 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	(23)	(1)	—	—	(26)
Balance as at 31/12/2021	**24,523**	**104**	**1**	**—**	**24,628**

Notes to the Balance Sheet (Continued)

Changes in allowances

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance as at 1/1/2022	**4**	**1**	**1**	**—**	**6**
Addition due to new business	1	—	—	—	1
Change in carrying amount within the same stage	1	10	12	9	32
Transfers to another stage due to deterioration in credit quality	—	24	—	—	24
from Stage 1 to Stage 2	—	24	—	—	24
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 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)	(1)	—	—	(5)
Reversal of the discounted amount and recognition of interest claims not previously recognised in profit or loss	—	—	—	—	—
Foreign currency movements and other changes	—	—	—	—	—
Balance as at 31/12/2022	**2**	**34**	**13**	**9**	**58**
Balance as 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 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 as at 31/12/2021	**4**	**1**	**1**	**—**	**6**

In 2022, HVB updated its parameters for calculating the expected losses. In particular, the adjustment of the rating for Russia and Ukraine to a “CCC” rating had an impact on the portfolio valuation allowances (Stage 1 and 2) for loans and receivables with banks. This resulted in an increase of €31 million in portfolio valuation allowances, of which €9 million relates to the bank belonging to UniCredit that is based in Russia. The exposure in connection with Russia was allocated to Stage 2.

Moreover, derivatives with Russian banks were prematurely terminated in view of the sanctions imposed and the closing receivables remaining from the termination of the derivatives were posted at their fair value. As the banks in question are to be considered in part as having defaulted at the time when the derivatives were terminated, the receivables have been classified as POCI. The allocation of specific valuation allowances to Stage 3 in the reporting year is likewise to be seen in the context of the default of Russian banks on account of the sanctions imposed.

Breakdown by rating class

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	COLLA-TERAL	TOTAL
31/12/2022						
Not rated	477	—	—	—	11	477
Rating class 1-4	22,215	5	—	—	9,365	22,220
Rating class 5-8	534	102	—	—	35	636
Rating class 9-10	—	—	28	33	—	61
Gross carrying amount as at 31/12/2022	**23,226**	**107**	**28**	**33**	**9,411**	**23,394**
Impairment	(2)	(34)	(13)	(9)	—	(58)
Net carrying amount as at 31/12/2022	**23,224**	**73**	**15**	**24**	**9,411**	**23,336**
31/12/2021						
Not rated	1,214	—	—	—	534	1,214
Rating class 1-4	22,543	67	—	—	9,477	22,610
Rating class 5-8	766	37	—	—	153	803
Rating class 9-10	—	—	1	—	—	1
Gross carrying amount as at 31/12/2021	**24,523**	**104**	**1**	**—**	**10,164**	**24,628**
Impairment	(4)	(1)	(1)	—	—	(6)
Net carrying amount as at 31/12/2021	**24,519**	**103**	**—**	**—**	**10,164**	**24,622**

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	2022	2021
Non-consolidated affiliates	3,415	5,042
of which:		
UniCredit S.p.A.	3,334	4,314
sister companies[1]	81	728
Joint ventures	—	—
Associates	1	7
Other investees	10	31
Total	**3,426**	**5,080**

1 Mainly due from UniCredit Bank Austria AG.

Notes to the Balance Sheet (Continued)

54 Loans and receivables with customers (at cost)

€ millions	2022	2021
Current accounts	7,841	6,372
Cash collateral and pledged cash balances	3,360	3,337
Reverse repos	1,172	1,023
Mortgage loans	52,925	50,784
Finance lease receivables	648	1,068
Securities	24,606	21,077
of which asset-backed securities (ABS)	23,002	14,002
Other loans and receivables	62,520	63,214
Non-performing loans and receivables	1,704	1,834
Total	**154,776**	**148,709**
of which subordinated assets	—	2

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)" includes an amount of €5,049 million (previous year: €4,836 million) funded under the fully consolidated Arabella conduit programme. This mainly 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.

Changes in gross carrying amounts

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance as at 1/1/2022	**125,190**	**22,249**	**3,072**	**4**	**150,515**
Addition due to new business	39,730	2,851	287	1	42,869
Change in carrying amount within the stage	(6,100)	(1,511)	(106)	(1)	(7,718)
Transfers to another stage due to deterioration in credit quality	(9,494)	8,822	672	—	—
from Stage 1 to Stage 2	(9,127)	9,127	—	—	—
from Stage 2 to Stage 3	—	(305)	305	—	—
from Stage 1 to Stage 3	(367)	—	367	—	—
Transfers to another stage due to improvement in credit quality	11,208	(11,025)	(183)	—	—
from Stage 2 to Stage 1	11,186	(11,186)	—	—	—
from Stage 3 to Stage 2	—	161	(161)	—	—
from Stage 3 to Stage 1	22	—	(22)	—	—
Increase reported directly in equity in gross carrying amounts for interest claims not recognised in profit or loss	—	—	129	—	129
Changes due to modification of assets not leading to derecognition	—	(4)	8	—	4
Disposals due to repayments/sales	(24,264)	(3,767)	(864)	—	(28,895)
Disposals due to write-offs/write downs of loans and receivables	—	—	(316)	—	(316)
Foreign currency movements and other changes	(179)	159	26	—	6
Balance as at 31/12/2022	**136,091**	**17,774**	**2,725**	**4**	**156,594**
Balance as 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	(340)	(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	(71)	(7)	11	1	(66)
Balance as at 31/12/2021	**125,190**	**22,249**	**3,072**	**4**	**150,515**

Notes to the Balance Sheet (Continued)

Changes in allowances

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	TOTAL
Balance as at 1/1/2022	**232**	**329**	**1,245**	**—**	**1,806**
Addition due to new business	77	—	—	—	77
Change in carrying amount within the same stage	19	211	204	2	436
Transfers to another stage due to deterioration in credit quality	(54)	207	184	—	337
from Stage 1 to Stage 2	(53)	221	—	—	168
from Stage 2 to Stage 3	—	(14)	141	—	127
from Stage 1 to Stage 3	(1)	—	43	—	42
Transfers to another stage due to improvement in credit quality	25	(111)	(13)	—	(99)
from Stage 2 to Stage 1	24	(114)	—	—	(90)
from Stage 3 to Stage 2	—	3	(1)	—	2
from Stage 3 to Stage 1	1	—	(12)	—	(11)
Increase in impairment reported directly in equity for interest claims not recognised in profit or loss	—	—	129	—	129
Changes due to modification of assets not leading to derecognition	—	—	—	—	—
Disposals (reversal due to disposal of receivables)	(98)	(44)	(262)	—	(404)
Disposals (utilisation of impairments)	—	—	(342)	—	(342)
Reversal of the discounted amount and recognition of interest claims not previously recognised in profit or loss	—	—	(43)	—	(43)
Foreign currency movements and other changes	—	(1)	(78)	—	(79)
Balance as at 31/12/2022	**201**	**591**	**1,024**	**2**	**1,818**
Balance as 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	—	19	—	22
Balance as at 31/12/2021	**232**	**329**	**1,245**	**—**	**1,806**

In 2022, total portfolio valuation allowances (Stage 1 and Stage 2) for loans and receivables with customers increased by €231 million. A decline of €31 million in portfolio valuation allowances at Stage 1, which were down from €232 million as at 31 December 2021 to €201 million as at 31 December 2022, is offset by an allocation of €262 million to portfolio allowances at Stage 2, which were up from €329 million as at 31 December 2021 to €562 million as at 31 December 2022. The increase in valuation allowances totalling €231 million is primarily attributable to the adjustment of the macroeconomic parameters in the models for calculating the expected credit losses and the inclusion of post model adjustments.

In the course of 2022, the positive development in portfolios due to the initial recovery in economic activities continued. In addition, the adjustments made to specific model parameters had an impact, as the feared negative wave of defaults due to the COVID-19 pandemic has not occurred to date. The supply bottlenecks existing at the end of 2021 continued to ease over 2022. This had positive effects on portfolio valuation allowances and resulted in transfers to Stage 1.

As the reporting year progressed, the economic environment became gloomier in view of the Russia-Ukraine conflict. Adjustments were thus subsequently made to assumptions regarding future economic conditions. In particular, these include weaker growth rates expected for the gross domestic product in 2022 compared with 2021. The energy supply bottlenecks and rising energy costs caused by trade restrictions and sanctions are driving the high inflation rate up and leading to rising interest rates. Overall, the risk situation has intensified compared with the first half of the year. These adjustments have led to an increase in general valuation allowances on the one hand and to transfers from Stage 1 to Stage 2 on the other.

While the updated assumptions on growth rates implicitly reflect macroeconomic risks on a wider scale, additional post model adjustments were recognised at year-end 2022 in order to depict more specific risks in connection with the geopolitical situation, which cannot be captured by the models for calculating the expected loss. This involves risks arising from the sudden increase in energy costs, inflation and interest for both companies and private individuals.

In the reporting period, there was also a net decline in specific valuation allowances from €219 million to €1,026 million. The effect of classifying a portfolio of non-performing customer receivables as “Non-current assets or disposal groups held for sale” is included in the line item “Foreign currency movements and other changes”. Allocations to specific valuation allowances on account of defaults were largely compensated for by reversals of existing specific valuation allowances.

Breakdown by rating class

€ millions	STAGE 1	STAGE 2	STAGE 3	POCI	COLLATERAL	TOTAL
31/12/2022						
Not rated	3,538	19	—	—	1,032	3,557
Rating class 1-4	110,551	7,452	—	—	37,730	118,003
Rating class 5-8	22,002	10,303	—	1	16,666	32,306
Rating class 9-10	—	—	2,725	3	773	2,728
Gross carrying amount as at 31/12/2022	**136,091**	**17,774**	**2,725**	**4**	**56,201**	**156,594**
Impairment	(201)	(591)	(1,024)	(2)	—	(1,818)
Net carrying amount as at 31/12/2022	**135,890**	**17,183**	**1,701**	**2**	**56,201**	**154,776**
31/12/2021						
Not rated	6,600	20	—	—	545	6,620
Rating class 1-4	89,208	10,003	—	—	30,524	99,211
Rating class 5-8	29,382	12,226	—	1	24,947	41,609
Rating class 9-10	—	—	3,072	3	889	3,075
Gross carrying amount as at 31/12/2021	**125,190**	**22,249**	**3,072**	**4**	**56,905**	**150,515**
Impairment	(232)	(329)	(1,245)	—	—	(1,806)
Net carrying amount as at 31/12/2021	**124,958**	**21,920**	**1,827**	**4**	**56,905**	**148,709**

Notes to the Balance Sheet (Continued)

The amount outstanding from assets written off in the reporting period that are subject to an enforcement measure totals €157 million (previous year: €109 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	2022	2021
Non-consolidated affiliates	84	41
of which:		
sister companies	72	33
subsidiaries	12	8
Joint ventures	—	—
Associates	—	45
Other investees	344	328
Total	**428**	**414**

55 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:

	2022			2021		
€ millions	CARRYING AMOUNT BEFORE ALLOWANCES	ALLOWANCES	CARRYING AMOUNT	CARRYING AMOUNT BEFORE ALLOWANCES	ALLOWANCES	CARRYING AMOUNT
Performing exposures	510	(31)	479	391	(30)	361
Non-performing exposures	1,110	(296)	814	1,563	(498)	1,065
Total	**1,620**	**(327)**	**1,293**	**1,954**	**(528)**	**1,426**

The exposures considered to be forborne are included under loans and receivables with customers at an amount of €1,290 million (previous year: €1,409 million) and under non-current assets or disposal groups held for sale at an amount of €3 million (previous year: €17 million). As in the previous year, no securities were held with forbearance measures.

If the forbearance measure does not result in a deterioration in creditworthiness (Stage 3), 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.

56 Hedging derivatives

€ millions	2022	2021
Micro fair value hedge	401	7
Portfolio fair value hedge[1]	235	224
Total	**636**	**231**

1 The cross-currency interest rate swaps used in hedge accounting are carried at their aggregate fair value in the portfolio fair value hedge.

57 Investments in associates and joint ventures accounted for using the equity method

€ millions	2022	2021
Associates accounted for using the equity method	13	12
of which goodwill	—	—
Joint ventures accounted for using the equity method	—	—
Total	**13**	**12**

For materiality reasons, two associates accounted for using the equity method were not included in the consolidated financial statements.

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 in the reporting year or in the previous year. Nor was there any unrecognised prorated loss from companies accounted for using the equity method in the reporting year or in the previous year. Furthermore, there were no unrecognised prorated cumulative losses from companies accounted for using the equity method in the reporting year or in the previous year.

There are no material commitments arising from contingent liabilities of associates.

58 Property, plant and equipment

€ millions	2022	2021
Land	1,200	1,148
Buildings	876	905
Plant and office equipment	129	214
Right-of-use assets (leases)	163	183
of which land and buildings	156	175
Total	**2,368**	**2,450**

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 as at 1/1/2022	**1,148**	**2,528**	**743**	**348**	**4,767**	**—**	**4,767**
Write-downs and write-ups from previous years	—	(1,623)	(529)	(165)	(2,317)	—	(2,317)
Carrying amounts as at 1/1/2022	**1,148**	**905**	**214**	**183**	**2,450**	**—**	**2,450**
Additions							
Acquisition/production costs	—	19	16	21	56	—	56
Adjustment due to revaluation in reporting period (OCI)	59	27	—	—	86	—	86
Write-ups	—	20	4	15	39	—	39
Changes from currency translation	—	—	—	2	2	—	2
Other additions[2]	—	3	6	9	18	—	18
Disposals							
Sales	—	(3)	(66)	(2)	(71)	—	(71)
Adjustment due to revaluation in reporting period (OCI)	(7)	(37)	—	—	(44)	—	(44)
Depreciation and write-downs	—	(32)	(30)	(51)	(113)	—	(113)
Impairments	—	(15)	(7)	(12)	(34)	—	(34)
Changes from currency translation	—	—	—	(1)	(1)	—	(1)
Non-current assets or disposal groups held for sale	—	—	—	—	—	—	—
Other disposals[2]	—	(11)	(8)	(1)	(20)	—	(20)
Carrying amounts as at 31/12/2022	**1,200**	**876**	**129**	**163**	**2,368**	**—**	**2,368**
Write-downs and write-ups from previous years plus the reporting period	—	1,607	561	200	2,368	—	2,368
Acquisition costs as at 31/12/2022	**1,200**	**2,483**	**690**	**363**	**4,736**	**—**	**4,736**
Acquisition costs as 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 as at 1/1/2021	**1,045**	**947**	**263**	**270**	**2,525**	**—**	**2,525**
Additions							
Acquisition/production costs	—	59	12	16	87	—	87
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)	(13)	(39)	(95)	—	(95)
Changes from currency translation	—	—	—	—	—	—	—
Non-current assets or disposal groups held for sale	—	—	—	—	—	—	—
Other disposals[2]	(1)	(5)	(7)	(2)	(15)	—	(15)
Carrying amounts as at 31/12/2021	**1,148**	**905**	**214**	**183**	**2,450**	**—**	**2,450**
Write-downs and write-ups from previous years plus the reporting period	—	1,623	529	165	2,317	—	2,317
Acquisition costs as at 31/12/2021	**1,148**	**2,528**	**743**	**348**	**4,767**	**—**	**4,767**

1 Including changes in the group of companies included in consolidation.
2 Including leased assets. More information about leases is contained in Note "Information regarding lease operations".

59 Investment properties

Investment properties are measured at fair value. As each property is unique and the fair value is determined by external 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 €63 million as at the reporting date (previous year: €72 million).

Changes in investment properties

€ millions	2022	2021
Carrying amounts as at 1/1	**360**	**352**
Additions		
Acquisitions	—	1
Valuation gains	13	42
Subsequent expenses	—	—
Changes from currency translation	—	—
Other additions[1]	—	—
Disposals		
Sales	—	(1)
Valuation losses	(9)	(16)
Changes from currency translation	—	—
Non-current assets or disposal groups held for sale	(29)	(8)
Other disposals[1]	—	(10)
Carrying amounts as at 31/12	**335**	**360**

1 Also including changes in the group of companies included in consolidation.

60 Intangible assets

€ millions	31/12/2022	31/12/2021
Internally generated intangible assets	5	6
Other intangible assets	1	2
Total	**6**	**8**

HVB no longer generates any software internally. Software is provided to HVB by the UniCredit-wide service provider UniCredit S.p.A.

Notes to the Balance Sheet (Continued)

61 Non-current assets or disposal groups held for sale

€ millions	2022	2021
Cash and cash balances	—	—
Financial assets at FVTPL	217	207
Financial assets at FVTOCI	—	—
Loans and receivables with banks (at cost)	3	2
Loans and receivables with customers (at cost)	112	137
Investments in associates and joint ventures accounted for using the equity method	—	—
Property, plant and equipment	1	1
Investment properties	16	31
Intangible assets	5	5
Tax assets	5	7
Inventories (IAS 2)	312	183
Other assets	44	122
Total	**715**	**695**

As at 31 December 2022, 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 non-current assets or disposal groups held for sale as at 31 December 2020 and is allocated to the Retail operating segment. The sale is expected to be completed in the course of the 2023 financial year.
- Planned sale of a portfolio of non-performing customer receivables. The sale is expected to be completed in the first half of 2023.

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 €10 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 increase of €129 million is mainly based on the purchase of 3 further properties. The decline of €78 million in other assets in the 2022 financial year is primarily attributable to the disposal of an other receivable. 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.

Furthermore, the sale of a portfolio of non-performing customer receivables in the amount of €13 million is planned that is classified as non-current assets or disposal groups held for sale for the first time as at 31 December 2022 and is reported under loans and receivables from customers.

In the second quarter of 2022, HVB decided to end the sales process involving UniCredit Leasing GmbH with its subsidiaries. Please refer to the Accounting and Valuation - UniCredit Leasing GmbH section for further information on the ending of the sales process.

In addition, a property owned and occupied by the Bank with a carrying amount of €3 million was classified as non-current assets or disposal groups held for sale in the first half of 2022, which was sold in the second half of 2022.

In the previous year, one non-strategic property (investment property, allocated to Level 2) of €8 million was also reported as non-current assets or disposal groups held for sale, which was sold in January 2022. In the first half of 2022, two investment properties (allocated to Level 2) with a carrying amount of €29 million were classified as non-current assets or disposal groups held for sale, which will be sold in the second half of 2022.

No impairments were required to be recognised for non-current assets or disposal groups held for sale in the 2022 financial year or in the previous year.

Changes in investment properties, classified as non-current assets or disposal groups held for sale

€ millions	**2022**	**2021**
Carrying amounts as at 1/1	**31**	**47**
Additions		
Acquisitions	—	—
Classification of non-current assets or disposal groups held for sale	29	—
Valuation gains	—	—
Subsequent expenses	—	—
Changes from currency translation	—	—
Other additions[1]	—	8
Disposals		
Sales	(37)	(24)
Valuation losses	(7)	—
Changes from currency translation	—	—
Reclassification of non-current assets or disposal groups held for sale	—	—
Other disposals[1]	—	—
Carrying amounts as at 31/12	**16**	**31**

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 (as 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 determined by external assessors for the property (such as the current market rent assumed for the property). The respective fair values therefore feature valuation parameters that are based on model assumptions.

Notes to the Balance Sheet (Continued)

The following table shows the allocation of the investment properties measured at fair value to the respective fair value level hierarchy:

	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)	
€ millions	**2022**	**2021**	**2022**	**2021**
Investment properties, classified as non-current assets or disposal groups held for sale	—	8	16	23

Changes in investment properties allocated to Level 3:

€ millions	**2022**	**2021**
Carrying amount as at 1/1	**23**	**23**
Additions to the portfolio (classified as Level 3)	—	—
Positive fair value changes (classified as Level 3)	—	—
Additions due to reclassification from Level 2 to Level 3	—	—
Disposals from the portfolio (classified as Level 3)	—	—
Negative fair value changes (classified as Level 3)	(7)	—
Disposals due to reclassification from Level 3 to Level 2	—	—
Carrying amount as at 31/12	**16**	**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.

62 Other assets

Other assets include prepaid expenses of €136 million (previous year: €135 million). In the reporting year, the excess of assets over liabilities from offsetting the present value of the defined pension obligations against the fair value of the plan assets of defined benefit plans is also recognised under other assets as a capitalised excess of plan assets totalling €178 million (previous year: €0 million).

63 Own securitisation

HVB has securitised its own loan receivables for the purpose of obtaining favourable funding terms on the capital market, for generating securities for use as collateral in repurchase agreements and for reducing risk-weighted assets.

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. In contrast, in a synthetic transaction, the Bank always retains ownership of the securitised assets. Only the risk is transferred to the capital market without any change in the ownership structure of the securitised credit portfolio. This hedge is effected through guarantees or through the use of credit derivatives.

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 Rosenkavalier 2022 (€3.0 billion securitisation of corporate loans). In the reporting year, the Rosenkavalier 2022 transaction was structured as a replacement for the terminated Geldilux 2015 transaction (€2.1 billion securitisation of corporate loans of the Luxembourg branch).

In all of the true sale 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. These transactions did not result in any reduction in risk-weighted assets.

HVB and the EIB Group have structured a new synthetic securitisation. The EIB Group consists of the European Investment Bank (EIB) and the European Investment Fund (EIF). In response to the COVID-19 pandemic, new loans are being made available for SMEs through the Tucherpark 2022 transaction (€1.9 billion securitisation of corporate loans) within the framework of the European Guarantee Fund (EGF). EIF takes on financial guarantees that provide credit protection, which are hedged through an agreement of the EIB in favour of the EIF. For HVB, this results in a reduction in risk-weighted assets of €0.8 billion.

64 Deposits from banks

€ millions	**2022**	**2021**
Deposits from central banks	21,727	32,052
Deposits from banks	29,454	29,655
Current accounts	1,550	1,789
Cash collateral and pledged credit balances	8,417	7,883
Repos	2,957	4,190
Term deposits	1,700	889
Other liabilities	14,830	14,904
Total	**51,181**	**61,707**

Deposits from central banks include liabilities from the participation in the TLTRO III programme totalling €22 billion as at the reporting date (previous year: €32 billion). The decline is based on a partial repayment of the funds totalling €11 billion following the ECB's amendments of the conditions in November 2022.

