J.P.Morgan

ANNUAL REPORT 2022 OF J.P. MORGAN SE

J.P. Morgan

KEY FIGURES

Main Indicators €	31/12/2022
Total operating income (m)	4,816.9
Net interest income (m)	535.0
Net fee and commission income (m)	2,616.3
Loan loss provision (m)	66.8
Total administrative expenses, depreciation and amortization (m)	3,006.8
Profit before tax (m)	1,743.3
Profit for the year (m)	1,237.8
Total Assets (bn)	435.8
Risk-weighted Assets (bn)	107.8
Total Equity (bn)	23.7
Total Capital (bn)	36.5

Ratios %	31/12/2022
Tier 1 capital ratio	19.7
Total capital ratio	33.8
Leverage ratio	6.0
Cost/Income Ratio (before loan loss provision)	62.4
Return on Equity (RoE) (Profit of the year/Equity)	5.2
Return on Investment (Profit of the year/Total Balance Sheet)	0.3
Pre-tax profit margin (Profit before tax/Total operating income)	36.2
Return on Risk Weighted Assets (Profit for the Year/RWA)	1.1

Full-Time Personnel	31/12/2022
Head Office	632
Branches	3,984
Total	4,616

Ratings	31/12/2022
Moody’s Investors Service	Aa3
S&P Global	A+
Fitch Ratings	AA

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REPORT OF THE SUPERVISORY BOARD

SUPERVISION AND CONTROL

The Supervisory Board has monitored the management on the basis of written and verbal reporting and performed the duties for which it is responsible in accordance with the applicable statutes. The Supervisory Board was informed of important matters about the financial result of the Bank, the business development, the capital and liquidity situation as well as the risk management profile. This has been done during the meetings of the Supervisory Board and its committees as well as by means of written and oral ad-hoc reporting.

In 2022, the Supervisory Board focused on the integration of new business activities into J.P. Morgan SE, following the completion of the merger of J.P. Morgan Bank (Ireland) plc and J.P. Morgan Bank Luxembourg S.A. into former J.P. Morgan AG. Furthermore, it monitored the impact of the conflict in Ukraine as well as the rising levels of inflation on the Bank's risk profile and financial results. In addition, the Supervisory Board continued to monitor regulatory matters and to ensure a strong governance framework.

PERSONNEL CHANGES IN THE MANAGEMENT BOARD

Matthieu Wiltz was appointed to the Management Board with effect from April 1, 2023, replacing Tom Prickett and Gunnar Regier who retired from the Management Board with effect from March 31, 2023. Cindyrella Amistadi retired from the Management Board with effect from March 14, 2023. With her departure, the substitution regulations of the "Schedule of Delegation" from April 29, 2022 came into force, according to which from March 15, 2023 on an interim basis, the "Outsourcing" department was taken over by Nicholas Conron and the "Operations and Technology" was taken over by Burkhard Kübel-Sorger. As of April 1, 2023 the Management Board comprises five members.

PERSONNEL CHANGES IN THE SUPERVISORY BOARD

Mark Golding retired from the Supervisory Board with effect from August 25, 2022, and Paul Uminski was appointed with effect from August 26, 2022. Elena Korablina retired from the Supervisory Board with effect from December 31, 2022 and Elizabeth Munro was appointed with effect from January 1, 2023. Guy America retired from the Supervisory Board with effect from January 18, 2023 and Pranav Thakur was appointed with effect from January 19, 2023. Additionally, Peter Augsten, Ann-Kathrin Reinwald and Christoph Fickel (until March 2, 2022) were replaced by Maja Torun, Stephane Wathelet and Tracy Campbell Devery (since March 3, 2022). As of April 1, 2023 the Supervisory Board comprises twelve members.

AUDIT COMMITTEE

The Audit Committee is responsible for monitoring the financial accounting process, the effectiveness of the internal control system and the internal auditing system as well as the statutory audit, in particular the independence of the auditor and any additional services performed by the auditor. For this purpose, the Audit Committee held 11 meetings for the financial year 2022, of

which five meetings were jointly held with the Risk Committee. In addition, it held a meeting in May 3, 2023 to review and discuss the annual financial statement and the audit report.