Notes to the Balance Sheet (Continued)

Amounts payable to related parties

The item “Deposits from banks” includes the following amounts attributable to related parties:

€ millions	2022	2021
Non-consolidated affiliates	4,226	3,124
of which:		
UniCredit S.p.A.	3,042	1,928
sister companies[1]	1,184	1,196
Joint ventures	—	—
Associates	126	130
Other investees	25	18
Total	**4,377**	**3,272**

1 Largest single items relate to UniCredit Bank Austria AG.

65 Deposits from customers

€ millions	2022	2021
Current accounts	92,333	95,677
Cash collateral and pledged credit balances	3,489	6,067
Savings deposits	10,706	14,986
Repos	224	1,928
Term deposits	35,529	13,054
Promissory notes	861	1,059
Lease liabilities	344	410
Other liabilities	3,666	1,159
Total	**147,152**	**134,340**

Amounts payable to related parties

The item “Deposits from customers” includes the following amounts attributable to related parties:

€ millions	2022	2021
Non-consolidated affiliates	22	263
of which:		
sister companies	4	245
subsidiaries	18	18
Joint ventures	—	—
Associates	—	—
Other investees	313	274
Total	**335**	**537**

66 Debt securities in issue

€ millions	2022	2021
Bonds	31,140	32,180
of which:		
registered Mortgage Pfandbriefe	3,426	3,737
registered Public-sector Pfandbriefe	1,164	1,634
Mortgage Pfandbriefe	17,017	15,899
Public-sector Pfandbriefe	1,253	697
registered bonds	2,116	2,308
Other securities	—	—
Total	**31,140**	**32,180**

Debt securities in issue, payable to related parties

The item "Debt securities in issue" includes the following amounts attributable to related parties:

€ millions	2022	2021
Non-consolidated affiliates	3,568	3,315
of which:		
UniCredit S.p.A.	3,568	3,315
sister companies	—	—
Joint ventures	—	—
Associates	—	—
Other investees	2	2
Total	**3,570**	**3,317**

67 Financial liabilities held for trading

€ millions	2022	2021
Negative fair values of derivative financial instruments	58,310	44,053
Other financial liabilities held for trading	5,994	9,606
Total	**64,304**	**53,659**

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.

68 Financial liabilities at FVTPL

This item in the amount of €4,818 million (previous year: €5,510 million) primarily contains own structured issues.

The difference between the carrying amount and the amount payable under the contract amounts to minus €267 million (previous year: minus €217 million).

Notes to the Balance Sheet (Continued)

69 Hedging derivatives

€ millions	2022	2021
Micro fair value hedge	48	193
Portfolio fair value hedge[1]	152	307
Total	**200**	**500**

1 The cross-currency interest rate swaps used in hedge accounting are carried at their aggregate fair value in the portfolio fair value hedge.

70 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 minus €5,474 million (previous year: €617 million). The fair value of the netted portfolio fair value hedge derivatives represents a net comparable amount resulting from a countermovement. On account of the higher interest rates in 2022, the amount reported for the hedge adjustment has increased sharply and is shown as a negative figure. Based on the rules of IAS 39.89A in conjunction with IAS 39.AG123, the nature of the hedged item determines the allocation either to the asset side or to the liabilities side, which means that a positive hedge adjustment for hedged liabilities and an excess of liabilities over assets is to be reported in the respective maturity buckets of the portfolio fair value hedge as a negative figure on the liabilities side.

71 Liabilities of disposal groups held for sale

€ millions	2022	2021
Deposits from banks	143	118
Deposits from customers	270	301
Tax liabilities	25	8
Other liabilities	139	131
Provisions	3	7
Total	**580**	**565**

As at 31 December 2022 and in the previous year, the liabilities of disposal groups held for sale relate exclusively to the liabilities of Wealth Management Capital Holding GmbH, Munich and its consolidated subsidiaries, which are allocated to the Retail operating segment.

72 Other liabilities

€millions	2022	2021
Accrued expenses and deferred income for other interest	168	202
Short-term liabilities due to employees	278	312
Turnover tax liabilities	41	543
Liabilities to suppliers	59	53
Other liabilities	684	455
Total	**1,230**	**1,565**

73 Provisions

€ millions	2022	2021
Provisions for pensions and similar obligations	71	759
Provisions for financial guarantees and irrevocable credit commitments	330	454
Restructuring provisions	595	690
Other provisions	782	848
Payroll provisions	317	298
Provisions related to tax disputes (without income taxes)	116	160
Provisions for rental guarantees and dismantling obligations	105	99
Provisions for legal risks and similar risks	158	178
Other provisions	86	113
Total	**1,778**	**2,751**

The expected credit losses for financial guarantees and unutilised irrevocable credit commitments are recognised under provisions for financial guarantees and irrevocable credit commitments. The term of these provisions is short to long term in line with the term of the underlying guarantees and credit commitments. For uncertainties in making estimates, please refer to the description of credit risk in the Risk Report. Restructuring provisions largely include restructuring provisions that were set aside within the framework of the UniCredit Unlocked group-wide strategic plan. The provisions are set aside for a long term. There is less uncertainty in estimating restructuring provisions as HVB Group is making progress in implementing the strategic plan in line with the planning assumptions. Other provisions are largely long-term provisions. The uncertainties in making estimates depend on each particular case; some of these are easy to estimate, for example the provisions for rental guarantees and dismantling obligations, but some can be difficult to estimate where this involves individual cases contained in the provisions for legal risks.

The effects of changes in the discount rate and compounding led to a decrease of €28 million in provisions recognised in the income statement in the reporting period (previous year: increase of €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. For the first time in December 2009 and again in December 2016, pension commitments and pension obligations of the Bank for beneficiaries who had already received pension benefits in October 2009 or 2016 respectively and corresponding plan assets to cover the claims of these beneficiaries were transferred to the pension fund. In December 2022, both the pension obligations and the assets required to cover these totalling €335 million (one-time payment) were transferred to the pension fund in a third transfer for a further 3,196 beneficiaries (including two double pensioners) who had already received pension benefits in October 2022. The amount was calculated on the basis of the framework conditions permitted for tax purposes for a transfer of direct commitments to a pension fund in accordance with the BMF circular of 10 July 2015. 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 from defined benefit plans for post-employment benefits recognised in the consolidated balance sheet can be derived as follows:

€ millions	**2022**	**2021**
Present value of funded pension obligations	4,019	5,734
Fair value of plan assets	(4,132)	(4,979)
Funded status	**(113)**	**755**
Present value of unfunded pension obligations	6	4
Net liability (net asset) of defined benefit plans	**(107)**	**759**
Asset ceiling	—	—
Capitalised excess cover of plan assets	178	—
Recognised pension provisions	**71**	**759**

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 offsetting these totals. Since a change in the net liability (net asset) is shown here, the positive or negative amounts 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 as a positive amount or an increase in the fair value of plan assets as a negative amount (in brackets) and vice versa. The tables also show the changes in the effects of the asset ceiling during the financial year 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:

Notes to the Balance Sheet (Continued)

€ millions	PRESENT VALUE OF PENSION COMMITMENTS	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 as at 1/1/2022	**5,737**	**(4,979)**	**759**	**—**	**—**	**759**
Service cost component						
Current service cost	75	—	75	—	—	75
Past service cost	—	—	—	—	—	—
Gains/losses on settlement	—	—	—	—	—	—
Net interest component						—
Interest expense/income	72	(63)	9	—	—	9
Service costs and net interest of defined benefit plans recognised in profit or loss for the period	**147**	**(63)**	**84**	**—**	**—**	**84**
Remeasurement component						
Gains/losses on plan assets excluding amounts included in net interest on the net defined benefit liability (asset)	—	790	790	—	—	790
Actuarial gains/losses - demographic assumptions	—	—	—	—	—	—
Actuarial gains/losses - financial assumptions	(1,765)	—	(1,765)	—	—	(1,765)
Actuarial gains/losses - experience adjustments	23	—	23	—	—	23
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	**(1,742)**	**790**	**(952)**	**—**	**—**	**(952)**
Other changes						
Excess cover of plan assets	—	—	—	—	178	178
Exchange differences	(3)	5	2	—	—	2
Contributions to the plan:						
Employer	—	(5)	(5)	—	—	(5)
Plan participants	9	(9)	—	—	—	—
Pension payments	(158)	158	—	—	—	—
Business combinations, disposals and other	35	(30)	5	—	—	5
Balance as at 31/12/2022	**4,025**	**(4,132)**	**(107)**	**—**	**178**	**71**

€ millions	PRESENT VALUE OF PENSION COMMITMENTS	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 as 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/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 - demographic assumptions	(8)	—	(8)	—	—	(8)
Actuarial gains/losses - financial assumptions	(189)	—	(189)	—	—	(189)
Actuarial gains/losses - 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	11	(7)	4	—	—	4
Balance as at 31/12/2021	**5,737**	**(4,979)**	**759**	**—**	**—**	**759**

At the end of the reporting period, 28% (previous year: 33%) of the present value of the defined benefit obligations of €4,025 million (previous year: €5,737 million) was attributable to active employees, 22% (previous year: 24%) to former employees with vested benefit entitlements and 50% (previous year: 43%) to pensioners and surviving dependants.

Actuarial assumptions

The main actuarial assumptions used to determine the present value of the gross defined benefit obligations are listed below. The summarised disclosure for several plans takes the form of weighted average factors:

in %	2022	2021
Actuarial interest rate	3.85	1.25
Rate of increase in pension commitments	2.25	1.75
Rate of increase in future compensation and over career	2.50	2.00

Notes to the Balance Sheet (Continued)

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 generally taken into account in the assumptions listed above.

Sensitivity analyses

The sensitivity analyses discussed below are intended to show how the present value of the defined benefit obligations would change in case of 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 OBLIGATIONS		
		PRESENT VALUE OF LIABILITY	ABSOLUTE CHANGES	RELATIVE CHANGES
		€ millions	€ millions	in %
Sensitivities as at 31/12/2022				
	Basic value of the calculation of sensitivity	4,025		
Actuarial interest rate	Increase of 25 basis points	3,887	(138)	(3.4)
	Decrease of 25 basis points	4,173	148	3.7
Rate of increase in pension obligations	Increase of 25 basis points	4,127	102	2.5
	Decrease of 25 basis points	3,927	(98)	(2.4)
Rate of increase in future compensation/career trend	Increase of 25 basis points	4,027	2	0.0
	Decrease of 25 basis points	4,023	(2)	(0.1)
Sensitivities as at 31/12/2021				
	Basic value of the calculation of sensitivity	5,737		
Actuarial interest rate	Increase of 25 basis points	5,490	(247)	(4.3)
	Decrease of 25 basis points	6,002	265	4.6
Rate of increase in pension obligations	Increase of 25 basis points	5,908	171	3.0
	Decrease of 25 basis points	5,575	(162)	(2.8)
Rate of increase in future compensation/career trend	Increase of 25 basis points	5,741	4	0.1
	Decrease of 25 basis points	5,732	(5)	(0.1)

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 2022 would rise by €147 million (3.6%) to €4,172 million (previous year: by €212 million (3.7%) to €5,949 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 year (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.

Notes to the Balance Sheet (Continued)

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	**2022**	**2021**
Participating interests	221	204
Debt securities	212	302
Properties	23	22
Mixed investment funds	3,034	3,856
Property funds	619	558
Cash and cash equivalents/term deposits	20	21
Other assets	3	16
Total	**4,132**	**4,979**

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.

The following table shows a detailed breakdown of the mixed investment fund:

in %	**2022**	**2021**
Equities	7.5	7.7
German equities	0.5	0.5
European equities	4.8	4.1
Other equities	2.2	3.1
Government bonds	38.7	31.0
Pfandbriefe	4.0	5.5
Corporate bonds	31.2	28.7
German corporate bonds	2.4	3.7
European corporate bonds	18.2	16.9
Other corporate bonds	10.6	8.1
Fund certificates	11.8	10.6
Cash and cash equivalents/term deposits	6.8	16.5
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	**2022**	**2021**
Participating interests	—	—
Debt securities	16	35
Properties	—	—
Mixed investment funds	60	170
Property funds	—	—
Cash and cash equivalents/term deposits	—	21
Other assets	—	—
Total	**76**	**226**

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.

Notes to the Balance Sheet (Continued)

HVB Group intends to make contributions totalling €21 million to defined benefit plans in the 2023 financial year (previous year: €22 million).

The weighted average duration of HVB Group's defined benefit obligations at the reporting date amounted to 14.5 years (previous year: 17.9 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) s.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 2023 financial year (previous year: €21 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 2023 financial year (previous year: €5 million).

The total contribution income of the BVV in the 2021 financial year amounted to €731 million. The figure of the BVV for the 2022 financial year was not yet available at the time of preparing these notes to the consolidated financial statements as it had not yet been published.

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 €21 million in the reporting year (previous year: €23 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 €82 million in the reporting year (previous year: €86 million).

Provisions for financial guarantees and irrevocable credit commitments, restructuring provisions and other provisions

€ millions	PROVISIONS FOR FINANCIAL GUARANTEES AND IRREVOCABLE CREDIT COMMITMENTS		RESTRUCTURING PROVISIONS[1]		OTHER PROVISIONS	
	2022	2021	2022	2021	2022	2021
Balance as at 1/1	**454**	**432**	**690**	**288**	**848**	**771**
Changes in consolidated group	—	—	—	—	—	—
Changes arising from foreign currency translation	1	4	—	—	(1)	—
Transfers to provisions	189	303	86	525	133	341
Reversals	(318)	(285)	(45)	(24)	(164)	(76)
Reclassifications	—	—	—	—	—	53
Amounts used	—	—	(28)	(22)	(124)	(241)
Non-current assets or disposal groups held for sale	—	—	—	—	—	—
Other changes	4	—	(108)	(77)	90	—
Balance as at 31/12	**330**	**454**	**595**	**690**	**782**	**848**

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 (loss allowances)

€ millions	STAGE 1	STAGE 2	STAGE 3	TOTAL
Balance as at 1/1/2022	**89**	**49**	**316**	**454**
Addition due to new business	23	—	—	23
Change in carrying amount within the same stage	(32)	9	(1)	(24)
Transfers to another stage due to deterioration in credit quality	(14)	49	—	35
from Stage 1 to Stage 2	(14)	49	—	35
from Stage 2 to Stage 3	—	—	—	—
from Stage 1 to Stage 3	—	—	—	—
Transfers to another stage due to improvement in credit quality	5	(34)	—	(29)
from Stage 2 to Stage 1	5	(34)	—	(29)
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)	—	(4)	(130)	(134)
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 as at 31/12/2022	**71**	**69**	**190**	**330**
Balance as 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 as at 31/12/2021	**89**	**49**	**316**	**454**

Restructuring provisions
In the reporting year, restructuring provisions relate to the implementation of the UniCredit Unlocked strategic plan including, among other things, the planned migration of various trading systems to a central trading system. In this connection, activities are also being transferred from the previous locations to the central location. The historically grown structure of HVB Group's trading systems is to be made significantly easier by transferring the respective activities to one trading platform. This will allow considerable synergies to be leveraged and the complexity of the IT infrastructure to be reduced.

In the previous year, restructuring provisions are likewise based on measures resulting from the implementation of the UniCredit Unlocked 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, which is to be achieved above all by natural fluctuation, partial and early retirement solutions as well as severance packages.

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 as at 1/1/2022	**298**	**160**	**99**	**178**	**113**	**848**
Changes in consolidated group	—	—	—	—	—	—
Changes arising from foreign currency translation	—	—	—	—	(1)	(1)
Transfers to provisions	22	4	47	22	25	120
Reversals	(10)	(42)	(34)	(12)	(54)	(152)
Reclassifications	91	—	(4)	—	—	87
Amounts used	(77)	(3)	(6)	(21)	(8)	(115)
Non-current assets or disposal groups held for sale	—	—	—	—	—	—
Other changes	(7)	(3)	3	(9)	11	(5)
Balance as at 31/12/2022	**317**	**116**	**105**	**158**	**86**	**782**
Balance as 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	—	—	—	—	—	—
Other changes	—	(1)	1	—	—	—
Balance as at 31/12/2021	**298**	**160**	**99**	**178**	**113**	**848**

Notes to the Balance Sheet (Continued)

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 2017, 2018, 2019, 2020, 2021 and 2022 financial years to be disbursed as of 2023 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.

74 Shareholders’ equity

The shareholders’ equity of HVB Group at 31 December 2022 consisted of the following:

Subscribed capital

At 31 December 2022, 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 shares carry voting and dividend rights.

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 2022 amounted to €9,791 million (previous year: €9,791 million).

Other reserves

Other reserves of €4,652 million (previous year: €3,589 million) mainly contain retained earnings. The increase is largely attributable to actuarial gains of €949 million, transfers of €141 million from the profit available for distribution and the addition of €22 million to the revaluation surplus for owner-occupied real estate. Furthermore, payments of €68 million for additional equity instruments were made from other reserves.

Change in valuation of financial instruments

The hedge reserve shows a year-on-year decline of €15 million to €4 million.

The FVTOCI reserve of €11 million (previous year: €32 million) includes the difference between the amortised cost and fair value of the securities allocated to this category. In the reporting year, the FVTOCI reserve declined by €21 million after tax 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 2022, 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.

Notes on the appropriation of profit
In the 2022 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 €1,160 million. This consists of the net income for the year of €2,350 million generated in the reporting year less the amount of €1,190 million transferred to other retained earnings. We will propose to the Shareholders' Meeting that a dividend of €1,160 million be paid in total to UniCredit S.p.A. (UniCredit), Milan, Italy. This represents a dividend of around €1.45 per share after around €0.31 for the 2021 financial year. The profit available for distribution of €245 million reported in the previous year was distributed to UniCredit on 10 May 2022 in accordance with a resolution adopted by the Shareholders' Meeting on 5 Mai 2022.

Notes to the Balance Sheet (Continued)

75 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	2022	2021
Subordinated liabilities	1,108	1,108
Hybrid capital instruments	1,700	1,700
Total	**2,808**	**2,808**

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 for the issuer 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 following table shows the breakdown of subordinated capital by balance sheet item:

€ millions	2022	2021
Deposits from customers	—	—
Deposits from banks	228	228
Debt securities in issue	880	880
Shareholders' equity	1,700	1,700
Total	**2,808**	**2,808**

We incurred interest expenses of €17 million (previous year: €20 million) in connection with this subordinated capital. Subordinated capital includes pro rata interest of €15 million (previous year: €14 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: €228 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.

Notes to the Cash Flow Statement

76 Notes to the items in the cash flow statement

The cash flow statement shows the cash flows for the financial year, 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 did not change with an effect on cash flow in the reporting period (previous year: down €147 million).

There were no gains on the disposal of shares in fully consolidated companies in the 2022 and 2021 financial years.

There were no significant acquisitions of subsidiaries or associates in the 2022 and 2021 financial years.

As in the previous year, no fully consolidated subsidiaries were sold in the financial year.

77 Events after the reporting period

In January 2023, HVB decided to sell its shares in Comtrade Group B.V. accounted for using the equity method and started sales negotiations. The closing is expected in the first quarter.

78 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 include extension options with periods of between three and five years in around half of the cases. 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. HVB Group does not expect this to result in any significant cash outflows that were not taken into account in the measurement of the lease liability. 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	**2022**	**2021**
Right-of-use assets (property, plant and equipment)		
Leased land and buildings	157	175
Leased plant and office equipment	6	8
Carrying amount as at 31/12	**163**	**183**

Additions to the right-of-use assets recognised under property, plant and equipment amounted to €47 million during the reporting year (previous year: €26 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	**2022**	**2021**
Lease liabilities	370	429
Carrying amount as at 31/12	**370**	**429**

Other Information (Continued)

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	2022	2021
up to 1 year	81	83
from 1 year to 2 years	62	79
from 2 years to 3 years	33	59
from 3 years to 4 years	120	30
from 4 years to 5 years	18	116
from 5 years and over	77	85
Total	**391**	**452**

HVB Group sees no significant liquidity risk with regard to lease liabilities. The lease liabilities are monitored by the Bank's Treasury unit.

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	2022	2021
Depreciation expense from right-of-use assets (property, plant and equipment)		
Leased land and buildings	42	77
Leased plant and office equipment	6	8
Total	**48**	**85**

The depreciation charge on the right-of-use assets reported under property, plant and equipment totalling €48 million (previous year: €85 million) consists of scheduled depreciation of €51 million recognised as disposals (previous year: €51 million), non-scheduled depreciation (impairments) of €12 million (previous year: €39 million) and write-ups (impairment reversals) of €15 million recognised as additions (previous year: €5 million).

The effect recognised in interest expense from the accrued interest added to lease liabilities for the financial year is as follows:

€ millions	2022	2021
Interest expense from lease liabilities	4	5

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	2022	2021
Expense from short-term leases	5	6
Expense from leases for low-value assets (excl. expense from short-term leases based on an asset of low value)	—	—
Income from subleases of right-of-use assets (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 €92 million (previous year: €99 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.

Other Information (Continued)

The following table shows the lease income from lessor operating leases in the consolidated income statement during the financial year:

€ millions	2022	2021
Income from operating leases	47	68

The following table contains a maturity analysis of undiscounted payments from operating leases that the lessor will receive in the future:

€ millions	2022	2021
up to 1 year	36	36
from 1 year to 2 years	22	23
from 2 years to 3 years	18	20
from 3 years to 4 years	15	15
from 4 years to 5 years	14	14
from 5 years and over	80	79
Total	**185**	**187**

At the end of the reporting period, the carrying amount of the assets included in property, plant and equipment that are the subject of an operating lease amounts to €24 million (previous year: €85 million).

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	2022	2021
Gains/(losses) on the disposal of finance leases	4	4
Finance income from the net investment in the lease (interest income from finance lease receivables)	9	13

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	**2022**	**2021**
up to 1 year	279	419
from 1 year to 2 years	175	280
from 2 years to 3 years	99	181
from 3 years to 4 years	86	97
from 4 years to 5 years	34	88
from 5 years and over	45	85
Total amount of undiscounted lease payments to be received	**718**	**1,150**
+ Unguaranteed residual value	—	—
= Gross investment in the lease	**718**	**1,150**
- Unrealised finance income	(29)	(48)
= Net investment in the lease (finance lease receivables)	**689**	**1,102**

The total 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.

79 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. This category mainly includes listed equity instruments, bonds and exchange-traded derivatives.

Other Information (Continued)

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 €574 million (previous year: €1,501 million) were transferred between Level 1 and Level 2. At the same time, financial assets or liabilities of €711 million (previous year: €389 million) were transferred between Level 2 and Level 1. Most of the transfers relate to securities and are due to an increase or decrease in the actual trading taking place in the securities concerned and the associated change in the bid-offer spreads and thus in the liquidity of the respective security.