Based on the recommendations of the Audit Committee (see § 124 Para. 3 sentence 2 German Stock Corporation Act (AktG)) in the annual general meeting held on May 3, 2023 and in accordance with the statutory requirements, the auditor BDO AG Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, will be suggested for the audit of the annual financial statements, individual financial statements in accordance with IFRS and the management report for the financial year 2023.

RISK COMMITTEE

The Risk Committee monitored the implementation of the Bank's risk strategy through the set-up of corresponding risk management framework and the adequacy between risks incurred, the Bank's current and future ability to manage those risks and the internal and regulatory own funds and liquidity reserves. The Risk Committee met eight times during the course of 2022. There were a further five joint meetings of the Audit Committee and the Risk Committee.

NOMINATION COMMITTEE

The Nomination Committee led the process for Board and certain Key Function Holder appointments and reviewed Board and Committee composition including qualification and suitability of members of the Management Board, Supervisory Board and Key Function Holder succession planning and related policies. The Nomination Committee met four times during the course of 2022.

REMUNERATION CONTROL COMMITTEE

The Remuneration Control Committee oversaw compliance with remuneration-related law and regulation. This included reviewing remuneration governance frameworks and remuneration for members of the management board and (where applicable) employees who may be considered to have a material impact on the risk profile of the Company. The Remuneration Control Committee met seven times during the course of 2022.

ANNUAL FINANCIAL STATEMENTS AND INDIVIDUAL IFRS FINANCIAL STATEMENTS

The annual financial statements, the individual financial statements according to IFRS, as applicable in the EU by the Bank, and the management report of the Management Board for the 2022 financial year, including the bookkeeping, have been audited by the auditing company BDO AG Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, selected as the auditor by the Annual General Meeting. The auditor raised no objections and issued an unqualified audit opinion. The Management Board has also prepared a report on affiliated companies (dependent company report) for the 2022 financial year in accordance with Section 312 of the German Stock Corporation Act. The audit of the report by the Supervisory Board did not reveal any objections. The

auditor conducted their work on the Management Board's report on relationships with affiliated companies and issued the following auditor's report:

"In accordance with our engagement, we have audited the report of the Management Board pursuant to Section 312 of the German Stock Corporation Act on relationships with affiliated companies in accordance with Section 313 of the German Stock Corporation Act for the financial year 2022. As the final outcome of our audit did not give rise to any objections, we issue the following auditor's report in accordance with Section 313 (3) sentence 1 of the German Stock Corporation Act:

After our dutiful examination and assessment, we confirm that:

1. The factual information in the report is correct,
2. In the legal transactions listed in the report, the performance of the company was not inappropriately overstated,
3. In the case of the measures listed in the report, there are no circumstances in favour of a material assessment other than that by the Management Board."

The Audit Committee discussed and reviewed the annual financial statements, the individual financial statements in accordance with IFRS and the management report with the auditors during the meeting on May 3, 2023. Based on the final result of the investigation carried out by the Audit Committee, the Supervisory Board did not raise any objections. The annual financial statements, individual financial statements according to IFRS and the management report prepared by the Management Board for the period ended December 31, 2022 were approved by the Supervisory Board today. The annual financial statements, as submitted by the Management Board, are hereby approved and established.