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	—	37
Transfer from Level 2	50	—
Financial assets at FVTPL		
Transfer from Level 1	—	535
Transfer from Level 2	463	—
Financial assets at FVTOCI		
Transfer from Level 1	—	—
Transfer from Level 2	198	—
Financial liabilities held for trading		
Transfer from Level 1	—	2
Transfer from Level 2	—	—
Financial liabilities at FVTPL		
Transfer from Level 1	—	—
Transfer from Level 2	—	—

31 December is considered the transfer date for instruments transferred between the levels within the reporting period (1 January to 31 December). Therefore, the fair value as at 31 December is used as the value recognised for the transfer in levels.

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 a 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 are determined for these non-observable parameters and applied for valuation purposes, upon valuation as at 31 December 2022. 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 – 1,707bps
Equities	Market approach	Price	0% - 3%
Asset-backed securities (ABS)	DCF method	Credit spread curves	55bps – 2,280bps
		Residual value	0% - 70%
		Default rate	0% - 4%
		Prepayment rate	0% - 20%
Commodity/equity derivatives	Option price model	Commodity price volatility/equity volatility	2% - 18%
		Correlation between commodities/equities	2% - 24%
	DCF method	Dividend yields	1% - 26%
Interest rate derivatives	DCF method	Swap interest rate	0bps - 587bps
		Inflation swap interest rate	3bps - 12bps
	Option price model	Inflation volatility	1% - 3%
		Interest rate volatility	0% - 29%
		Correlation between interest rates	0% - 22%
Credit derivatives	Hazard rate model	Credit spread curves	1bps - 369bps
		Residual value	0% - 5%
Currency derivatives	DCF method	Yield curves	0bps - 587bps
	Option price model	FX volatility	0% - 161%

The sensitivity analysis presented below shows the impact of changing reasonable possible alternative parameter values on the fair value of the financial instruments classified as Level 3. 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 €40 million respectively at the reporting date (previous year: a plus or minus of €46 million respectively).

Other Information (Continued)

The following table shows the significant sensitivity effects, broken down by the individual classes of financial instrument for the various product types:

€ millions	2022		2021	
	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
Fixed-income securities and other debt instruments	—	—	—	—
Equities	—	—	—	—
Asset-backed securities	—	—	—	—
Commodity/equity derivatives	36	(36)	42	(42)
Interest rate derivatives	4	(4)	4	(4)
Credit derivatives	—	—	—	—
Currency derivatives	—	—	—	—
Total	**40**	**(40)**	**46**	**(46)**

For fixed-income securities and other debt instruments as well as asset-backed securities, the credit spread curves were changed in the course 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 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	2022	2021
Balance as at 1/1	**21**	**18**
New trades during the period	9	26
Write-downs	(4)	1
Expired trades	—	—
Retroactive change in observability	7	22
Exchange rate changes	—	—
Balance as at 31/12	**27**	**21**

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:

	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)	
€ millions	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Financial assets recognised in the balance sheet at fair value						
Financial assets held for trading	17,023	28,146	62,932	56,536	2,303	1,232
of which derivatives	3,506	4,894	55,669	42,376	1,707	781
Financial assets at FVTPL	2,324	4,925	1,747	2,140	862	469
Financial assets at FVTOCI	9,702	11,659	135	347	—	—
Hedging derivatives	—	—	630	231	6	—
Financial liabilities recognised in the balance sheet at fair value						
Financial liabilities held for trading	6,719	9,472	55,688	43,026	1,897	1,161
of which derivatives	4,860	5,958	51,846	37,472	1,604	623
Financial liabilities at FVTPL	—	—	4,535	5,115	283	395
Hedging derivatives	—	—	200	500	—	—

Other Information (Continued)

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 as at 1/1/2022	**1,232**	**469**	**—**	**—**
Additions				
Purchases	2,349	229	—	5
Realised gains[1]	317	74	—	—
Transfer from other levels	291	250	—	1
Other additions[2]	38	—	—	—
Disposals				
Sales	(1,692)	(106)	—	—
Repayment	—	(8)	—	—
Realised losses[1]	(75)	(41)	—	—
Transfer to other levels	(147)	—	—	—
Other disposals	(10)	(5)	—	—
Balance as at 31/12/2022	**2,303**	**862**	**—**	**6**
Balance as 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 as at 31/12/2021	**1,232**	**469**	**—**	**—**

1 In the income statement and shareholders' equity.
2 Also including changes in the group of companies included in consolidation.

The increase in Level 3 financial assets held for trading is mainly due to increased trading activity in Level 3 instruments, particularly in derivatives. In the case of securities, there was a net addition from both purchases/sales. The additions from purchases in financial assets at FVTPL are primarily attributable to the granting of syndicated loans.

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**
Balance as at 1/1/2022	**1,161**	**395**	**—**
Additions			
Sales	652	—	—
Issues	180	46	—
Realised losses[1]	193	1	—
Transfer from other levels	626	49	—
Other additions[2]	25	2	—
Disposals			
Buy-backs	(307)	(37)	—
Repayment	(49)	(32)	—
Realised gains[1]	(228)	(33)	—
Transfer to other levels	(323)	(108)	—
Other disposals	(33)	—	—
Balance as at 31/12/2022	**1,897**	**283**	**—**
Balance as at 1/1/2021	**903**	**361**	**—**
Additions			
Sales	146	—	—
Issues	336	179	—
Realised losses[1]	103	34	—
Transfer from other levels	153	58	—
Other additions[2]	95	8	—
Disposals			
Buy-backs	(240)	(23)	—
Repayment	(31)	(47)	—
Realised gains[1]	(124)	(39)	—
Transfer to other levels	(153)	(128)	—
Other disposals	(27)	(8)	—
Balance as at 31/12/2021	**1,161**	**395**	**—**

1 In the income statement and shareholders' equity.
2 Also including changes in the group of companies included in consolidation.

Most of the additions as well as the net transfers from other levels are largely due to adjustments to fair value levels resulting from the regular review of the fair value levels determined. In addition, adjustments were made on account of refining the procedure for derivatives with an option component and for the materiality of individual non-observable parameters.

Other Information (Continued)

80 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 is conducted 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 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. 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 adjusted by product-specific factors 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. This involves determining a range for the internal parameters when calculating the respective fair value, 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.

HVB Group uses the following methods for deriving the fair value levels for loans: a specific adjustment of the parameters (shift under a stress scenario) is simulated for the valuation parameters relating to credit risk (for example, 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.

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 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 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 determining 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.

	CARRYING AMOUNT		FAIR VALUE	
€ billions	**2022**	**2021**	**2022**	**2021**
Assets				
Cash and cash balances	36.8	27.7	36.8	27.7
Financial assets held for trading	82.3	85.9	82.3	85.9
Financial assets at FVTPL	4.9	7.5	4.9	7.5
Financial assets at FVTOCI	9.8	12.0	9.8	12.0
Loans and receivables with banks (at cost)	23.3	24.6	22.9	24.8
Loans and receivables with customers (at cost)	154.8	148.6	159.0	154.4
of which finance lease receivables	0.6	1.0	0.6	1.0
Hedging derivatives	0.6	0.2	0.6	0.2
Total	**312.5**	**306.5**	**316.3**	**312.5**
Liabilities				
Deposits from banks	51.2	61.7	51.2	61.8
Deposits from customers	147.2	134.3	147.3	134.3
Debt securities in issue	31.1	32.2	28.4	34.5
Financial liabilities held for trading	64.3	53.7	64.3	53.7
Financial liabilities at FVTPL	4.8	5.5	4.8	5.5
Hedging derivatives	0.2	0.5	0.2	0.5
Total	**298.8**	**287.9**	**296.2**	**290.3**

	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)	
€ billions	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Financial assets not carried at fair value in the balance sheet						
Cash and cash balances	—	—	36.8	27.7	—	—
Loans and receivables with banks (at cost)	2.0	1.7	18.7	22.5	2.2	0.6
Loans and receivables with customers (at cost)	8.4	11.1	71.6	69.5	79.0	73.8
of which finance lease receivables	—	—	—	—	0.6	1.0
Financial liabilities not carried at fair value in the balance sheet						
Deposits from banks	—	—	49.6	53.9	1.6	7.9
Deposits from customers	—	—	144.2	130.4	3.1	3.9
Debt securities in issue	14.0	14.8	6.4	7.0	8.0	12.7

At HVB Group, the difference between the fair values and carrying amounts totals minus €3.8 billion for assets (previous year: €6.0 billion) and minus €2.6 billion for liabilities (previous year: €2.4 billion). The net balance of these amounts is €6.4 billion (previous year: €3.6 billion). When comparing carrying amounts and fair values of the hedged items, it should be noted that part of the interest-related valuation has already been included in the hedge adjustment.

81 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	FINANCIAL ASSETS (GROSS)	FINANCIAL LIABILITIES NETTED IN THE BALANCE SHEET (GROSS)	RECOGNISED FINANCIAL ASSETS (NET)	AMOUNTS NOT RECOGNISED: EFFECTS OF MASTER NETTING ARRANGEMENTS	AMOUNTS NOT RECOGNISED: FINANCIAL INSTRUMENTS AS COLLATERAL	AMOUNTS NOT RECOGNISED: CASH COLLATERAL	NET AMOUNT
Derivatives[1]	308,263	(246,745)	61,518	(41,389)	(260)	(9,829)	10,040
Reverse repos[2]	11,726	—	11,726	—	(11,157)	—	569
Loans and receivables[3]	87,776	(3,994)	83,782	—	—	—	83,782
Total as at 31/12/2022	**407,765**	**(250,739)**	**157,026**	**(41,389)**	**(11,417)**	**(9,829)**	**94,391**
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)	84,517	—	—	—	84,517
Total as at 31/12/2021	**194,890**	**(46,638)**	**149,100**	**(26,910)**	**(15,783)**	**(9,634)**	**96,773**

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 €1,191 million (previous year: €5,197 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	FINANCIAL LIABILITIES (GROSS)	FINANCIAL ASSETS NETTED IN THE BALANCE SHEET (GROSS)	RECOGNISED LIABILITIES (NET)	AMOUNTS NOT RECOGNISED: EFFECTS OF MASTER NETTING ARRANGEMENTS	AMOUNTS NOT RECOGNISED: FINANCIAL INSTRUMENTS AS COLLATERAL	AMOUNTS NOT RECOGNISED: CASH COLLATERAL	NET AMOUNT
Derivatives[1]	306,270	(247,760)	58,510	(41,389)	(357)	(8,061)	8,703
Reverse repos[2]	3,245	—	3,245	—	(3,175)	—	70
Liabilities[3]	127,264	(2,979)	124,285	—	—	—	124,285
Total as at 31/12/2022	**436,779**	**(250,739)**	**186,040**	**(41,389)**	**(3,532)**	**(8,061)**	**133,058**
Derivatives[1]	88,414	(43,861)	44,553	(26,911)	(544)	(8,215)	8,883
Reverse repos[2]	9,957	(1,602)	8,355	—	(8,188)	—	167
Liabilities[3]	128,198	(1,176)	127,479	—	—	—	127,479
Total as at 31/12/2021	**226,569**	**(46,639)**	**180,387**	**(26,911)**	**(8,732)**	**(8,215)**	**136,529**

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 €64 million (previous year: €2,236 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.

82 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 at their maximum amount to the shortest maturity bucket (repayable on demand) in which they can be utilised at the earliest.

For details on the presentation of the Bank’s liquidity management, please refer to the section entitled “Liquidity risk” in the Risk Report of the Combined Management Report.

Other Information (Continued)

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
31/12/2022							
Financial assets							
Financial assets held for trading	297	4,837	735	2,689	4,087	7,619	4,050
Derivatives on financial assets held for trading	60,882	—	—	—	—	—	—
Financial assets at FVTPL	23	355	351	1,001	2,124	1,118	26
Financial assets at FVTOCI	—	328	107	2,214	6,910	1,348	—
Loans and receivables with banks (at cost)	7,940	4,866	2,107	3,359	4,351	1,404	981
Loans and receivables with customers (at cost)	16,028	8,700	14,429	13,633	55,684	76,831	—
of which finance lease receivables	8	20	62	177	388	39	—
Hedging derivatives	—	189	428	1,771	2,295	2,031	—
Non-derivative and derivative financial liabilities							
Deposits from banks	10,733	2,459	4,019	17,404	13,828	6,126	131
Deposits from customers	97,568	13,054	21,593	13,097	2,183	834	1
Debt securities in issue	20	106	4,828	2,283	12,805	17,981	—
Financial liabilities held for trading	—	1,768	2,214	862	1,571	1,172	1,801
Financial liabilities at FVTPL	—	153	92	448	2,514	1,000	521
Derivatives on financial liabilities held for trading	58,310	—	—	—	—	—	—
Hedging derivatives	—	204	532	1,836	2,072	1,471	—
Credit commitments and financial guarantees	87,177	—	—	—	—	—	—
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)	8,643	2,813	5,305	5,502	4,249	8,609	11,134
Loans and receivables with customers (at cost)	18,030	8,445	11,342	12,916	57,499	67,355	38
of which finance lease receivables	18	40	67	280	621	85	—
Hedging derivatives	—	183	366	1,646	3,703	1,721	—
Non-derivative and derivative financial liabilities							
Deposits from banks	12,059	2,982	2,550	7,828	32,519	6,118	135
Deposits from customers	107,669	4,813	19,592	6,654	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	—	—	—	—	—	—

83 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 Remuneration Regulation for Institutions (Institutsvergütungsverordnung - InstitutV) 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".

84 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.

Supervisory ratios

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 supervisory total capital ratio prescribed in the CRR II represents the percentage ratio between the own funds determined in accordance with Part 2 CRR II and 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:

Other Information (Continued)

Own funds[1]:

€ millions	2022	2021
Tier 1 - Total core capital for solvency purposes	**17,760**	**16,867**
Shares of common stock	2,407	2,407
Additional paid-in capital, retained earnings, minority interest, own shares	14,605	14,529
Hybrid capital instruments (silent partnership certificates) without prorated interest	—	—
Other	(361)	(1,384)
Capital deductions	(591)	(385)
Additional Tier 1 capital	1,700	1,700
Tier 2 - Total supplementary capital for solvency purposes	**1,406**	**1,403**
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	1,084
Value adjustment excess for A-IRB positions	324	319
Other	—	—
Capital deductions	(2)	—
Total own funds	**19,167**	**18,270**

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 Nos. 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.

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	18,039	1,700	—	19,739
Reconciliation to own funds compliant with the CRR				
Cumulative shares of preferred stock	—	—	—	—
Ineligible profit components	(1,160)	—	—	(1,160)
Ineligible minority interests under banking supervisory regulations	9	—	—	9
Diverging consolidation perimeters	(237)	—	—	(237)
Deduction of intangible assets	(9)	—	—	(9)
Hybrid capital recognised under banking supervisory regulations	—	—	—	—
Eligible portion of subordinated liabilities	—	—	1,082	1,082
Value adjustment excess (+) or shortfall (-) for A-IRB positions	—	—	324	324
Adjustments to CET1 due to prudential filters	(219)	—	—	(219)
Deductible deferred tax assets	(9)	—	—	(9)
Capital deductions which can alternatively be subject to a 1,250% risk weight	(3)	—	—	(3)
Transitional adjustments	—	—	—	—
Other effects	(348)	—	—	(348)
Own funds compliant with CRR II	**16,060**	**1,700**	**1,406**	**19,167**

€ millions	2022 CRR II	2021 CRR II
Risk-weighted assets from		
on-balance-sheet counterparty risk positions	45,013	43,824
off-balance-sheet counterparty risk positions	13,117	15,950
other counterparty risk positions[1]	618	1,025
derivative counterparty risk positions	6,291	6,754
other risk exposure amounts[2]	665	1,291
Total credit risk-weighted assets	**65,704**	**68,844**
Risk-weighted asset equivalent for market risk positions	**7,757**	**9,326**
Risk-weighted asset equivalent for operational risk	**8,615**	**8,758**
Total risk-weighted assets	**82,077**	**86,928**

1 Primarily including repos and securities lending transactions.
2 Upon the introduction of the "Defaulted Assets Model", a lower RWA limit was imposed on UCB AG 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 %	2022 CRR II	2021 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)]	19.6	17.4
Tier 1 capital ratio [Tier 1 capital/(credit risk-weighted assets + 12.5x market risk positions + 12.5x operational risk)]	21.6	19.4
Total capital ratio [Own funds/(credit risk-weighted assets + 12.5x market risk positions + 12.5x operational risk)]	23.4	21.0

85 Securities sale and repurchase and securities lending transactions by balance sheet item

	2022		2021	
€ millions	CARRYING AMOUNT	OF WHICH TRANSFERRED AS COLLATERAL	CARRYING AMOUNT	OF WHICH TRANSFERRED AS COLLATERAL
Financial assets held for trading	82,258	1,066	85,914	1,772
Financial assets at FVTPL	4,933	—	7,534	162
Financial assets at FVTOCI	9,837	1,407	12,006	883
Loans and receivables with banks (at cost)	23,336	—	24,622	—
Loans and receivables with customers (at cost)	154,776	—	148,709	196
Total	**275,140**	**2,473**	**278,785**	**3,013**

Other Information (Continued)

86 Contingent liabilities and other commitments

€ millions	2022	2021
Contingent liabilities[1]	29,629	28,110
Financial guarantees (guarantees and indemnities)	29,629	28,110
Other commitments	57,222	57,963
Irrevocable credit commitments	57,218	57,957
Other commitments	4	6
Total	**86,851**	**86,073**

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 individual items. The financial guarantees 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 €8,725 million (previous year: €16,833 million) to return securities 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.

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 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 as 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 €64 million at year-end 2022 after €51 million at year-end 2021.

As part of real estate financing and development operations, we have taken on 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 €4 million in the reporting year (previous year: €6 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 60 partnerships (previous year: 65).

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 schemes in Germany within the scope of the valid provisions.

Contingent liabilities payable to related parties

€ millions	**2022**	**2021**
Non-consolidated affiliates	1,310	2,106
of which:		
UniCredit S.p.A.	637	1,227
sister companies	671	873
subsidiaries	2	6
Joint ventures	—	—
Associates	—	—
Other investees	86	75
Total	**1,396**	**2,181**

Other Information (Continued)

87 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 is also reduced for those contractual obligations of the company that are established only after the reduction of HVB's shareholding. If 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 was terminated for those contractual liabilities of the company that are established only after its shareholding was terminated.

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 termination of the shareholding are only covered by such Statements of Responsibility that were provided before the reduction or termination of the shareholding in each case.

88 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

Financial instruments with unconsolidated structured entities

Financial instruments with unconsolidated structured entities encompass all contractual relationships from which HVB Group receives 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.

	2022	2021
Number of unconsolidated ABS vehicles (investor positions only)	198	202

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.

	2022	2021
Number of unconsolidated repackaging vehicles	1	2
Aggregate total assets of unconsolidated repackaging vehicles (€ millions)	7	57
Nominal value of the securities issued by unconsolidated repackaging vehicles (€ millions)	7	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.

	2022	2021
Number of unconsolidated funding vehicles for customers	51	47
Aggregate total assets of unconsolidated funding vehicles for customers (€ millions)	6,976	6,057
Nominal value of the securities issued by unconsolidated funding vehicles for customers (€ millions)	6,973	6,055

Other Information (Continued)

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 money 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 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.

	2022	2021
Number of unconsolidated investment funds classified as structured entities	685	653
of which managed by HVB Group	39	33
Aggregate net asset value (including minority interests) of the investment funds classified as structured entities (€ millions)	655,931	529,911
of which managed by HVB Group	2,321	2,607

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.

	2022	2021
Number of other structured entities	7	8
Aggregate total assets (€ millions)	559	908

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:

	2022				
€ millions	**ABS VEHICLES (INVESTOR POSITIONS)**	**REPACKAGING VEHICLES**	**FUNDING VEHICLES FOR CUSTOMERS**	**SOME INVESTMENT FUNDS**	**OTHER STRUCTURED ENTITIES**
Assets	**7,119**	**23**	**6,321**	**5,141**	**76**
Financial assets held for trading	—	23	—	2,559	—
Financial assets at FVTPL	25	—	—	26	—
Financial assets at FVTOCI	—	—	—	—	—
Loans and receivables with banks (at cost)	—	—	—	—	—
Loans and receivables with customers (at cost)	7,093	—	6,321	2,555	76
Hedging derivatives	—	—	—	—	—
Other assets	1	—	—	1	—
Liabilities	**271**	**5**	**83**	**1,269**	**27**
Deposits from banks	—	—	—	—	—
Deposits from customers	14	—	76	1,008	18
Debt securities in issue	—	—	—	11	—
Financial liabilities held for trading	256	3	5	250	—
Financial liabilities at FVTPL	—	—	—	—	—
Hedging derivatives	—	—	—	—	—
Other liabilities	1	2	—	—	—
Provisions	—	—	2	—	9
Off-balance-sheet positions	**106**	**—**	**3,367**	**44**	**7**
Irrevocable credit commitments and other commitments	106	—	3,367	43	5
Guarantees	—	—	—	1	2
Maximum exposure to loss	**7,225**	**23**	**9,688**	**5,185**	**83**

Other Information (Continued)

€ 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**

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 year 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 €18 million (previous year: €17 million) from charges and management fees was generated during the reporting period on investment funds managed by the Bank, of which €14 million (previous year: €13 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 €4,683 million (previous year: €4,848 million) were outstanding at 31 December 2022. The total assets of the multi-seller conduit Arabella Finance DAC at the reporting date amounted to €4,710 million (previous year: €4,851 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 €3,079 million (previous year: €1,736 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.

89 Trust business

€ millions	2022	2021
Trust assets	**2,403**	**2,389**
Loans and receivables with banks	—	—
Loans and receivables with customers	382	374
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	2,021	2,015
Remaining trust assets	—	—
Trust liabilities	**2,403**	**2,389**
Deposits from banks	382	374
Deposits from customers	2,021	2,015
Debt certificates including bonds	—	—
Other liabilities	—	—

The carrying amounts for the trust assets are stated here. The trust assets relating to loans and receivables with customers are 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. 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.

Other Information (Continued)

90 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 because 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 Rosenkavalier 2022 (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.

91 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 €20.6 billion (previous year: €28.1 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 provided as collateral for own liabilities:

€ millions	2022	2021
Financial assets held for trading	5,684	7,819
Financial assets at FVTPL	1,691	3,223
Financial assets at FVTOCI	4,254	5,948
Loans and receivables with banks (at cost)	1,673	1,173
Loans and receivables with customers (at cost)	21,080	17,796
Property, plant and equipment	—	—
Unrecognised repledged securities received:		
pledged securities from unrecognised securities lending transactions	5,455	12,847
pledged collateral received	6,902	8,556
Total	**46,739**	**57,362**

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	2022	2021
Deposits from banks	34,068	39,583
Deposits from customers	376	1,981
Debt securities in issue	—	—
Financial liabilities held for trading	8,677	8,069
Financial liabilities at FVTPL	—	—
Contingent liabilities	—	—
Obligations to return non-expensed, borrowed securities	3,618	7,729
Total	**46,739**	**57,362**

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	2022	2021
Aggregate carrying amount of assets pledged as collateral	46,739	57,362
of which may be repledged/resold	7,307	14,497

Other Information (Continued)

92 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 €11.8 billion (previous year: €16.4 billion).

HVB Group has actually repledged or resold €6.9 billion of this amount (previous year: €8.6 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.

93 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 the group-wide centre of competence for the group-wide hedging of derivative positions of other members of the group. Among other things, HVB acts as counterparty for derivative transactions conducted by UniCredit companies in this role. For the most part, this involves hedging derivatives that are externalised on the market via HVB. Information regarding the exposure to UniCredit and its subsidiaries is provided in the notes to the respective balance sheet item.

Like other affiliates, HVB has outsourced IT activities to UniCredit Services S.C.p.A., Milan, a company that is affiliated with the Bank, and its legal successor UniCredit S.p.A. 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 €480 million for these services in the reporting year (previous-year period: €468 million). This was offset by income of €29 million from services rendered and internal charges (previous-year period: €19 million). Moreover, software products worth €1 million were purchased from UniCredit Services S.C.p.A. and its legal successor UniCredit S.p.A. (previous-year period: €1 million).

Furthermore, HVB Group has transferred certain back office activities to UniCredit Services S.C.p.A. and its legal successor UniCredit S.p.A. In this context, the respective company provides settlement services for HVB and other affiliates in line with a standard business and operating model. HVB Group incurred expenses of €84 million for these services in the reporting year (previous-year period: €140 million).

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 remuneration 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 REMUNERATION	TERMINATION BENEFITS	TOTAL
2022						
Members of the Management Board of UniCredit Bank AG	4,645	608	236	1,058	—	6,547
Members of the Supervisory Board of UniCredit Bank AG for Supervisory Board activities	836	—	—	—	—	836
Members of the Supervisory Board of UniCredit Bank AG for activities as employee representatives	481	43	—	—	—	524
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	235	115	664	2,723	2,313	6,050
2021						
Members of the Management Board of UniCredit Bank AG	4,148	127	42	706	—	5,023
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	—	—	—	501
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	428	55	1,010	1,697	1,125	4,315

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 eight currently active members of the Management Board and one member who resigned during the year are shown in the table alongside the direct remuneration. Of these members of the Management Board, seven members took part in the employer-financed, fund-linked pension scheme for executives (known as AgfA) in 2022. The Bank will provide/has provided 35% of the fixed salary contributions (reporting period: €1,715 thousand, previous-year period: €11,129 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.

Other Information (Continued)

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 €125,410 thousand (previous-year period: €162,011 thousand).

The remuneration paid to retired members of the Management Board and their surviving dependants amounted to €9,238 thousand in the reporting period after the transfer of a large part of the pension commitments to HVB Trust Pensionsfonds AG (previous-year period: €9,342 thousand).

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	2022	2021
Number of shares granted	84,133	55,892
Fair value on grant date (€)	9.251	9.004

For details of share-based payments, please refer to the disclosures in the Note “Operating costs”, where the underlying UniCredit programmes are described.

The following table shows the remuneration paid to members of the Management Board and Supervisory Board in accordance with Section 314 HGB where these are not short-term components:

€ thousands	LONG-TERM INCENTIVES			
	DEFERRED CASH COMPONENT	DEFERRED SHARE-BASED REMUNERATION	TERMINATION BENEFITS	TOTAL
2022				
Members of the Management Board of UniCredit Bank AG	1,605	1,674	1,715	4,994
Members of the Supervisory Board of UniCredit Bank AG for activities as employee representatives	—	—	37	37
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	627	558	20,227	21,412
2021				
Members of the Management Board of UniCredit Bank AG	1,464	1,528	1,228	4,220
Members of the Supervisory Board of UniCredit Bank AG for activities as employee representatives	—	—	39	39
Former members of the Management Board of UniCredit Bank AG and their surviving dependants	572	509	20,543	21,624

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

€ thousands	2022 LOANS AND RECEIVABLES	2022 CONTINGENT LIABILITIES ASSUMED	2022 LIABILITIES	2021 LOANS AND RECEIVABLES	2021 CONTINGENT LIABILITIES ASSUMED	2021 LIABILITIES
Members of the Management Board of UniCredit Bank AG and their related parties	4,711	—	3,144	3,264	131	2,256
Members of the Supervisory Board of UniCredit Bank AG and their related parties	—	—	669	—	—	484
Members of the Group Executive Committee[1] and their related parties	—	—	125	—	—	—
Companies controlled by the group of persons listed above	—	—	—	—	—	—

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 2024 to 2049.

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

94 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	2022	2021
Fee for	**8**	**10**
Auditing of the financial statements	7	9
Other auditing services	1	1
Tax consulting services	—	—
Other services	—	—

In addition to the audit of the consolidated and annual financial statements, KPMG AG Wirtschaftsprüfungsgesellschaft audited the reporting package as at 31 December 2022 submitted to the auditor of the consolidated financial statements of UniCredit S.p.A. and conducted a review in each quarter. Furthermore, KPMG AG Wirtschaftsprüfungsgesellschaft conducted statutory and voluntary audits of annual financial statements for subsidiaries. In addition, KPMG AG Wirtschaftsprüfungsgesellschaft was engaged to conduct an audit pursuant to Section 89 (1) of the German Securities Trading Act (Wertpapierhandelsgesetz – WpHG) and provide other auditing services, also in connection with the offsetting of interim gains, and a maintenance activity.

Other Information (Continued)

95 Employees

AVERAGE NUMBER OF PEOPLE EMPLOYED BY US	2022	2021
Employees (excluding trainees)	12,259	12,820
Full-time	8,652	9,004
Part-time	3,607	3,816
Trainees	228	253

	WOMEN	MEN	2022	2021
in %	(EXCLUDING TRAINEES)		TOTAL	TOTAL
31 years or more	25.5	19.3	22.6	19.9
from 21 years to less than 31 years	38.8	27.7	33.6	32.9
from 11 years to less than 21 years	17.3	22.0	19.5	20.8
less than 11 years	18.4	31.0	24.3	26.4

96 Offices

		ADDITIONS	REDUCTIONS			
	1/1/2022	NEW OPENINGS	CLOSURES	CONSOLIDATIONS	CHANGE IN CONSOLIDATED GROUP	31/12/2022
Germany						
Baden-Wuerttemberg	15	—	1	—	—	14
Bavaria	269	1	8	6	(9)	247
Berlin	6	—	—	—	—	6
Brandenburg	5	—	—	—	—	5
Bremen	1	—	—	—	—	1
Hamburg	16	—	—	—	—	16
Hesse	11	—	—	—	1	12
Lower Saxony	11	—	—	—	—	11
Mecklenburg-Western Pomerania	3	—	—	—	—	3
North Rhine-Westphalia	8	—	—	—	—	8
Rhineland-Palatinate	12	—	—	—	—	12
Saarland	3	—	1	—	—	2
Saxony	7	—	1	—	—	6
Saxony-Anhalt	9	—	—	—	—	9
Schleswig-Holstein	30	—	2	—	—	28
Thuringia	5	—	—	—	—	5
Subtotal	**411**	**1**	**13**	**6**	**(8)**	**385**
Other regions						
Africa	—	—	—	—	—	—
Americas	7	—	—	—	(2)	5
Asia	5	—	1	—	—	4
Europe	38	—	2	—	—	36
Subtotal	**50**	**—**	**3**	**—**	**(2)**	**45**
Total	**461**	**1**	**16**	**6**	**(10)**	**430**

97 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.

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
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. Stuttgart Kronprinzstraße KG [3]	Grünwald	100.0	100.0	EUR	37	(606)
Argentaurus Immobilien-Vermietungs- und Verwaltungs GmbH [3]	Munich	100.0	100.0	EUR	793	(3,121)
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	30	(4)
GEMMA Verwaltungsgesellschaft mbH & Co. Vermietungs KG	Munich	98.7	98.7	EUR	23,404	777
Grundstücksgesellschaft Simon beschränkt haftende Kommanditgesellschaft [3]	Munich	100.0	100.0	EUR	51	289
HAWA Grundstücks GmbH & Co OHG Immobilienverwaltung [3]	Munich	100.0	100.0	EUR	54	474
H.F.S. Immobilienfonds GmbH [3]	Munich	100.0	100.0	EUR	26	[1]
H.F.S. Leasingfonds Deutschland 7 GmbH & Co. KG [3]	Munich	99.4	99.4	EUR	(7,365)	2,170
H.F.S. Leasingfonds GmbH	Grünwald	100.0	100.0	EUR	26	58
HVB Gesellschaft für Gebäude mbH & Co. KG [3]	Munich	100.0	—	EUR	871,401	368,549
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	10,025	[1]
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]
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	5,074	(102)
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	229,840
Rolin Grundstücksplanungs- und -verwaltungsgesellschaft mbH	Munich	100.0	100.0	EUR	(440)	(7)
Salvatorplatz-Grundstücksgesellschaft mbH & Co. oHG Saarland [3]	Munich	100.0	100.0	EUR	1,534	(1,623)
Salvatorplatz-Grundstücksgesellschaft mbH & Co. OHG Verwaltungszentrum [3]	Munich	100.0	100.0	EUR	2,301	760
Structured Invest Société Anonyme	Luxembourg	100.0	—	EUR	9,293	479
T & P Frankfurt Development B.V. [4]	Amsterdam	100.0	100.0	EUR	(7,246)	(9)
T & P Vastgoed Stuttgart B.V. [4]	Amsterdam	87.5	87.5	EUR	(15,492)	1
TERRENO Grundstücksverwaltung GmbH & Co. Entwicklungs- und Finanzierungsvermittlungs-KG [3]	Munich	75.0	75.0	EUR	(268,640)	—
TIVOLI Grundstücks-Aktiengesellschaft	Munich	100.0	100.0	EUR	6,068	487
TRICASA Grundbesitz Gesellschaft mbH & Co. 1. Vermietungs KG [3]	Munich	100.0	100.0	EUR	15,493	968
TRICASA Grundbesitzgesellschaft des bürgerlichen Rechts Nr. 1	Munich	100.0	100.0	EUR	23,133	1,064
UniCredit Beteiligungs GmbH [3]	Munich	100.0	—	EUR	1,175	[2.4]
UniCredit Capital Markets LLC	New York	100.0	100.0	USD	189,841	11,399
UniCredit Direct Services GmbH [3, 7]	Munich	100.0	—	EUR	993	[2.5]

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
UniCredit Leasing Aviation GmbH	Hamburg	100.0	100.0	EUR	38,782	3,424
UniCredit Leasing GmbH [7]	Hamburg	100.0	—	EUR	352,027	[2,6]
UniCredit U.S. Finance LLC	Wilmington	100.0	—	USD	115,957	308
Vermietungsgesellschaft mbH & Co. Objekt MOC KG [3]	Munich	89.3	89.3	EUR	(85,687)	2,938
V.M.G. Vermietungsgesellschaft mbH	Munich	100.0	100.0	EUR	26	[1]
Wealth Management Capital Holding GmbH	Munich	100.0	—	EUR	20,582	[2,7]
WealthCap Entity Service GmbH	Munich	100.0	100.0	EUR	903	878
WealthCap Equity GmbH	Munich	100.0	100.0	EUR	1,890	1,390
WealthCap Equity Management GmbH	Munich	100.0	100.0	EUR	132	107
WealthCap Fonds GmbH	Munich	100.0	100.0	EUR	687	674
Wealthcap Immobilien Deutschland 46 GmbH & Co. KG	Munich	100.0	100.0	EUR	(146)	(166)
WealthCap Immobilien 1 GmbH & Co. KG	Munich	100.0	100.0	EUR	1,467	1,462
WealthCap Immobilien 2 GmbH & Co. KG	Munich	100.0	100.0	EUR	1,480	1,469
Wealthcap Immobilien 43 Komplementär GmbH	Munich	100.0	100.0	EUR	26	1
Wealthcap Immobilienankauf Komplementär GmbH	Munich	100.0	100.0	EUR	29	4
WealthCap Immobilienfonds Deutschland 36 Komplementär GmbH	Munich	100.0	100.0	EUR	(265)	(290)
WealthCap Immobilienfonds Deutschland 38 Komplementär GmbH	Munich	100.0	100.0	EUR	28	3
WealthCap Initiatoren GmbH	Munich	100.0	100.0	EUR	266	30
WealthCap Investment Services GmbH	Munich	100.0	90.0	EUR	4,000	[1]
WealthCap Investments, Inc.	Wilmington	100.0	100.0	USD	1,518	(24)
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	(400)	(242)
WealthCap Management Services GmbH	Munich	100.0	100.0	EUR	(3,618)	(2,162)
Wealthcap Objekt Dresden GmbH & Co. KG	Munich	100.0	100.0	EUR	61,150	593
Wealthcap Objekt Stuttgart III GmbH & Co. KG	Munich	100.0	100.0	EUR	1,893	(1,440)
Wealthcap Objekt-Vorrat 35 GmbH & Co. KG	Munich	100.0	100.0	EUR	(209)	(190)
Wealthcap Objekt-Vorrat 37 GmbH & Co. KG	Munich	100.0	100.0	EUR	118	114
Wealthcap Objekt-Vorrat 39 GmbH & Co. KG	Munich	100.0	100.0	EUR	55	118
WealthCap PEIA Komplementär GmbH	Grünwald	100.0	100.0	EUR	19	(30)
WealthCap PEIA Management GmbH	Munich	100.0	94.0	EUR	3,840	(552)
WealthCap Real Estate Management GmbH	Munich	100.0	100.0	EUR	60	[1]
WealthCap Vorrats-2 GmbH	Munich	100.0	100.0	EUR	15	2
Weicker S. à r.l.	Luxembourg	100.0	—	EUR	22,962	3,300
1.1.2 Non-consolidated subsidiaries [5]						
Acis Immobilien- und Projektentwicklungs GmbH	Grünwald	100.0	100.0	EUR	25	[1]
AGRUND Grundstücks-GmbH	Munich	90.0	90.0			
Altea Verwaltungsgesellschaft mbH & Co. Objekt I KG	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	(13,150)	950
Arena Stadion Beteiligungsverwaltungs-GmbH	Munich	100.0	—			
ARRONDA Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(36,776)	950
Atlanterra Immobilienverwaltungs GmbH	Munich	90.0	90.0	EUR	(32,562)	950
A&T-Projektentwicklungs GmbH & Co. Potsdamer Platz Berlin KG	Munich	100.0	100.0	EUR	(37,243)	(9)
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	183	(399)
B.I. International Limited	George Town	100.0	100.0	EUR	152	567
BIL Immobilien Fonds GmbH	Munich	100.0	100.0			
BIL Leasing-Fonds GmbH & Co VELUM KG (share of voting rights 66.7%, of which held directly 33.3%)	Grünwald	100.0	—			
Blue Capital Metro Amerika Inc.	Wilmington	100.0	100.0			

		SHARE OF CAPITAL IN %				
NAME	REGISTERED OFFICE	TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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	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 4 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 Europa 3 Komplementär GmbH	Munich	100.0	100.0			
H.F.S. Zweitmarktfonds Deutschland 1 Komplementär GmbH	Grünwald	100.0	100.0			
H.F.S. Zweitmarktfonds Deutschland 2 Komplementär GmbH	Grünwald	100.0	100.0			
Hofgarten Real Estate B.V. (share of voting rights 50.5%)	Amsterdam	47.2	47.2	EUR	(49,336)	7
HVB Export Leasing GmbH	Munich	100.0	—			
HVB Gesellschaft für Gebäude Beteiligungs GmbH	Munich	100.0	—			
HVB Hong Kong Limited	Hong Kong	100.0	—	USD	3,135	(20)
HVB London Investments (AVON) Limited	London	100.0	—			
HVB Secur GmbH	Munich	100.0	—	EUR	126	[2,9]
HVBFF Internationale Leasing GmbH	Munich	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	100.0	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 Munich	Munich	75.0	75.0	EUR	(5,690)	(1)
Quinterra Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	100.0	EUR	26	[1]
Redstone Mortgages Limited	London	100.0	—	GBP		
RHOTERRA Gesellschaft für Immobilienverwaltung mbH	Munich	100.0	93.9	EUR		
Roncasa Immobilien-Verwaltungs GmbH	Munich	100.0	100.0	EUR	(32,370)	950

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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	2,922	(28)
Sirius Immobilien- und Projektentwicklungs GmbH	Munich	100.0	100.0	EUR	(143,835)	1
Solos Immobilien- und Projektentwicklungs GmbH & Co. Sirius Beteiligungs KG	Munich	100.0	100.0	EUR	(59,906)	950
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	(15,006)	—
VCI Volta Center Immobilienverwaltungs GmbH	Munich	100.0	100.0	EUR	(17,297)	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 Equity Sekundär GmbH	Munich	100.0	100.0			
Wealthcap Erneuerbare Energien 2 GmbH & Co. geschlossene Investment KG	Grünwald	100.0	100.0			
Wealthcap Erneuerbare Energien 2 Komplementär GmbH	Grünwald	100.0	100.0			
WealthCap Europa Erste Immobilien - Objekte 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 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 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		50	1
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			
Wealthcap Objekt-Vorrat 25 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Objekt-Vorrat 36 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			

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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 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			
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 Wohnen 1 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 3 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 4 Komplementär GmbH	Munich	100.0	100.0			
WealthCap Spezial 5 Komplementär GmbH	Munich	100.0	100.0			
Wealthcap Spezial-AIF 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 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. 350 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 DAC	Dublin	—	EUR	< 1
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	—
Ice Creek Pool No. 1 DAC	Dublin	—	EUR	< 1
Ice Creek Pool No. 3 DAC	Dublin	—	EUR	< 1
Ice Creek Pool No. 5 DAC	Dublin	—	EUR	< 1
PaDel Finance 01 DAC	Dublin	—	EUR	< 1
Rosenkavalier 2008 GmbH	Frankfurt am Main	—	EUR	25
Rosenkavalier 2015 UG	Frankfurt am Main	—	EUR	8
Rosenkavalier 2020 UG	Frankfurt am Main	—	EUR	3
Rosenkavalier 2022 UG	Frankfurt am Main	—	EUR	3
Wealthcap Spezial-AIF-SV Büro 8	Grünwald	—	EUR	—

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN %		CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
		TOTAL	OF WHICH HELD INDIRECTLY			
2 Joint ventures						
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NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands of currency units	NET PROFIT in thousands of currency units
3. Associates						
3.1 Associates valued at equity						
ComTrade Group B.V.[4]	Rotterdam	21.1	—	EUR	127,249	48,595
3.2 Minor associates[5]						
MOC Verwaltungs GmbH	Munich	23.0	23.0			
MOC Verwaltungs GmbH & Co. Immobilien KG	Munich	23.0	23.0	EUR	109	6,434

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN % TOTAL	OF WHICH HELD INDIRECTLY	CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
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	273,601	14,936
BBB Bürgschaftsbank zu Berlin-Brandenburg GmbH	Berlin	3.2	—	EUR	13,428	257
BGG Bayerische Garantiegesellschaft mbH für mittelständische Beteiligungen	Munich	10.5	—	EUR	61,659	4,269
Bürgschaftsbank Brandenburg GmbH	Potsdam	7.8	—	EUR	34,206	2,105
Bürgschaftsbank Hamburg GmbH	Hamburg	10.5	—	EUR	27,318	379
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	9.2	—	EUR	17,352	267
Bürgschaftsbank Nordrhein-Westfalen GmbH - Kreditgarantiegemeinschaft -	Düsseldorf	>0	—	EUR	40,284	1,040
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	1.4	—	EUR	17,356	132
Bürgschaftsbank Saarland Gesellschaft mit beschränkter Haftung, Kreditgarantiegemeinschaft für den Handel, Handwerk und Gewerbe	Saarbrücken	1.3	—	EUR	4,426	31
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	8.9	—	EUR	17,000	423
Bürgschaftsbank Sachsen GmbH (share of voting rights 5.4 %)	Dresden	4.7	—	EUR	44,437	177
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	5.4	—	EUR	42,089	181
Bürgschaftsbank Thüringen GmbH	Erfurt	8.7	—	EUR	27,524	240
MCB Bank Limited	Lahore	>0	—	PKR	174,407,408	30,811,047
Niedersächsische Bürgschaftsbank GmbH	Hannover	3.0	—	EUR	32,694	2,554
Saarländische Investitionskreditbank AG	Saarbrücken	3.3	—	EUR	67,382	1,744
4.2. Other companies						
ABE Clearing S.A.S.	Paris	2.1	—	EUR	42,641	6,108
Acton GmbH & Co. Heureka II KG	Munich	8.9	—	EUR	94,508	2,572
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	258,865	14,219
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	—	—			
BioM Aktiengesellschaft Munich Bio Tech Development	Planegg	8.5	—	EUR	2,731	(44)
Blue Capital Equity I GmbH & Co. KG i.L.	Munich	>0	>0			
Blue Capital Equity II GmbH & Co. KG i.L.	Munich	>0	>0	EUR	1,664	13
Blue Capital Equity III GmbH & Co. KG (share of voting rights >0%)	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

Other Information (Continued)

NAME	REGISTERED OFFICE	SHARE OF CAPITAL IN %		CURRENCY	EQUITY CAPITAL in thousands	NET PROFIT in thousands
		TOTAL	OF WHICH HELD INDIRECTLY			
Blue Capital Equity IX GmbH & Co. KG (share of voting rights 0.6%)	Munich	0.7	0.7	EUR	3,166	162
Blue Capital Metro Amerika Fund, L.P.	Wilmington	0.1	0.1	USD	93,242	4,177
Blue Capital Metropolitan Amerika GmbH & Co. KG	Munich	0.1	0.1	EUR	76,418	7,736
Boston Capital Partners V, L.L.C.	Wilmington	10.0	10.0			
Boston Capital Ventures V, L.P.	Wilmington	20.0	—			
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	13.6	—	EUR	5,296	288
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	309,244	31,932
China Investment Incorporations (BVI) Ltd.	Tortola	10.8	10.8	HKD	89,978	9,794
CLS Group Holdings AG	Lucerne	1.2	—	GBP	313,334	(8,309)
CME Group Inc.	Wilmington	>0	—	USD	27,399,300	2,636,400
Einkaufsgalerie Roter Turm Beteiligungs GmbH & Co. KG	Munich	>0	>0	EUR	5,720	291
Einkaufsgalerie Roter Turm Chemnitz GmbH & Co. KG	Munich	>0	>0	EUR	47,520	2,629
EURO Kartensysteme GmbH	Frankfurt am Main	6.0	—	EUR	12,442	150
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	0.1	0.1	EUR	14,195	1,648
H.F.S. Immobilienfonds Deutschland 16 GmbH & Co. KG	Munich	0.1	0.1	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	0.1	0.1	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 (voting rights 0.0%) [9]	Munich	100.0	—	EUR	4,310	5
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	(20,058)	37,360
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%) [7]	Paris	10.0	—	EUR	105,000	20,848
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	—
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 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)
LME Holdings Limited	London	>0	-	USD	57,711	34,975

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Martin Schmälzle Grundstücksgesellschaft Objekt Wolfsburg GmbH & Co. KG	Munich	>0	>0	EUR	15,711	—
MBG Mittelständische Beteiligungsgesellschaft Baden-Württemberg GmbH	Stuttgart	5.0	—	EUR	92,210	8,859
MBG Mittelständische Beteiligungsgesellschaft Rheinland-Pfalz mbH (share of voting rights 11.1%)	Mainz	9.8	—	EUR	16,702	349
MBG Mittelständische Beteiligungsgesellschaft Schleswig-Holstein mbH	Kiel	3.6	—	EUR	47,094	2,884
Mittelständische Beteiligungsgesellschaft Berlin-Brandenburg GmbH	Potsdam	11.6	—	EUR	25,346	1,191
Mittelständische Beteiligungsgesellschaft Mecklenburg-Vorpommern mbH	Schwerin	15.4	—	EUR	19,341	1,379
Mittelständische Beteiligungsgesellschaft Niedersachsen (MBG) mbH	Hannover	8.2	—	EUR	16,427	1,330
Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt mit beschränkter Haftung	Magdeburg	12.7	—	EUR	24,673	403
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	11.8	—	EUR	49,447	1
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	13.4	—	EUR	28,607	1,185
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	—			
ProAreal GmbH i. I.	Wiesbaden	10.0	—			
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	880,084	589,215
Saarländische Kapitalbeteiligungsgesellschaft mit beschränkter Haftung (share of voting rights 8.8%)	Saarbrücken	8.7	—	EUR	7,864	73
Social Venture Fund GmbH & Co. KG (share of voting rights 0.0%)	Munich	9.6	—	EUR	1,059	(83)
Social Venture Fund II GmbH & Co. KG (share of voting rights 0.0%)	Munich	4.5	—	EUR	10,104	4,780
Stahl Group S.A.	Luxembourg	>0	>0	EUR	445,635	74,485
SwanCap FLP II SCSp (share of voting rights 37.5%) [10]	Senningerberg	—	—	EUR	86	640
SwanCap FLP SCS (share of voting rights 37.5%) [10]	Senningerberg	—	—	EUR	(47)	317
SwanCap TB II SCSp (share of voting rights 0.0%) [11]	Senningerberg	>0	—			
S.W.I.F.T. SC	La Hulpe	0.3	—	EUR	616,152	52,234
True Sale International GmbH	Frankfurt am Main	7.7	—	EUR	4,586	(88)
VISA Inc. (share of voting rights 0.0%)	Wilmington	>0	—	USD	35,581,000	14,957,000
WealthCap Aircraft 1 GmbH & Co. KG	Munich	>0	>0	EUR	16,729	(5,612)
WealthCap Aircraft 25 GmbH & Co. KG	Grünwald	>0	>0	EUR	9,996	(411)
WealthCap Aircraft 26 GmbH & Co. KG	Grünwald	>0	>0	USD	18,473	(329)
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	EUR	5,588	(1,308)
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	158,968	11,521
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			

Other Information (Continued)

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Wealthcap Immobilien Deutschland 45 GmbH & Co. geschlossene Investment KG	Munich	1.6	1.6			
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	59,419	3,471
WealthCap Immobilienfonds Deutschland 34 GmbH & Co. KG (share of voting rights 0.1%)	Munich	>0	>0	EUR	43,033	3,173
WealthCap Immobilienfonds Deutschland 35 GmbH & Co. KG	Munich	>0	>0	EUR	132,050	8,234
WealthCap Immobilienfonds Deutschland 37 GmbH & Co. KG	Munich	>0	>0	EUR	61,780	3,175
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	47,007	1,009
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	26,169	1,481
WealthCap Leasing 2 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	25,570	1,668
WealthCap Leasing 3 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	24,689	1,685
WealthCap Leasing 4 GmbH & Co. KG	Grünwald	5.5	5.5	EUR	22,926	1,344
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	2,632	2,177
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	78,169	18,006
WealthCap Mountain View I L.P. (share of voting rights 0.1%)	Atlanta	—	—	USD	50,734	7
WealthCap Objekt Berg-am-Laim GmbH & Co. KG	Munich	5.2	5.2	EUR	120,451	8,967
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 Berlin III GmbH & Co. KG	Munich	10.1	10.1			
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			
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	1,783
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	410
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			

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WealthCap Objekt Riem GmbH & Co. KG	Munich	5.2	5.2	EUR	29,081	1,326
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	0.1	0.1			
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	1,030	205
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	89,063	19,725
WealthCap Private Equity 20 GmbH & Co. geschlossene Investment KG	Grünwald	>0	>0	EUR	27,911	6,172
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	105,969	11,720
WealthCap Spezial-AIF 1 GmbH & Co. geschlossene Investment KG	Munich	>0	>0	EUR	190,246	15,845
WealthCap Spezial-AIF 2 GmbH & Co. geschlossene Investment KG	Munich	5.2	5.2	EUR	113,887	28,082
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 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 1b GmbH & Co. KG	Munich	10.1	10.1			
Wealthcap Wohnen 1 GmbH & Co. KG	Munich	10.1	10.1	EUR	(906)	(640)
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 a.d. Pegnitz	5.2	—	EUR	4,080	186

Other Information (Continued)

Exchange rates for 1 euro at the reporting date

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

UK	1 EUR =	0.88693	GBP
Hong Kong	1 EUR =	8.3163	HKD
Pakistan	1 EUR =	243.01451	PKR
USA	1 EUR =	1.0666	USD

Notes and comments to the list of holdings

Percentages marked < or > are rounded up or down to one decimal place. 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	(690)
2.2	HVB Verwa 4 GmbH, Munich	(64)
2.3	MERKURHOF Grundstücksgesellschaft mit beschränkter Haftung, Munich	2,860
2.4	UniCredit Beteiligungs GmbH, Munich	(16)
2.5	UniCredit Direct Services GmbH, Munich	4,422
2.6	UniCredit Leasing GmbH, Hamburg	20,040
2.7	Wealth Management Capital Holding GmbH, Munich	3,823
	of which relating to 2021	823
2.8	Food & more GmbH, Munich	(1,939)
2.9	HVB Secur GmbH, Munich	380
2.10	Verwaltungsgesellschaft Katharinenhof GmbH, Munich	149
	of which relating to 2021	3

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

4 Figures from the 2021 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 €3,424 thousand and the net profit/loss to minus €124 thousand.

6.2 Equity capital amounts to minus €3,304 thousand and the net profit/loss to minus €97 thousand.

6.3 Equity capital amounts to minus €2,677 thousand and the net profit/loss to minus €98 thousand.

6.4 Equity capital amounts to minus €2,151 thousand and the net profit/loss to minus €84 thousand.

6.5 Equity capital amounts to minus €2,957 thousand and the net profit/loss to minus €107 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.

98 Supervisory Board[1]

Andrea Orcel	**Chairman**
Florian Schwarz	**Deputy Chairmen**
Dr Bernd Metzner	
Gianpaolo Alessandro	
Sabine Eckhardt since 1 March 2022	**Members**
Prof Dr Annette G. Köhler until 28 February 2022	
Dr Claudia Mayfeld	
Fiona Melrose	
Claudia Richter	
Thomas Schöner	
Oliver Skrbot	
Christian Staack	
Gregor Völkl	

1 As at 31 December 2022.

Other Information (Continued)

99 Management Board[1]

Dr Michael Diederich	**Spokesman of the Management Board** **People & Culture (including Labour and Social Affairs pursuant to Section 27 (2) 2 MgVG)**
Artur Gruca since 1 September 2022	**Digital & Information (CDIO)**
Marion Höllinger	**Private Clients Bank**
Dr Jürgen Kullnigg	**Risk Management (CRO)**
Jan Kupfer	**Corporates**
Christian Reusch	**Client Solutions (previously Corporate & Investment Banking)**
Boris Scukanec Hopinski	**Operations Germany (COO)**
Ljubisa Tesić	**Finance (CFO)**

1 As at 31 December 2022

Munich, 28 February 2023

UniCredit Bank AG
The Management Board

Dr Diederich Gruca 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, 28 February 2023

UniCredit Bank AG
The Management Board

Dr Diederich	Gruca	Höllinger	Dr Kullnigg
Kupfer	Reusch	Scukanec Hopinski	Tesić

Auditor’s Report

Note: This is a translation of the German original. Solely the original text in German language is authoritative.

Independent Auditor's Report

To UniCredit Bank AG, Munich

Report on the Audit of the Consolidated Financial Statements and of the Combined Management Report

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 of December 31, 2022, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated cash flow statement for the financial year from January 1 to December 31, 2022, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the management report of the Company and the Group (combined management report) of UniCredit Bank AG for the financial year from January 1 to December 31, 2022.

In accordance with German legal requirements, we have not audited the content of those components of the combined management report specified in the "Other Information" section of our auditor's report.

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

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Section 315e (1) HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as of December 31, 2022, and of its financial performance for the financial year from January 1 to December 31, 2022, and
- the accompanying combined management report as a whole provides an appropriate view of the Group's position. In all material respects, this combined management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our opinion on the combined management report does not cover the content of those components of the combined management report specified in the "Other Information" section of the auditor's report.

Pursuant to Section 322 (3) sentence 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the combined management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and of the combined 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 Combined 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)(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 evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the combined management report.

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 January 1 to December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, we do not provide a separate opinion on these matters.

Determination of allowances for expected credit losses (Stages 1 and 2)

The significant accounting policies and significant accounting judgments are described in note 14 in the notes to the consolidated financial statements. For information on impairment under IFRS 9, please refer to notes 53, 54 and 73 in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

As of December 31, 2022, UniCredit Bank AG reported in its consolidated financial statements a loss allowance for financial assets for Stage 1 of EUR 274 million (PY: EUR 325 million) and Stage 2 of EUR 694 million (PY: EUR 379 million).

The determination of impairment is based on expected credit losses and therefore also includes expectations about the future. Expected credit losses are recognized pursuant to IFRS 9 using a three-stage process to calculate impairment.

The loss allowance for Stage 1 corresponds to the expected credit losses from default events in the next twelve months. The loss allowance in Stage 2 relates to financial instruments whose credit risk has risen considerably since initial recognition. Stage 2 loss allowances take into account all expected credit losses from default events for the entire remaining term.

Calculating the allowance for expected credit losses in Stages 1 and 2 requires the use of complex models.

This includes considering various value-determinant factors, such as the determination of statistical default probabilities and loss rates, the possible amount due on default, the stage transfer criteria related to a significant change in borrowers' credit risk (SICR), as well as the calculation of future cash flows. Furthermore, macroeconomic scenarios are incorporated into the calculation.

Further external information, such as that relating to the secondary effects caused by the Russia-Ukraine war and which cannot be mapped by the scenarios, is – where necessary – included in the measurement through subsequent post-model adjustments.

There is considerable judgment with regard to the models used to determine the aforementioned parameters, the internal ratings, the criteria for identifying a significant increase in credit risk, the selection of macroeconomic variables as well as the determination of the post-model adjustments.

There is the risk for the financial statements that due to improper use of models or inappropriate parameters, the amount of the allowance for expected credit losses is inaccurately presented in Stages 1 and 2.

OUR AUDIT APPROACH

Based on our risk assessment and evaluation of the risks of material misstatement, we used both control-based and substantive audit procedures to support our audit opinion. We tested the design, setup and effectiveness of the relevant controls used to determine the loss allowance.

Among others, our audit included controls regarding the:

- Determination of parameter-based loss allowances
- Validation of the models used for this purpose and the application of parameters
- Rating determination and approvals
- Approval of the concept and the determination of post-model adjustments

With the involvement of our IT experts, we verified the effectiveness of the general IT controls and application controls for the IT systems and individual data processing systems deployed in this context.

In addition, we conducted the following substantive audit procedures:

- Evaluation of methods for calculating the loss allowances and the accounting policies for the loss allowances
- Evaluation of significant model modifications
- Verification of the Bank's validations for selected, significant models and recalculation of validation tests
- Review of the ratings, collateral valuation and assessment of solvency for borrowers selected on a risk basis, and assessment of the criteria used to identify a significant increase in the credit risk
- Evaluation of the stage methodology and allocation and well as its implementation
- Recalculation of the parameter-based loss allowance calculation
- Assessment of the appropriateness of the macroeconomic variables, scenarios and their weighting
- Assessment of the assumptions, determination and implementation of post-model adjustments
- Benchmarking of key elements of the methodology, assumptions and macroeconomic variables with institutions of similar size and complexity

OUR OBSERVATIONS

The models used to determine the allowance for expected credit losses of Stages 1 and 2 were appropriately applied in accordance with the applicable accounting policies. The parameters underlying the calculation are appropriate.

Determination of fair value of Level 2 and Level 3 financial instruments

The significant accounting policies are described in notes 9 to 12 as well as 22 to 23 in the notes to the consolidated financial statements. For information on the fair value categories with regard to Level 2 and Level 3 financial instruments, please refer to note 79 in the notes to consolidated financial statements.

THE FINANCIAL STATEMENT RISK

Financial instruments of fair value Levels 2 and 3 under IFRS 13 are largely securities and derivatives measured at fair value according to IFRS 9 for which there is no quoted price on an active market and for which valuation methods are used based on observable and unobservable market data.

As of the reporting date, the Group reported under assets Level 2 and Level 3 financial instruments of EUR 68.6 billion (PY: EUR 61.0 billion) which are measured at fair value. This corresponds to 70.3% (PY: 57.7%) of financial assets measured at fair value and 21.6% (PY: 19.5%) of total assets, representing a significant item within the Bank's assets.

Level 2 and Level 3 financial instruments of EUR 62.6 billion (PY: EUR 50.2 billion) measured at fair value are included under liabilities. This corresponds to 90.3% (PY: 84.1%) of financial liabilities measured at fair value and 19.7% (PY: 16.1%) of total equity and liabilities, representing a significant item within the Bank's liabilities.

The valuation methods used may be based on complex models and include assumptions subject to judgment, especially for unobservable parameters.

There is the risk for the financial statements that the Level 2 and Level 3 financial instruments are measured using improper valuation models as well as inappropriate inputs and that these financial instruments are thus reported in an inaccurate amount.

OUR AUDIT APPROACH

Based on our risk assessment and evaluation of the risks of material misstatement, we developed an audit approach which encompasses both control testing as well as substantive audit procedures. We tested the design, setup and effectiveness of the relevant controls used to determine the fair values for Level 2 and Level 3 financial instruments.

Among others, our audit included controls regarding the:

- Validation or independent verification of observable and unobservable market data and prices
- Validation of the measurement methods and models
- Recording of trading transactions as well as the measurement of relevant trade data in the IT systems

In addition, we audited the effectiveness of the general IT controls in the IT systems deployed.

As of December 31, 2022, we carried out (among other things) the following substantive audit procedures for Level 2 and Level 3 financial instruments selected based on risk:

- Remeasurement of fair values using independent valuation methods, inputs and models with the involvement of KPMG's internal valuation experts
- Inspection of the functional design and documentation as well as remeasurement of measurement adjustments – which were selected based on risk – for determining fair value
- Assessment of appropriateness of the own credit spread and funding spread curve used to measure financial liabilities

OUR OBSERVATIONS

The valuation models and inputs used to determine the fair value of Level 2 and Level 3 financial instruments are appropriate.

Recognition and measurement of deferred tax assets

The significant accounting policies and the assumptions underlying the measurement of deferred tax assets are described in notes 3 and 28 in the notes to the consolidated financial statements. Please refer to note 48 for information on deferred tax assets.

THE FINANCIAL STATEMENT RISK

Net deferred tax assets of EUR 845 million (PY: EUR 744 million) were reported in the consolidated financial statements of UniCredit AG as of December 31, 2022.

The recognition and measurement of deferred tax assets are subject to judgment and require consideration of objective factors as well as numerous estimates of future taxable earnings and the usability of tax losses and previously unused tax credits. The estimate of asset usability is based especially on the future taxable earnings potential. The earnings potential is determined based on corporate planning and in consideration of the expected developments contained therein regarding significant value-driving assumptions and parameters. These particularly include assumptions about the development of pre-tax earnings and the influence of non-recurring effects and tax-relevant permanent effects determining the positive taxable earnings available in the future. The assumptions also concern political and economic developments and conditions, as well as special national tax regulations and tax planning strategies.

There is the risk for the financial statements especially that appropriate assumptions are not made regarding the future usability of deferred tax assets and therefore that the reported deferred tax assets are not recoverable or not fully recoverable.

OUR AUDIT APPROACH

Based on our risk assessment and evaluation of the risks of material misstatement, we developed an audit approach which encompasses both control testing as well as substantive audit procedures.

Based on the tax legislation relevant for the Group and the requirements of IAS 12, we first made a risk assessment with regard to the recognition and measurement of deferred tax assets. Based on this and with the involvement of our internal KPMG tax experts, we then carried out control-based as well as substantive audit procedures.

As part of our control testing, we audited (among other things) the setup, establishment and effectiveness of the internal controls with regard to the recognition and measurement of deferred tax assets in the Group. This also included the changes in the assumptions used to determine the future taxable profit.

In addition, we performed substantive audit procedures for a risk-oriented, deliberate selection of individual deferred tax assets. This especially included:

- Evaluation of the methodology used on the basis of the applicable accounting policy in the Group for recognizing and measuring deferred tax assets pursuant to IAS 12. The focus of our audit in this regard was on assessing the extension of the planning horizon and the resulting effects on the consolidated financial statements
- Evaluation of the temporary differences between the reported IFRS amounts and the accounts for tax purposes

- Evaluation of the appropriateness of the assumptions and parameters used in corporate planning as well as the underlying planning horizon with regard to the future taxable earnings
- Evaluation of the Company's previous forecasts by comparing the budgets of previous reporting years with actual earnings realized and by analyzing deviations

OUR OBSERVATIONS

The assumptions made about the future usability of deferred tax assets are appropriate.

Other Information

Management and/or the Supervisory Board are/is responsible for the other information. The other information comprises the following components of the combined management report, whose content was not audited:

- The corporate governance statement pursuant to Section 289f (4) HGB (disclosures on the quota for women on executive boards), which is included in the section "Corporate governance statement pursuant to Section 289f (4) HGB" of the combined management report.

The other information also includes the remaining parts of the annual report. The other information does not include the consolidated financial statements, the combined management report information audited for content and our auditor's report thereon.

Our opinions on the consolidated financial statements and on the combined management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the combined management report information audited for content or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and the Combined Management Report

Management is responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to 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, management is responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, management is 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, management is responsible for the preparation of the combined 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, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a combined 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 combined 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 combined management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Combined 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 combined management report as a whole provides an appropriate view of the Group’s position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor’s report that includes our opinions on the consolidated financial statements and on the combined 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 combined management report.

We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the combined management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement 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 (systems) relevant to the audit of the combined management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's 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 combined management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the

underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) HGB.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express opinions on the consolidated financial statements and on the combined management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the combined 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 management in the combined management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by management as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the actions taken or safeguards applied to eliminate independence threats.

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 Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Combined Management Report Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB

We have performed assurance work in accordance with Section 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the combined management report (hereinafter the "ESEF documents") contained in the electronic file "02b_80050068_ESEF_unicreditbankag-20221231.zip“ (SHA256-Hashwert: 30e0092cc1c71798c82d2d13702692fc16b26bb380092dabb3c70da
74bb26da1) made available and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the combined management report into the ESEF format and therefore relates neither to the information contained in these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the combined management report contained in the electronic file made available, identified above and prepared for publication purposes complies in all material respects with the requirements of Section 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying combined management report for the financial year from January 1 to December 31, 2022, contained in the "Report on the Audit of the Consolidated Financial Statements and of the Combined Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

We conducted our assurance work on the rendering of the consolidated financial statements and the combined management report contained in the file made available and identified above in accordance with Section 317 (3a) HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Section 317 (3a) HGB (IDW AsS 410 (06.2022)). Our responsibility in accordance therewith is further described below. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The Company's management is responsible for the preparation of the ESEF documents including the electronic rendering of the consolidated financial statements and the combined management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the Company's management is responsible for such internal control 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 of Section 328 (1) HGB for the electronic reporting format.

The Supervisory Board is responsible for overseeing the process of preparing the ESEF documents as part of the financial reporting process.

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 skepticism throughout the assurance work. 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 assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance 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 file made available containing the ESEF documents meets the requirements of the Commission Delegated Regulation (EU) 2019/815, as amended as of the reporting date, on the technical specification for this electronic file.
- Evaluate whether the ESEF documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and the audited combined 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 Commission Delegated Regulation (EU) 2019/815, as amended as of the reporting date, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Legal uncertainty concerning the conformity of the interpretation of the applicable European requirements

Owing to the conversion process selected by the Company concerning the information in the notes in iXBRL format (block tagging), the consolidated financial statements converted into the ESEF format are not machine-readable in a fully meaningful respect. There is significant legal uncertainty regarding the legal conformity of management's interpretation that meaningful machine-readability of the structured information in the notes is not explicitly required by Commission Delegated Regulation (EU) 2019/815 for the block tagging of notes, which thus also constitutes an inherent uncertainty of our audit.

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor at the Annual General Meeting on May 5, 2022. We were engaged by the Supervisory Board on July 27, 2022. We have been the group auditor of UniCredit Bank AG since financial year 2022.

We declare that the 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).

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 combined management report as well as the examined ESEF documents. The consolidated financial statements and combined management report converted to the ESEF format – including the versions to be entered in the company register – are merely electronic renderings of the audited consolidated financial statements and the audited combined management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the examined ESEF documents provided in electronic form.

German Public Auditor Responsible for the Engagement

The public auditor responsible for the engagement is Klaus-Ulrich Pfeiffer.

Munich, March 1, 2023

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Pfeiffer Wirtschaftsprüfer [German Public Auditor]	Bormann Wirtschaftsprüfer [German Public Auditor]

List of Executives and Outside Directorships

Supervisory Board

Name, occupation, place of residence	Positions on statutory supervisory boards of other German companies[1]	Position on comparable boards of German and foreign companies[1]
Andrea Orcel Group Chief Executive Officer of UniCredit and Head of Italy of Unicredit S.p.A., Milan Chairman		EIS Group Ltd., Hamilton (Bermuda)
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 Deputy Chairman		Compagnia Aerea Italiana S.p.A., Rome MidCo S.p.A., Rome
Sabine Eckhardt[2] since 1 March 2022 Member of the Supervisory Board and Advisor, Munich	CECONOMY AG, Düsseldorf	
Prof Dr Annette G. Köhler until 28 February 2022 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, Zurich
Dr Claudia Mayfeld Member of the Management Board of Knorr-Bremse Aktiengesellschaft, Dortmund	Knorr-Bremse Systeme für Schienenfahrzeuge GmbH, Munich, Knorr-Bremse Systeme für Nutzfahrzeuge GmbH, Munich, since 1 March 2022 (Chairwoman from 1 April 2022 to 6 December 2022)	
Fiona Melrose Head of Group Strategy and ESG of UniCredit S.p.A., Milan		
Claudia Richter Employee of UniCredit Bank AG, Fürth		

Name, occupation, place of residence	**Positions on statutory supervisory boards of other German companies[1]**	**Position on comparable boards of German and foreign companies[1]**
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 2022.

2 Other directorships (compare Article 435 (2a) CRR): Dr Bernd Metzner holds four other directorships within the Gerresheimer Group. Ms Eckhardt held a total of four directorships within the Jones Lang La Salle Group until 31 March 2022.

List of Executives and Outside Directorships (Continued)

Supervisory Board committees[1,2]

Audit Committee
Dr Bernd Metzner, Chairman
Sabine Eckhardt (since 1. March 2022)
Prof Dr Annette G. Köhler (until 28 February 2022)
Fiona Melrose
Oliver Skrbot

Nomination Committee
Gianpaolo Alessandro, Chairman
Sabine Eckhardt (since 1. March 2022)
Prof Dr Annette G. Köhler (until 28 February 2022
Fiona Melrose
Florian Schwarz

Remuneration Control Committee
Gianpaolo Alessandro, Chairman
Sabine Eckhardt (since 1. March 2022)
Prof Dr Annette G. Köhler (until 28 February 2022)
Dr Claudia Mayfeld
Florian Schwarz

Risk Committee
Dr Claudia Mayfeld, Chairwoman
Gianpaolo Alessandro
Fiona Melrose
hristian Staack

1 As of 31 December 2022.
2 See also the Report of the Supervisory Board.

Trustees[1]

Trustees for Pfandbrief operations pursuant to Section 7 of the German Pfandbrief Act

Bernd Schreiber
(until 30 September 2022)
President of the Bavarian Department of State-owned Palaces, Gardens and Lakes, Markt Schwaben

Robert Saliter
(since 1 October 2022)
Ministerialdirigent (Director-General) in the Bavarian State Ministry of Finance and Regional Identity, Munich

Deputies

Robert Saliter
(until 30 September 2022)
Ministerialdirigent (Director-General) in the Bavarian State Ministry of Finance and Regional Identity, Munich

Dr. Tanja Benzinger
Chief Ministerialrätin in the Bavarian State Ministry of Finance and Regional Identity, Freising

Dominik Kazmaier
(since 1 October 2022)
Ministerialdirigent (Director-General) in the Bavarian State Ministry of Finance and Regional Identity, Fürstenfeldbruck

1 As of 31 December 2022.

List of Executives and Outside Directorships (Continued)

Management Board

Name	Positions on statutory supervisory boards of other German companies[1]	Positions on comparable boards of other German and foreign companies[1]
Dr Michael Diederich born 1965 Board Spokesman (CEO) People & Culture (incl. Human Capital/Labour & Social Affairs pursuant to Section 27 (2) s. 2 MgVG	FC Bayern Munich AG, Munich	ESMT European School of Management and Technology GmbH, Berlin
Artur Gruca born 1979 since 1 September 2022 **Digital & Information (CDIO)**		
Marion Höllinger born 1972 Private Clients Bank	UniCredit Direct Services GmbH, Munich[2] (until 27 February 2022) WealthCap Kapitalverwaltungsgesellschaft mbH, Grünwald[2] (Deputy Chairwoman)	Wealth Management Capital Holding GmbH, Munich[2], (Deputy Chairwoman)
Dr Jürgen Kullnigg born 1961 Risk Management (CRO)	HVB Immobilien AG, Munich[2]	
Jan Kupfer born 1964 Corporates	Bayerische Börse Aktiengesellschaft, Munich (Deputy Chairman)	
Christian Reusch born 1973 Client Solutions		
Boris Scukanec Hopinski born 1981 Operations Germany (COO)	HVB Immobilien AG, Munich (Chairman)[2] WealthCap Kapitalverwaltungsgesellschaft mbH, Grünwald (Chairman)[2]	UniCredit Services S.C.p.A., Milan (until 1 October 2022) Wealth Management Capital Holding GmbH, Munich (Chairman)[2]
Ljubisa Tesić born 1976 Finance (CFO)		UniCredit Bank Serbia JSC, Belgrade

1 As at 31 December 2022.
2 Group directorship.

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
Leiber, Daniel	UniCredit Direct Services GmbH, Munich[2]
Hölzl, Miriam	UniCredit Direct Services GmbH, Munich[2]

1 As at 31 December 2022.
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. Within that framework it 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. This year, the Supervisory Board focused on the implementation of the "UniCredit Unlocked" strategic plan and on the impact of the Russia-Ukraine conflict, inflation development and the increased risks of recession on the business, financial and risk situation of HVB Group. The Supervisory Board solicited extensive reports on these topics from the Management Board. In addition, the Management Board informed the Supervisory Board regularly, promptly and comprehensively of business policies and the business strategy along with fundamental issues concerning corporate management and planning and the economic position of the individual business units. 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 and compliance topics that were discussed in detail by the Supervisory Board. These reports were submitted primarily during the meetings of the Supervisory Board and its committees, but also outside meetings in written form. Furthermore, important topics and pending decisions were addressed 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. Where necessary, meetings were held or individual items on the agenda were discussed even without the Management Board participating. Potential conflicts of interest of individual Supervisory Board members were disclosed and taken into account where these existed.

Meetings and other resolutions of the full Supervisory Board

The Supervisory Board held six regular meetings and two extraordinary meetings in the 2022 financial year.

The Supervisory Board addressed the following subjects in particular:

Outside a meeting on **21 January 2022**, the Supervisory Board agreed to the conclusion of a local framework agreement between the Bank and KPMG Deutschland for auditing services, which is based on the group-wide framework agreement between UniCredit S.p.A. and KPMG Italy, in view of the planned change in auditors.

At the first meeting of the year on **21 February 2022**, the Supervisory Board was briefed on the coronavirus situation in HVB Group and finally on the status of implementation of the previous Multi-Year Plan 2021. From the following meetings onwards, the reports focused on the new "UniCredit Unlocked" strategic plan (Multi-Year Plan 2022-2024). The Supervisory Board confirmed that the total amount proposed as variable remuneration in 2021 for Management Board members and HVB Group employees was appropriate. The Supervisory Board resolved to propose to the Extraordinary Shareholders' Meeting held on 24 February 2022 that Ms Sabine Eckhardt be elected to the Supervisory Board as shareholder representative and successor to Prof Annette Köhler. Prior to this, the Supervisory Board had established both the individual suitability of Ms Sabine Eckhardt and the collective suitability of the Supervisory Board in its new composition. Subject to the condition precedent of Ms Sabine Eckhardt being elected as a member of the Supervisory Board, the Supervisory Board also elected her as a member of the Nomination Committee, Audit Committee and Remuneration Control Committee. As a final step, the questionnaire on conflicts of interest was adapted to cater for new regulatory requirements for members of the Supervisory Board.

At the strategy meeting on **16 March 2022,** the Management Board provided an initial overview of the impact that the Russia-Ukraine conflict is having on HVB Group to the Supervisory Board and discussed potential mitigation measures. Otherwise the key topic of the meeting was the “Business and Risk Strategies 2022” of HVB Group, taking climate and environmental risks and goals into account. In this context, the business strategy of the Commercial Banking (Unternehmer Bank and Private Clients Bank) and Corporates, Client Solutions, COO and CDIO business areas were discussed individually and in depth with the Management Board. The Supervisory Board also considered the implementation of the new Multi-Year Plan 2022-2024 and the multi-year simulation in this connection. There was an intensive exchange with the Management Board on the risk strategies of HVB Group and the implementation of the overall risk appetite and risk strategy.

At the meeting held on **18 March 2022** devoted to the annual financial statements, the Supervisory Board discussed the annual and consolidated financial statements for 2021 with the independent auditor, Deloitte GmbH Wirtschaftsprüfungsgesellschaft (hereinafter: “Deloitte”), and 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) and approved the report of the Supervisory Board for the 2021 financial year. The Supervisory Board then solicited a report on compliance with regulatory provisions and on the implementation of the audit plan of Internal Audit in 2021. The Supervisory Board also confirmed the Management Board’s principles for selecting and appointing individuals to senior management level including holders of key functions. The Supervisory Board passed a resolution on the variable remuneration for Management Board members for the 2021 financial year. Moreover, the Supervisory Board deliberated on succession planning for the Management Board including the diversity strategy and considered ways to increase the number of women on the Management Board and at higher management levels in particular. In addition, the requirement profiles for the Management Board and the Supervisory Board as well as the questionnaire on conflicts of interest for Management Board members were adapted to take account of new regulatory requirements.

At the meeting on **26 April 2022,** the Supervisory Board was informed of the current situation in the Russia-Ukraine conflict and discussed the possible consequences for HVB Group in depth with the Management Board. The Supervisory Board also dealt with monitoring the Multi-Year Plan 2022-2024 initiatives. The next topic was discussing the quarterly figures as at 31 March 2022 with the Management Board. The Supervisory Board then reviewed the structure of the 2022 Group Incentive System for the Bank that contains rules on determining the variable remuneration for Risk Takers as defined by the German Ordinance on the Supervisory Requirements for Institutions’ Remuneration Systems (Institutsvergütungsverordnung – InstitutsVergV) and adopted this for Management Board members. In addition, the Supervisory Board discussed and passed a resolution on the targets set for 2022 for Management Board members. Furthermore, the Supervisory Board appointed Mr Artur Gruca as a member of the Management Board with effect from 1 September 2022 until the close of 31 December 2025 and approved his Management Board employment contract including his remuneration package. Prior to this, the Supervisory Board had established Mr Gruca’s individual suitability and the collective suitability of the Supervisory Board in its new composition.

The proposed resolutions for the agenda of the 2022 Annual General Meeting of Shareholders were adopted outside a meeting on **3 May 2022** by written procedure. The regularity of the procedure for identifying Risk Takers at HVB Group for 2022 and the final results of the identification of Risk Takers were confirmed for the 2021 financial year also outside of meetings on **29 June 2022** and the audit assignment for KPMG was adopted for the year 2022 on **18 July 2022**.

Report of the Supervisory Board (Continued)

At the meeting on **22 July 2022**, the Supervisory Board was again briefed on the implementation of the business strategy and the Multi-Year Plan 2022-2024 initiatives, especially on measures serving to simplify internal processes. The Management Board also provided an overview of the reorganisation of the Corporates business area. There was again more in-depth debate on the impact of the Russia-Ukraine conflict and the Bank's measures to support its customers in this respect. The Supervisory Board discussed the figures published in the Half-Yearly Financial Report as at 30 June 2022 with the Management Board. Furthermore, the Supervisory Board considered various remuneration topics and passed resolutions confirming the appropriateness of the remuneration in 2021 for the heads of control functions and Risk Takers, the appropriateness of the 2022 Group Remuneration Policy (group-wide remuneration strategy) for HVB Group employees and its implementation for HVB's Management Board and the appropriateness of the 2022 remuneration systems of HVB Group. Due to regulatory developments in the area of environmental, social and governance (ESG), the Supervisory Board resolved to adjust its By-laws to bring ESG risks, in particular climate and environmental risks, to the fore. Finally, the Supervisory Board dealt with Management Board employment contract and remuneration issues and decided on the remuneration in 2022 of Management Board members taking account of an external benchmark analysis and an external legal opinion.

At the extraordinary meeting on **28 September 2022**, the Supervisory Board approved the amicable termination of the term of office of Dr Michael Diederich along with Ms Marion Höllinger taking over the business area for which Dr Michael Diederich was previously responsible including the adjustment of her Management Board employment contract and her remuneration package. It also approved the election of Ms Marion Höllinger as Spokeswoman of HVB's Management Board with effect from 1 March 2023. Prior to this, the Supervisory Board had established the individual suitability of Ms Höllinger to take over the Management Board position of CEO and the collective suitability of the Management Board in its future composition.

At the meeting on **21 October 2022**, the Management Board provided an update on HVB Group's business performance, the impact of the Russia-Ukraine conflict and the implementation of the Multi-Year Plan 2022-2024. The Supervisory Board was also informed of the planned optimisation measures in the real estate sector and of an operative measure of the ECB. In addition, the Supervisory Board deliberated on various governance issues and adopted resolutions in this regard. The Supervisory Board also discussed the results of the annual evaluation and addressed the issue of monitoring potential conflicts of interest of the Management Board and the Supervisory Board and setting a target for the proportion of women on the Management Board and adopted corresponding resolutions.

At the extraordinary meeting on **5 December 2022**, the Supervisory Board – after previously having determined the individual and collective suitability – appointed Ms Monika Rast as a member of the Management Board with effect from 1 March 2023 until the close of 31 December 2025 and approved her Management Board employment contract including her remuneration package. Moreover, the Supervisory Board resolved to prematurely reappoint Mr Jan Kupfer with effect from 1 January 2023 until the close of 31 December 2026. The Supervisory Board also considered the succession planning for HVB's Supervisory Board including the diversity strategy and adopted resolutions in this regard. In addition, the Supervisory Board resolved to propose to the Extraordinary Shareholders' Meeting on 21 December 2022 that Dr Michael Diederich be elected to the Supervisory Board as shareholder representative and successor to Mr Gianpaolo Alessandro with effect from 1 September 2023. The Supervisory Board also elected Dr Michael Diederich – subject to the condition precedent of his being elected as a member of the Supervisory Board – as a member of the Nomination Committee and Risk Committee and Ms Fiona Melrose as a member of the Remuneration Control Committee. Prior to this, the Supervisory Board had determined both the individual suitability of Dr Michael Diederich and Ms Fiona Melrose as well as the collective suitability of the Supervisory Board in its future composition.

In a written procedure outside a meeting on **12 December 2022**, the Supervisory Board resolved to pay an additional audit fee to KPMG for extensions of the audit required for regulatory purposes for the 2022 annual financial statements.

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 or chairwoman. 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. Furthermore, the chairs of the committees coordinated inter-committee topics with the Management Board member responsible in each case and among one another. They also exercised their rights to information. 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 six 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 two new members to the Management Board, the reappointment of one member of 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 one fit & proper assessment for a member of the Management Board who assumed new responsibilities as part of his continuing Management Board mandate and one fit & proper assessment for a member of the Supervisory Board who likewise assumed a new responsibility as part of his continuing Supervisory Board mandate. The Nomination Committee also reviewed the Management Board’s principles for selecting and appointing individuals to senior management level including key function holders and supported the Supervisory Board in making corresponding recommendations to the Management Board. Furthermore, the Nomination Committee prepared resolutions on the adjustment of the questionnaire on conflicts of interest and requirement profiles for the Supervisory Board and the Management Board partly to cater for new regulatory requirements. With the support of an external, independent consultant (auditing company), the Nomination Committee also prepared the annual evaluation of the Management Board and the Supervisory Board pursuant to Section 25d (11) KWG.

Report of the Supervisory Board (Continued)

Remuneration Control Committee

In the past year, the Remuneration Control Committee met six 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 InstitutsVergV. It discussed the Remuneration Control Report 2021 of the Remuneration Officer and on the basis of this report in a joint meeting with the Risk Committee, it reviewed 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. In addition, the Remuneration Officer presented her 2022 annual plan to the Remuneration Control Committee and advised it on all monitoring and structuring tasks relating to employee remuneration systems. The committee discussed the appropriateness of the total amount proposed for variable remuneration in 2021 for Management Board members and HVB Group employees. It analysed the performance of Management Board members, the determination of the variable remuneration for the 2021 financial year respectively and the targets set for the individual Management Board members in the 2022 financial year. It then gave corresponding recommendations to the Supervisory Board. The committee prepared the draft resolution of the Supervisory Board on the appropriateness of the remuneration for the heads of the Risk Controlling function, the Compliance function and Risk Takers in 2021. It also discussed the appropriateness of the structure of the 2022 Group Remuneration Policy (group-wide remuneration strategy) for employees and the 2022 Group Incentive System and recommended to the Supervisory Board that this system also be implemented for Management Board members. The committee prepared the draft resolution of the Supervisory Board on the appropriateness of the 2022 remuneration systems of HVB Group and on the structure of the 2022 remuneration packages of Management Board members and after in-depth discussion, made corresponding recommendations to the Supervisory Board. Furthermore, the committee discussed Management Board employment contracts in connection with appointments, considered the contractual arrangements along with the remuneration of the Management Board members in detail and provided corresponding recommendations to the Supervisory Board. Independent external legal advisers were consulted in individual cases.

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. In particular, the Risk Committee dealt with the current and future overall risk appetite and risk strategy of HVB Group on a regular basis. 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 as well as the integration of ESG factors. The Risk Committee addressed the impact of the war in the Ukraine at its meetings at regular intervals. Other focal points of discussion were the stress test scenarios and the results of HVB Group’s stress tests. A subject of intensive deliberation was the review of the efficiency of the risk management system and the quarterly reports of the Internal Audit and the Compliance function. The committee monitored the compliance of financial products and services with the Bank’s business model and risk structure. It received regular reports on the reorganisation in Risk Management. At a joint meeting with the Remuneration Control Committee, the Risk Committee used the Remuneration Control Report 2021 of the Remuneration Officer to analyse whether the incentives set by the remuneration system take the Bank’s risk, capital and liquidity structure into account, as well as the probability and due dates of revenues. Furthermore, the Risk Committee was briefed at the joint meeting with the Audit Committee on IT security management and IT organisation. The topics discussed at this joint meeting with the Audit Committee were in particular the situation concerning resources in the Finance, Risk Management, COO and CDI units, the latest respective quarterly reports of the Internal Audit and the Compliance function as well as an analysis of the Bank’s legal risks.

Audit Committee
The Audit Committee convened for four meetings in the reporting year and once at a joint meeting with the Risk Committee. Representatives of the independent auditor and particularly also 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 (RMS), particularly the internal control system (ICS) 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 2021 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 as 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. The efficiency of each of the 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 to the Audit Committee on the assessment of the audit of the efficiency of risk management by the Risk 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 along with 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). It requested reports on the liquidity situation each quarter.

In addition, the committee prepared the election of the independent auditor in 2022 by the Annual General Meeting and the award of the audit engagement by the Supervisory Board. It also approved the non-audit services of the independent auditor.

At the joint meeting with the Risk Committee, the two committees solicited reports in particular on IT security management (cyber risk), the situation concerning resources in the Finance, Risk Management, COO and CDI units, the respective current quarterly report of the Internal Audit and the Compliance function as well as an analysis of the Bank's legal risks.

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. In particular, training events were held on the topics of ESG aspects and the resulting risks as well as cyber security.

Report of the Supervisory Board (Continued)

Annual financial statements for 2022
KPMG audited the annual financial statements and Management Report of the Bank 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 2022 financial year. The independent auditor issued an unqualified opinion in each case.

The financial statements listed above were provided to the Supervisory Board along with the Management Board's proposal for the appropriation of the distributable profit and the independent auditors' report. 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 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. 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 2022 financial year in accordance with Section 312 AktG.

KPMG 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 KPMG 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 respective 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 2022 financial year prepared by the Management Board, 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
The Supervisory Board appointed Mr Artur Gruca as a member of the Management Board with effect from 1 September 2022 and Ms Monika Rast with effect from 1 March 2023. Through the conclusion of a termination agreement by mutual consent, the term of office of Dr Michael Diederich ended with effect from the close of 28 February 2023. Ms Marion Höllinger is taking over the position as CEO and was elected as the Spokeswoman of the Management Board as of 1 March 2023 by the Management Board with the consent of the Supervisory Board. In order to retain the knowledge and experience of Dr Diederich for the company, he was appointed to the Supervisory Board with effect from 1 September 2023.

Prof Annette Köhler resigned from the Supervisory Board as shareholder representative with effect from the close of 28 February 2022. Ms Sabine Eckhardt was elected to the Supervisory Board in her place with effect from 1 March 2022 at the Bank’s Extraordinary Shareholders’ Meeting on 24 February 2022.

The Supervisory Board thanks Prof Köhler for her long-term, dedicated and valuable service and also for her commitment and her constructive support for the Bank.

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 2022 financial year.

Munich, 10 March 2023

The Supervisory Board

Andrea Orcel

Chairman

Summary of Annual Financial Data

	2022	2021	2020	2019	2018
Operating performance (€ millions)					
Net interest	2,626	2,516	2,413	2,388	2,484
Dividends and other income from equity investments	31	28	37	24	25
Net fees and commissions	1,120	1,115	1,007	973	973
Net trading income	793	655	662	579	693
Net gains/(losses) on financial assets and liabilities at fair value	288	85	(78)	108	(110)
Net gains/(losses) on derecognition of financial instruments measured at amortised cost	29	(9)	(3)	13	52
Net other expenses/income	(138)	(61)	603	742	845
OPERATING INCOME	**4,749**	**4,329**	**4,641**	**4,827**	**4,962**
Payroll costs	(1,415)	(1,485)	(1,451)	(1,453)	(1,468)
Other administrative expenses	(1,087)	(1,202)	(1,231)	(1,220)	(1,364)
Amortisation, depreciation and impairment losses on intangible and tangible assets	(109)	(119)	(126)	(483)	(183)
Operating costs	**(2,611)**	**(2,806)**	**(2,808)**	**(3,156)**	**(3,015)**
OPERATING PROFIT/(LOSS)	**2,138**	**1,523**	**1,833**	**1,671**	**1,947**
Net write-downs of loans and provisions for guarantees and commitments[1]	(299)	(114)	(733)	(115)	(16)
NET OPERATING PROFIT/(LOSS)	**1,839**	**1,409**	**1,100**	**1,556**	**1,931**
Provisions for risks and charges	11	(153)	11	313	(919)
Restructuring costs	(80)	(617)	(35)	(363)	(14)
Net gains/(losses) on remeasurement of consolidated companies[2]	(2)	(13)	(4)	(15)	26
PROFIT/(LOSS) BEFORE TAX AND IMPAIRMENT ON GOODWILL	**1,768**	**626**	**1,072**	**1,491**	**1,024**
Impairment on goodwill	--	--	--	(130)	(288)
PROFIT/(LOSS) BEFORE TAX	**1,768**	**626**	**1,072**	**1,361**	**736**
Income tax for the period	(467)	(300)	(404)	(533)	(253)
PROFIT/(LOSS) AFTER TAX CONSOLIDATED PROFIT/(LOSS) OF FULL HVB GROUP	**1,301**	**326**	**668**	**828**	**483**
attributable to the shareholder of UniCredit Bank AG	1,301	325	688	811	465
attributable to minorities	--	1	--	17	18
Cost-income ratio in % (based on total revenues)	55.0	64.8	60.5	65.4	60.8
Earnings per share of full HVB Group (€)	1.62	0.41	0.83	1.01	0.58
Balance sheet figures (€ billions)					
Total assets	318.0	312.3	338.1	303.6	287.3
Shareholders' equity	19.7	17.7	17.9	18.9	18.3
Key capital ratios	**Nach CRR II**	**Nach CRR II**	**Nach CRR II**	**Nach CRR II**	**Nach CRR**
Common Equity Tier 1 capital[3] (€ billions)	16.1	15.2	15.1	15.0	16.5
Core capital (Tier 1 capital)[3] (€ billions)	17.8	16.9	16.8	15.0	16.5
Risk-weighted assets (€ billions) (including equivalents for market risk and operational risk)	82.1	86.9	80.6	85.5	82.6
Common Equity Tier 1 capital ratio[3,4] (%)	19.6	17.4	18.8	17.5	19.9
Core capital ratio (Tier 1 ratio)[3,4] (%)	21.6	19.4	20.9	17.5	19.9
Further information					
Employees (in full-time equivalents)	10,866	11,406	12,074	12,194	12,252
Branch offices	430	461	480	498	503

1 2022: Renaming of the item "Credit impairment losses IFRS 9" to "Net write-downs of loans and provisions for guarantees and commitments".
2 2022: Renaming of the item from "Gains/losses on disposals of investments" to "Net gains/losses on remeasurement of consolidated companies".
3 31 December 2022: in accordance with approved financial statements.
4 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

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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

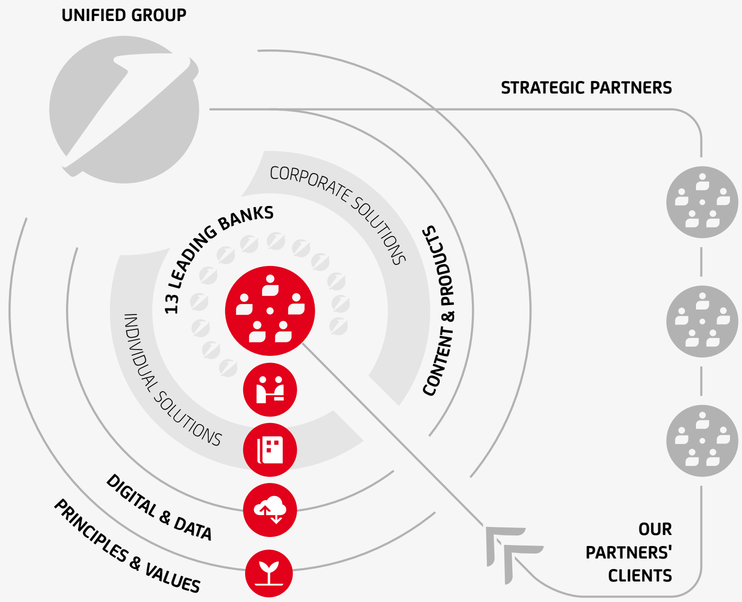
UniCredit S.p.A. Profile

At a glance

UniCredit: who we are

UniCredit is a pan-European Commercial Bank with a unique offering serving 15 million clients across Italy, Germany, and Central and Eastern Europe.

Our Purpose is to **empower communities to progress.** We believe that by delivering the very best for all our stakeholders, we can unlock the potential that exists across Europe – both for our clients and our people, and for their wider communities.



4

COVERAGE REGIONS

15 MILLION

CUSTOMERS WORLDWIDE

What we do

UniCredit's ambition is to be the bank for Europe's future. This year, we continued to transform in order to deliver that ambition, **building a better bank** that can act as a benchmark for our industry.

Our strategic plan, **UniCredit Unlocked**, is designed to ensure that we deliver for all our stakeholders: our clients; our people; and our shareholders. The plan is well underway and the foundations for sustainable, long-term success have been laid.

We are operating as one bank, leveraging our presence across Europe and the strength of our collective to offer the very best to all our stakeholders. Everything we do is underpinned by a commitment to ESG principles. We are determined to play a part in creating a sustainable future for our planet, and this ambition drives all our actions and decision making.

This year, we have seen the impact of our transformation, evidenced in our strong financial performance, delivering above all the goals we set out in UniCredit Unlocked. It is also evidenced in how we have delivered for our stakeholders and, ultimately, on our Purpose of empowering communities to progress.

Letter from the Chief Executive Officer

"

I am determined that UniCredit is an institution which lives by the principles we have set for ourselves, as we have done throughout 2022. We have confronted challenges head-on and because of the proactive steps we have taken, we are primed to seize all opportunities as they arise.

Dear Stakeholders,

When we look back on UniCredit's journey, 2022 will be seen as a pivotal year. It was the year that we executed on the fundamental aspects of UniCredit Unlocked that have strengthened our bank further. It was the year we laid the foundations for future successes. And it was the year we transformed our bank.

The UniCredit of today is a different organisation from a year ago. This is not because of a change in any of our bank's fundamentals; it is because of the growth and value we have driven and created from within. The assets that gave us our innate strength and potential a year ago remain today: UniCredit continues to have an extensive talent pool, fantastic clients and a pan-European reach. But we are a different bank.

We are different because of what we have done with those ingredients. UniCredit Unlocked has changed the way we are utilising our bank's fundamental assets. Through 2022, we transformed our operating model, to one which empowers our people and gives our clients what they are asking for. One which unleashes the very best of what our bank has to offer, and one which focuses on growth rather than retrenchment.

Critically, in 2022 UniCredit Unlocked changed our organisation's culture and our mindset. We are now a forward-looking bank, one that is ambitious about the future and achieving sustainable growth. We are winning.

This mindset change is what is driving our ability to serve clients, deliver success for all our stakeholders, and become the bank for Europe's future. We have much more to do before we achieve that ultimate ambition, but we are now a bank that is operationally capable of delivering on such a bold ambition.

As the last year has shown more than ever, the world in which we live is a complicated and rapidly evolving one. The only thing that can be certain is uncertainty itself. As always, but especially in such an environment, we must return, unfailingly, to our principles and values.

I am determined that UniCredit is an institution which lives by the principles we have set for ourselves, as we have done throughout 2022. We have confronted challenges head-on and because of the proactive steps we have taken, we are primed to seize all opportunities as they arise.

This has led to some difficult decisions, but they are decisions guided by integrity and which we would return to again and again.

We are setting a new benchmark for the banking industry, with a focus on long-term value creation, sustainability, resilience and inclusion.

Strong foundations

At the start of the year, our ambition was deemed too steep by many. Our plan was too difficult. Yet despite all the challenges 2022 provided, it will be remembered as a year we beat all our targets - with a generous margin.

We have moved quickly, outperforming our plan and executing on our industrial transformation in record time, with a team that are motivated by a shared ambition and passion.

We have strengthened our two best-in-class product factories, which can be leveraged by each of our 13 banks. This is a proven model that is difficult for our competitors to replicate.

We have begun to optimise and update our legacy infrastructure, so that we can build a fully digital and data driven organisation which is fit for the future.

We have delivered on our ESG objectives, and remain steadfast in our commitment to reach 150bn new ESG volumes by 2024, 10bn of which will be social finance, and our plan to reach net zero on financed emissions by 2050 and on our own emissions by 2030. Our ESG commitments are a critical aspect of our ability to set a new benchmark for banking and become a bank for the future, and we are determined to do even more and go further in coming years.

All our actions on industrial transformation are directly connected to our financial performance and financial KPIs through which we manage the three levers of cost, net revenue and capital. Today we are a bank that grows profitably and sustainably, is efficient, generates outsized capital organically, and has a robust balance sheet and capital. We are achieving the best results in UniCredit's history. In Q4, we announced FY22 net profit[1] of 5.2bn and we are now in our eighth quarter of year-over-year growth.

1. Net Profit with UniCredit Unlocked methodology (means the stated net profit adjusted for AT1 and CASHES coupons and impacts from DTAs tax loss carry forward contribution)

COST

-2%

FY22/FY21
Targeted reduction

TARGETED, SUPERIOR OPERATIONAL EXCELLENCE

NET REVENUE

+13%

FY22/FY21
(Gross revenue up +14%)

HIGH-QUALITY NET REVENUE GROWTH

CAPITAL

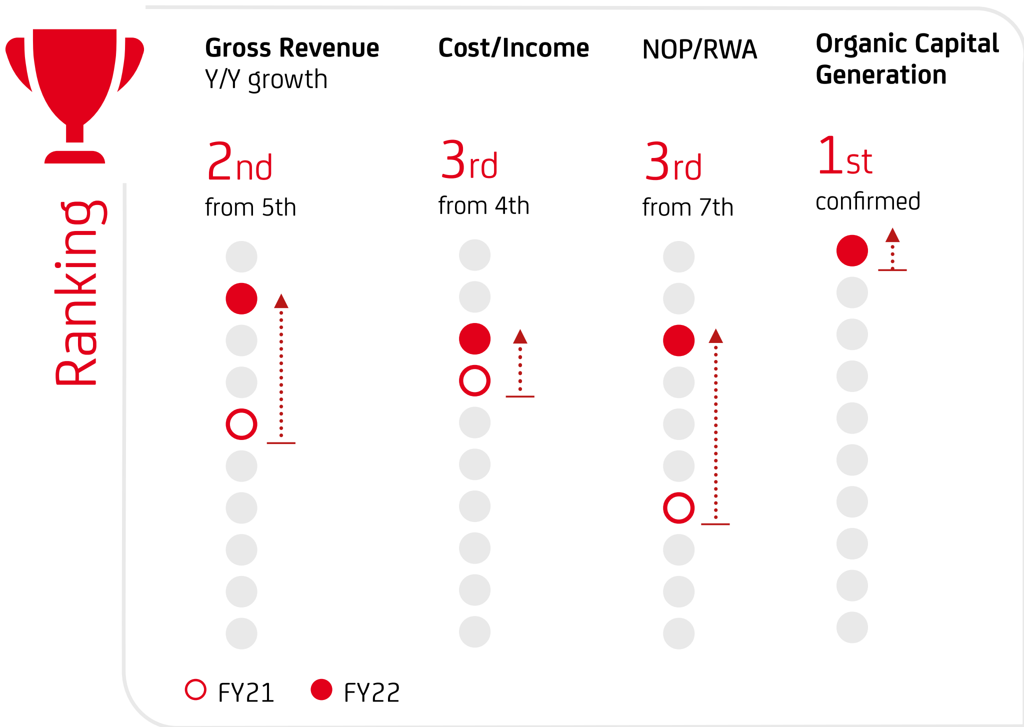
+279bps

FY22 Organic Capital Generation (€8.9bn)

BEST-IN-CLASS CAPITAL EFFICIENCY

In comparison to our peers, we have top tier top-line growth, operating efficiency, and unrivalled organic capital generation. We have one of the highest CET1 ratios, one of the highest quality credit portfolio and coverage, and the highest forward-looking precautionary overlays.

MOVING AT AN ACCELERATED PACE VS. PEERS ACROSS ALL LEVERS[2]

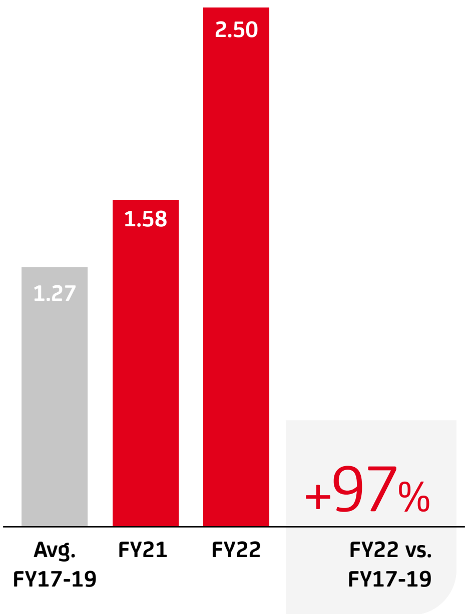


2. **Peers and UniCredit stated figures based on publicly available data**
Selected peers: BBVA, BNP Paribas, Commerzbank, Credit Agricole S.A., Deutsche Bank, ING, Intesa Sanpaolo, Santander, Société Générale

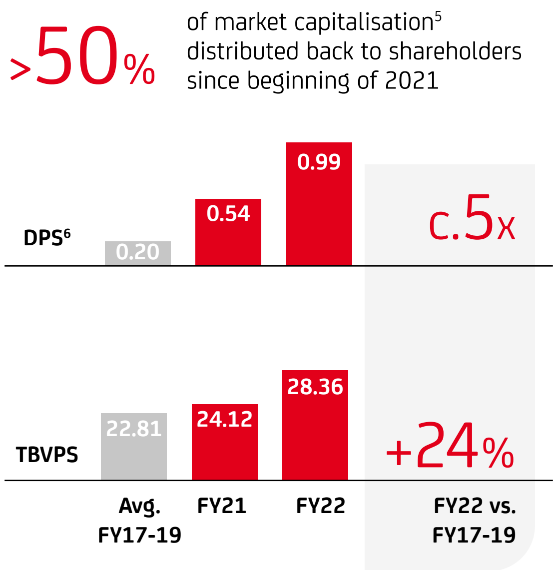
Our results throughout the year are evidence of industrial transformation and execution of strategy across all levers which gives us the ability to withstand shocks and to deliver sustainable and attractive shareholder distributions. Our results, and their quality, allow us to propose a total 2022 shareholder distribution of 5.25 billion euros, up 40% year on year, pending shareholder and supervisory approvals.

At the same time, we are delivering exceptional per-share value creation. Our net profit growth has been enhanced by share buy-backs, nearly doubling EPS versus our historical run-rate, with DPS five times higher, and tangible book value per share up nearly a quarter.

BOOSTING EPS[3,4]



EXCEPTIONAL SHAREHOLDER VALUE CREATION



Figures Group including Russia

3. Net Profit with UniCredit Unlocked methodology (for 2022 means the stated net profit adjusted for AT1 and CASHES coupons and impacts from DTAs tax loss carry forward contribution; for 2021 also adjusted for non-operating items); FY17-2019 Group excluding Turkey and Fineco Bank for comparison purposes.
4. EPS is calculated using Net Profit as per the definition above, divided by the average diluted shares in the period.
5. FY22 distribution subject to supervisory and shareholder approvals.
6. FY22 DPS best estimate, please refer to the FY22 results press release for additional details.

Face the future

It is difficult to predict what is to come in 2023, but the progress we have made this year gives me confidence in our ability not just to face the future, but to capture the opportunities that this environment will present. We have achieved a great deal, but there is so much more value still within our bank that needs to be released. In 2022 we transformed our bank, but I am confident that was just the beginning, and we will go on to achieve much more.

There is no doubt that great challenges lie ahead, for organisations individually, but also for Europe as a whole. If we are to unleash the full potential of Europe as an economic bloc, we must come together more fully than we have done to date. The benefits of greater integration will be exponential and enable us to compete on the world stage – in a way that we are not at the moment.

For us at UniCredit, when we face the challenges ahead, we will return to two things.

The first is our strong foundations, now liberated to thrive and release their potential, as well as the innate strength that comes with being a pan-European bank. Our presence and reach across the continent enables us to leverage the benefits that come with scale. We have seen throughout 2022 how our offering to clients is maximised exponentially when shared across our 13 banks.

The second is our desire to set a new blueprint for banking, one which is guided by principles and values, and determined to create success for all stakeholders for the long-term. This is what we will return to, time and again, when we are carving our path through a challenging time. I firmly believe that if we adhere to these, we will succeed. And more than that, we will win: for our clients, our communities, and our investors.

This is the bank that UniCredit is becoming: a better bank. In 2022, we took incredible steps towards that goal, and I know that much more is to come in 2023.

I extend my sincere thanks to you all for your support on this journey. I am grateful to the Board, our investors, the UniCredit team, as well as our clients and those communities that we serve for staying with us and supporting us as we move into the next phase of our growth, building on what we achieved in 2022.

It is the team's commitment that has enabled us to deliver what is not only an incredible organisational transformation, but a better way of operating as an industry for the whole of Europe.

2022 was the year we laid the foundations for this success, and I have no doubt 2023 will be the year we capitalise on them.

Thank you,

Andrea Orcel
Chief Executive Officer UniCredit S.p.A.

Our key 2022 milestones - while delivering record results

JANUARY

A Top Place to Work in Europe
UniCredit certified as a 2022 Top Employer in Europe

UniCredit & Allianz – a new collaboration is born
Allianz Partnership

Optimising our digital portfolio through leading data analysis technology
Germany launches the OneWealth platform

FEBRUARY

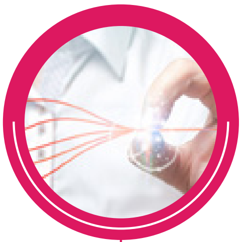
United behind a single ambition. Support for Ukraine
UniCredit supports Ukraine and its people across all geographies

MARCH

Putting our clients at the centre
CIB becomes Client Solutions

1Q

Proud of our Progress



APRIL

Simplify to help our clients succeed
Embedding simplification best practices as we build our bank for the future

MAY

Keeping our digital communities connected
UniCredit expands its social media footprint

Austria's first inaugural Green Covered Bond to support green projects

Delivering for our shareholders
Share Buyback Programme launch - Financial capital for ESG strategy

JUNE

A new training offering for all our people
The official launch of UniCredit University

Integrated Report
Human Capital

The official launch of our Culture and Values
Culture Day

Integrated Report
Human Capital

JUNE

3 Financial levers: Net Revenues, Cost and Capital

2Q

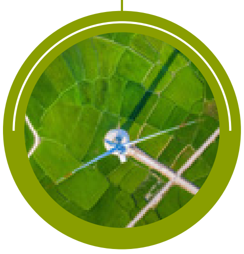
Excellent performance and strong positioning

JULY

A new offering for Digital-first corporate services
Investing in new online solutions

Our Sustainability commitment
First Sustainability Bond Allocation report

Integrated Report Financial Capital



Introducing our new Code of Conduct
2022 Code of Conduct

AUGUST

Leading solar energy financing in Hungary
Sustainable solar energy developments

SEPTEMBER

Investing in our future generations
Announcing a Partnership with Teach For All

Integrated Report Social and Relationship Capital

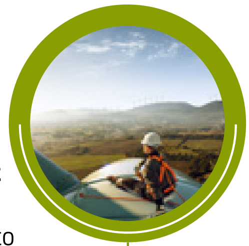
Empowering our employees with collaboration tools
A Group-wide Digital transformation through cloud technology

Our commitment to individuals and SMEs
UniCredit per l'Italia

Integrated Report Social and Relationship Capital

Reducing our carbon footprint: one ESG commitment at a time
UniCredit signs up to Sustainable STEEL Principles to promote greener steelmaking

Integrated Report ESG Strategy



A market leader in financing for renewables
UniCredit Serbia leads renewable project financing

3Q

Proof of a transformed UniCredit

OCTOBER

Prioritising gender equity across our bank
UniCredit obtains EDGE Certification

Integrated Report
Human Capital

Another step in our journey to Net Zero
UniCredit is the first bank in Europe to obtain the ESG GRESB scoring on its corporate real estate portfolio

Integrated Report
Natural Capital

Building an integrated, fast and Digital bank
Living Digital Days

Integrated Report
Intellectual Capital

The beginning of a new era for UniCredit
Launching the onemarkets Fund

Empowering Bulgarian corporates and SMEs
First securitisation deal in Bulgaria

Culture Roadshow
Our Culture Manifesto in action

NOVEMBER

Next-generation Wi-Fi for all
Network efficiency across all our premises

Embedding DE&I in everything we do
Diversity, Equity & Inclusion Week

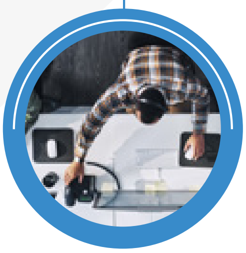
Integrated Report Human Capital

Unlocking the potential of Europe's next generation
UniCredit Foundation relaunch

Link to relaunch of the UniCredit Foundation

DECEMBER

Data stands behind our improved customer service
Building a better data-driven bank



UniCredit & Azimut – a new collaboration is born
Strengthening competence and driving scale and synergies

Creating an enhanced Digital experience for our retail clients
A new approach to doing business

UniCredit Unlocked one year anniversary: posting a record year, well ahead of UniCredit Unlocked

4Q

Transformed and positioned to win
Record 4Q22 and best Full Year results in a decade. Already delivering above UniCredit Unlocked

Financial Highlights & Milestones

FY22 confirmed UniCredit is already a transformed bank. UniCredit Unlocked the right strategy.

PEOPLE & ORGANISATION - THE RIGHT WAY TO WIN TOGETHER

- Building an ecosystem to deliver grow by removing silos and having 2 product factories
- Streamlining processes and empowering people within a clear framework
- Delayering the organisational structure to move closer to the client

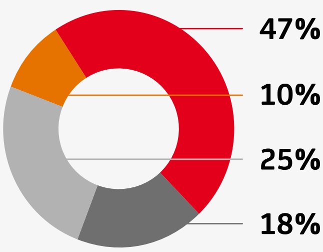
PRINCIPLES & VALUES

- Acting with clear Values and embedding our principles, Values and ESG in everything we do
- Support communities and clients in a just and fair transition
- Establish clear KPI’s, i.e. NET ZERO set targets on first three priority sectors and accompanying our clients on their transition journey

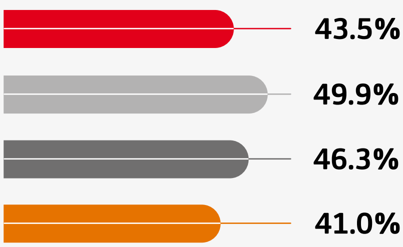
INVESTORS - ATTRACTIVE BANK DELIVERING 2022 BEST-IN-CLASS SUSTAINABLE RETURNS AND CAPITAL GENERATION

- +279 bps Organic capital generation
- RoTE above 10.7%
- Risk management - CoR at 41bps
- CET1r (stated) 16.0%

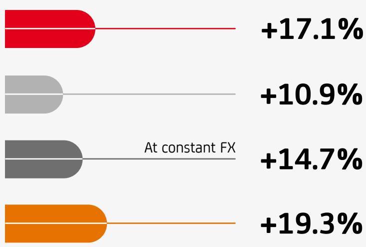
Net revenues per region



Cost - CIR (cost income ratio) per region



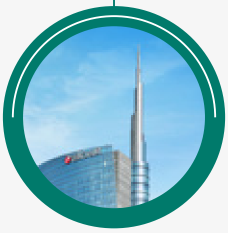
RoAC per region



● Italy ● Germany ● Central Europe ● Eastern Europe

Delivering for our shareholders
Share Buyback Programme launch - Financial capital for ESG strategy

MAY

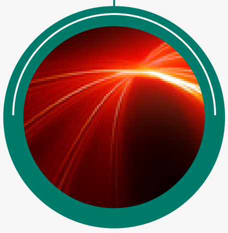


JUNE

3 Financial levers: Net Revenues, Cost and Capital

UniCredit Unlocked one year anniversary: posting a record year, well ahead of UniCredit Unlocked

DECEMBER



Our financial results.
Transformed and positioned to win.

GROW

18.4bn net revenues. 13% Y/Y

STRENGTHEN

FY22 CET1r stated capital up to 16.0%

DISTRIBUTE

Proposed distribution for 2022 at 5.25bn[1], up 40%

OPTIMISE

Strong cost management with CIR at 47.0%

1. Pending Shareholder and supervisory approval

Delivering for our shareholders - Sustainable Distribution and Capital strength

During the year, we delivered on our commitment of a 2021 shareholder distribution of 3.75 bn.

Thanks to our strong financial performance in 2022 and the best year in over a decade, we have proposed a total capital distribution of 5.25bn[1], with a 1.91bn cash dividend and 3.34bn share buyback – a 40% growth in distribution. Together with 2021 this already translates to almost 60% of our at least total 16bn capital distribution ambition for 2021-2024.

The distribution is more than comfortably funded by our superior organic capital generation of 279 basis points, well ahead of the plan. Even pro forma for the distribution, our CET1 ratio will be 14.9%, 78 basis points higher versus prior year.

Throughout the year, UniCredit produced strong financial results while taking proactive actions during a macroeconomically challenging year to protect our ability to deliver sustainable and attractive distribution to our shareholders while maintaining best-in-class capital strength.

For 2023 we are assuming a mild recession as our base case with UniCredit being well-positioned and ready to navigate and continue delivering excellence and growth under any scenario.

1. Pending Shareholder and supervisory approval

3 Financial levers - Net Revenues, Cost and Capital

UniCredit Unlocked is a plan rooted in our solid foundation and is built upon capital efficiency.

Our financial ambitions are steered through 3 interconnecting levers – costs, net revenues and capital – being largely under our management control.

The optimisation of our 3 key financial levers will continue to result in profitable growth and organic capital generation.

COSTS – our cost base at year-end was 9.6 bn, translating to a 47.0% cost/income ratio. This was the result of our relentless focus on managing expenses, despite the unexpectedly high inflation we faced across our geographic footprint. This is partly thanks to early proactive measures taken. With our cost efficiency, we delivered positive operating leverage while funding investments supporting our digital transformation, hiring over 1,400 FTEs for strategic areas and while also supporting our people through inflation relief.

NET REVENUES – our net revenues stood at 18.4bn – increase of 13% Y/Y. This KPI ensures that our growth does not come at the expense of sound risk management and that we increase our focus on capital-light business/fee business, also by leveraging our simplified partnership model (insurance fee business).

CAPITAL – Our organic capital generation of 279 basis points is well above our guidance of an annual average of around 150 basis points, and delivered via a net profit of 5.2 bn and through proactive RWA management without impacting revenue growth. Over the course of FY22 we achieved a total of 19bn of RWA reduction via active portfolio management. Efficient capital allocation remains a priority focus to manage RWAs, enhancing return on capital and supporting organic capital generation.

UniCredit Unlocked - RoTE

UniCredit Unlocked outlined our vision to be the bank for Europe's future. It set a new benchmark for the banking sector and we are confident that this is the right strategy for all our stakeholders. We continue to focus on our transformation to unlock further value from an improved baseline.

Since we launched this plan in December 2021, the bank has already visibly transformed and is a structurally improved bank – we have the right strategy for sustainable growth, a clear path to a stronger RoTE and the ability to meet capital distribution ambitions.

Our best results in over a decade and the eight consecutive quarters of quality growth were achieved despite the challenging macro environment of 2022 and without compromising on our risk management. We have maintained our proactive approach in identifying and addressing emerging risks, e.g. our prudent and decisive response to de-risk our Russia exposure at minimum cost as well as our proactive overlays on sectors impacted by supply chain constraints and high energy prices.

We have a financial ambition of a RoTE of around 10% by FY2024. For FY22 we delivered a RoTE of 10.7% (12.3% RoTE at a 13% CET1 ratio), already above our UniCredit Unlocked target.

Throughout the year we managed to increase the profitability in all our regions to above 10% RoAC - each of them already operating above their cost of equity.

Watch the video

Our Strategy:
one year into UniCredit Unlocked

UniCredit is a transformed bank, with a clear vision and winning strategy: moving at an unprecedented pace, ready to face and take advantage of the future.

Andrea Orcel
Chief Executive Officer UniCredit S.p.A.

13 leading Banks with unrivalled distribution power and truly diverse talent

13 Banks[A] Embedded in the fabric of Europe, positioning:

#2 Italy

#3 Germany

#2 Central Europe[B]

#1 Eastern Europe[C]

4

COVERAGE REGIONS

15 MILLION

CUSTOMERS WORLDWIDE

Unlocking the full potential of the franchise

UNIQUE AND DIVERSE TALENT BASE[D]

International mindset

33% International presence in BoD

64% International presence in Group Executive Committee

Employee Networks on **5 diversity strands** and broader DE&I across Group countries

Gender balance

42% Female presence in BoD

43% Female presence in Group Executive Committee

36% Female presence in Leadership team

A. Refer to the Business Model chapter in the Integrated Report for further information.
B. Central Europe includes Austria, Czech Republic, Hungary, Slovakia and Slovenia.
C. Eastern Europe includes Bosnia and Herzegovina, Bulgaria, Croatia, Romania, Russia and Serbia.
D. Figures related to Board refer to Board members in office as at February 7, 2023.

A year ago we set our Purpose of empowering communities to progress and set out our **UniCredit Unlocked strategic plan**. The goal of our strategy is to unlock the value inherent in UniCredit via an industrial transformation combined with three financial levers of net revenue growth, operational efficiency and capital efficiency.

Defining a clear vision and winning strategy

DELIVERING FOR ALL OUR STAKEHOLDERS IS AT THE BASIS OF OUR VISION: TO BE THE BANK FOR EUROPE'S FUTURE

VISION

The Bank for Europe's Future

PEOPLE
Win.
The Right Way.
Together.

COMMUNITIES
Empowering Communities to Progress.

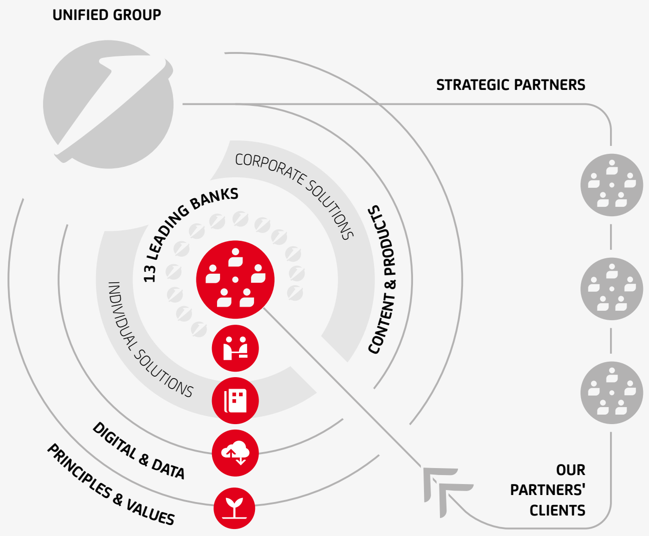
INVESTORS
Quality Growth.
Operational and Capital Excellence.
Best-in-class Sustainable Returns and Capital Generation.

We are deeply embedded in our **Communities**, helping them to deliver their full potential by acting as an engine of individual and collective growth. Our **Clients**, spread across the communities of Europe, are at the heart of our strategy - we exist to serve them.

A reliable partner in life is what our **People** are asking of us. They want an institution they can trust, an environment in which they can flourish as individuals and professionals and a business they feel proud to work for, providing them with the tools to deliver an exceptional service to clients.

We are delivering growing and sustainable returns for our **Investors** and achieving consistently excellent results against clear financial KPIs across our three levers - cost, net revenue and capital.

UNWAVERING COMMITMENT TO UNICREDIT UNLOCKED, THE RIGHT STRATEGY FOR US AND OUR ANSWER TO THE FUTURE OF BANKING



STRATEGY

UniCredit Unlocked

Our **strategy is based on our vision** and tailored to our strengths and **complemented** by an **ecosystem** built around five industrial levers.

CLIENTS

Our clients are our most important asset - 15 million of them, with 14 million retail and a distinctive strength in the value accretive affluent sector. Both for our clients and our best-in-class partners, we represent a gateway to Europe.

Our ambition: to increase the number of clients, and serve them cohesively, answering to their needs through best-in-class products and service.

PEOPLE AND ORGANISATION

Our Bank is built on the strong foundations of 13 local banks. The banks enjoy an unmatched heritage and untapped potential with a solid connection to clients and communities. We respect local banks and their unique identities while we unify them to release the power of this collective, turning UniCredit into something greater than the sum of its parts.

Our ambition: to have PROUD, MOTIVATED and EMPOWERED people that act as OWNERS, enabled to best serve our clients by the tools we provide.

CONTENT AND PRODUCTS

Our Banks can leverage two best-in-class product factories: Corporate and Individual Solutions. Our winning and distinguishing factors are pan-European coverage, a unique cross-border positioning allowing us to attract the best talent and partners and achieve scale.

Our ambition: We are reconfiguring the critical, high-value elements of the value chain in each of our core product areas, adding more external partners to our ecosystem to deliver solutions tailored around client needs.

DIGITAL AND DATA

We are optimising our digital and data infrastructure which has the strong potential of allowing for economies of scale. We are progressively internalising our technology and skillset and continuously strengthening our cyber security and defences.

Our ambition: to build a fully digital and data-driven organisation, with digital transformation as a key enabler of clients and people.

PRINCIPLES AND VALUES

We are striving to change our Culture by shifting the mentality of the organisation based on three core Values of Integrity, Ownership and Caring. Within a clear risk and control framework, we are empowering our people to unite behind a unique, common Purpose and vision.

Our ambition: Purpose, Culture and ESG commitments to unite and guide our people towards shared objectives and empowering communities to progress[1].

1. Our ESG Strategy is fully described in a dedicated paragraph of the Integrated Report.

Executing an ambitious industrial plan

Optimise today

Ahead of plan and outperforming peers, taking actions against opportunities and challenges.

LEVERAGING OUR SOLID FOUNDATIONS AND IMPLEMENTING AN INDUSTRIAL TRANSFORMATION: SELECTED HIGHLIGHTS

PEOPLE & ORGANISATION

Lean flexible disciplined group acting as one with clients at the centre

Simplifying the organisation

From 5 siloed business divisions to 4 coverage regions

Delayering the organisation

–28%

structures, moving closer to clients

Empowering people

–60%

number of managerial committees

Streamlining processes

65%

delegations with increased thresholds, empowering local decision-making within clear framework

CONTENT & PRODUCTS

Strategy with solutions tailored around client needs

Refocusing CIB

From siloed CIB to two factories focused on product development providing quality and range unmatched by local players to clients unreached by global players

Reinforcing factories

Hiring of key Managing Directors and Graduates in Corporate Solutions

Creating an ecosystem

Key milestones in creating an ecosystem of best-in-class partners and internalising high margin products value chain

Azimut + Allianz + onemarkets Fund + CNP + ZB Invest

DIGITAL & DATA

Internalised technology and skillset, gradually optimising

Resilient cyber-security

–35%

major security incidents, from an already low level (Y/Y)

Take back control

545

FY22 digital hires: mainly tech specialists

New way of working

18

initiatives running in Agile

Data-driven organisation

+20 p.p.

Group banking processes under unified data governance, improving data quality

PRINCIPLES & VALUES

United behind a single ambition and Purpose

Clear Values embedded in everything we do

Group Culture Day, Culture Roadshow, Culture Network & Learning, DE&I focus, People listening as concrete steps to make our new Culture a reality.

Lead by example

New lending towards high impact / disadvantaged areas

11.4bn
Green[2]

4.8bn
Social[2]

Establish clear KPIs

Net Zero: set targets on first three priority sectors and accompanying our clients on their transition journey

2. Including ESG-linked lending.

FINANCIAL PERFORMANCE

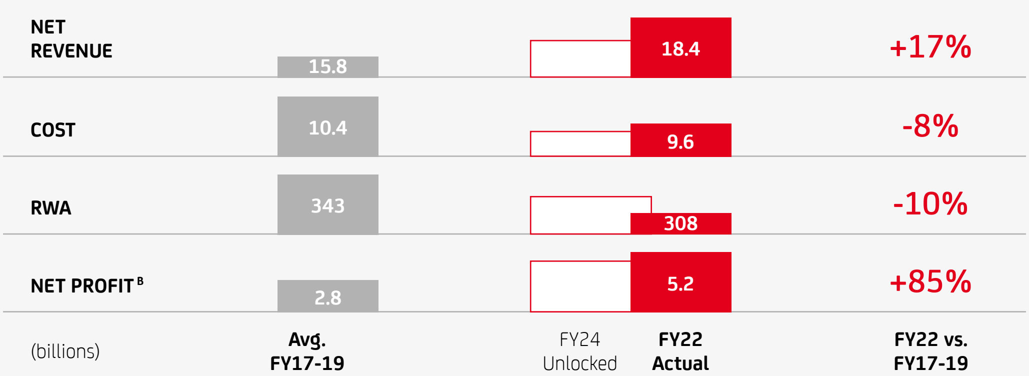
Our actions are directly connected to our financial KPIs through which we manage the three levers of cost, net revenue and capital.

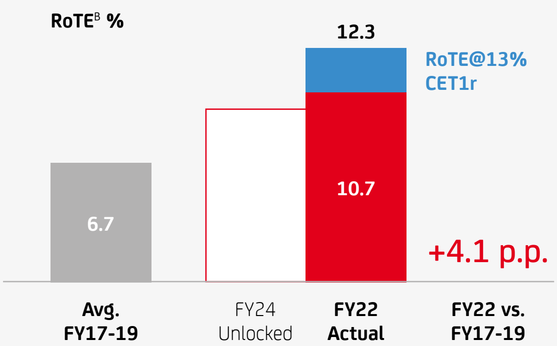
Together, these levers drive RoTE and organic capital generation, giving us the ability to withstand shocks and to deliver sustainable and attractive shareholder distributions.

The laser-focused balance of quality top line growth and capital efficiency combined with operational efficiency drive the foundations of our planned distribution

It is a virtuous circle and a fundamentally different way of assessing financial performance - different from our peers and very different from the UniCredit of the past.

Consistent performance surpassing targets across all levers[A]





A. Figures Group including Russia; Avg. FY17-19 based on simple average of recasted figures of Group excluding Turkey and Fineco for comparison purposes; 2024 UniCredit Unlocked figures as presented in December 2021.
B. Net Profit and RoTE with UniCredit Unlocked methodology (stated net profit adjusted for AT1 and CASHES coupons and impacts from DTAs tax loss carry forward contribution.).

EACH REGION IS DELIVERING AHEAD OF THE PLAN AT ACCELERATED PACE

- **Italy:** strong performance despite continued investments and balance sheet strengthening
- **Germany:** continued momentum of a fully transformed, efficient and capital generating bank
- **CE:** profitable franchise with Austria industrially transforming
- **EE:** maintaining highest profitability and top notch cost efficiency, proving resiliency of the franchise

FY2022 vs FY2021[C]	GROUP	ITALY	GERMANY	CENTRAL EUROPE	EASTERN EUROPE	RUSSIA
NET REVENUE						
NET REVENUE	**18.4bn** +13%	**8.7bn** +18%	**4.7bn** +7%	**3.3bn** +22%	**1.8bn** +16%	**0.4bn** -66%
o/w Gross revenue	20.3bn +14%	9.0bn +7%	5.0bn +13%	3.5bn +16%	2.0bn +11%	1.3bn +86%
COST						
C/I RATIO	**47.0%** -7.5 p.p.	**43.5%** -3.8 p.p.	**49.9%** -10.0 p.p.	**46.3%** -8.7 p.p.	**41.0%** -1.6 p.p.	**22.5%** -18.3 p.p.
Cost Y/Y growth	-2.0 %	-1.3 %	-5.7 %	-2.9 %	+6.7%	+2.7%
CAPITAL						
ORGANIC CAPITAL GENERATION	**+279bps €8.9bn**	**+151bps**	**+52bps**	**+43bps**	**+23bps**	**+8bps**
RoAC/RoTE @13% CET1r (Group)						
FY2022	**12.3%**	**17.1%**	**10.9%**	**14.7%**	**19.3%**	
FY2021	8.6%	11.1%	7.7%	12.0%	16.5%	

C. For Central Europe, Eastern Europe and Russia, year on year comparison at constant fx.

Laying the foundations to win in an uncertain future

Build for tomorrow

Ready to accelerate into the future.

While delivering consistent results quarter after quarter, we have prudently built robust lines of defence in order to prepare for future and potential macroeconomic impacts:

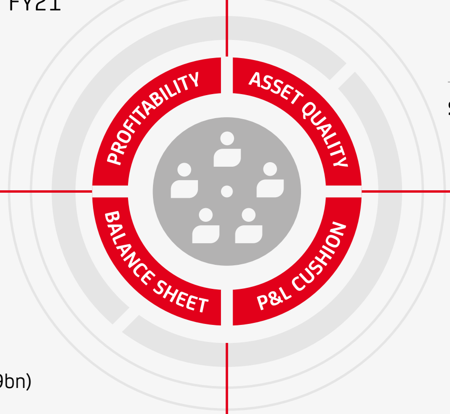
- portfolio is well-provisioned
- forward looking overlays, increased in 4Q, now at €1.8bn. Equals more than 1 year of cost risk (assumed at 30-35bps in UniCredit Unlocked)
- step change in pre-provision profitability reflecting quality and capital efficiency and operational efficiency
- unmatched capital position.

+32.3%

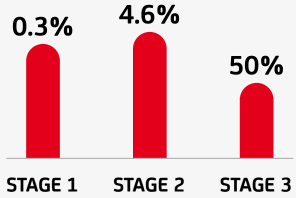
pre-provision profit FY22 vs. FY21

+58%

EPS growth vs. FY21



Coverage ratio FY22



+279bps

organical capital generation (€8.9bn)

FY22 CET1 post distribution and pro-forma regulatory buffer

5.8 **14.9%** "16.0% stated"

1.8bn

overlays in FY22 equivalent to over one year of cost of risk[D]

D. Assuming 30-35bps of annual cost of risk guidance under UniCredit Unlocked.

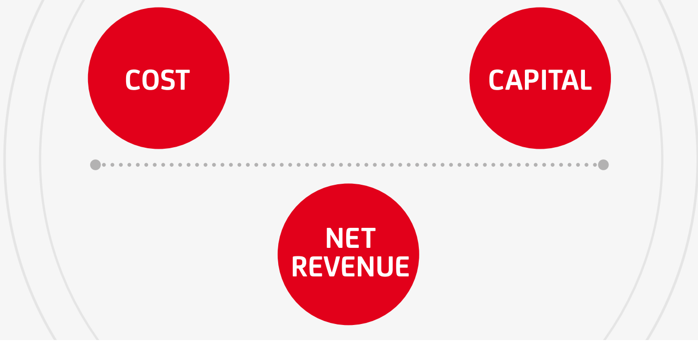
We continue preparing for an uncertain future with pre-emptive actions across all levers.

COST

- **Reduce central** costs and frontload non-necessary cost reduction
- **Maintain business investments** further boosting revenue growth.

RWA

- Continue focus on **capital efficiency** through securitisation, origination discipline and other managerial actions.



Net Interest Income

- Continue focusing on **high quality business** with vigilant approach on new business
- Benefit from a **robust portfolio** geared to **rising rates**.

Fees

- Continue focus on **transactional fees**
- **Boost payment** and **individual solution fees** via ad-hoc initiatives
- **Boost advisory fees** increasing penetration in the SMEs space.

Loan Loss Provisions

- Prudent **overlays** to be **deployed** or **released** in the coming two years
- **Reduce exposure to Russia**; focus on orderly de-risk shall continue.

Unlocking...

A better bank

A better world. A better future

In 2021, we began **UniCredit's transformation**, unlocking the potential of the bank and of all its stakeholders. In 2022, the transformation accelerated as we harnessed that potential to continue building **a better bank**. A bank where every action and every ambition has been **your story and our story**. Today UniCredit is **a better bank** thanks to our clients, our people and our communities as together and united we strive **for a better world and for a better future**.

Empowering
Communities to Progress.

UniCredit

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