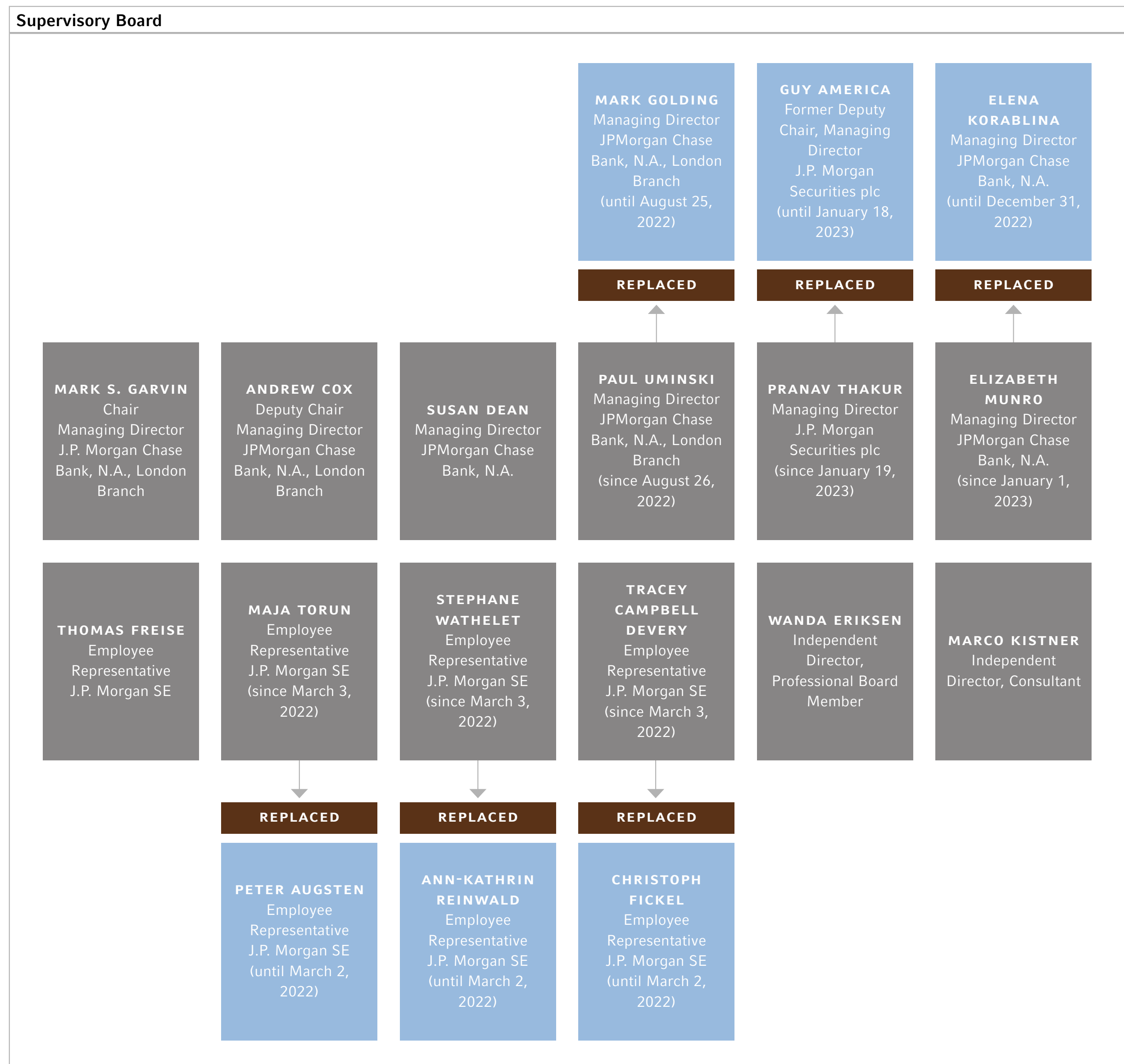
The Supervisory Board would like to express its sincere gratitude to the Management Board and all employees of the Bank for their commitment and the work they have done together.

The Supervisory Board

MARK S. GARVIN
Chairperson of the Supervisory Board

Frankfurt am Main, May 4, 2023
J.P. Morgan SE
Frankfurt am Main

SUPERVISORY BOARD



SUPERVISORY BOARD COMMITTEES

Supervisory Board Committees

AUDIT COMMITTEE	RISK COMMITTEE	REMUNERATION CONTROL COMMITTEE	NOMINATION COMMITTEE
Wanda Eriksen (Chair)	Marco Kistner (Chair)	Wanda Eriksen (Chair)	Wanda Eriksen (Chair)
Marco Kistner	Wanda Eriksen	Marco Kistner	Mark S. Garvin
Paul Uminski	Andrew Cox	Thomas Freise	Marco Kistner

MANAGEMENT REPORT FOR THE FINANCIAL YEAR FROM JANUARY 1, 2022 TO DECEMBER 31, 2022

1. Introduction

1.1. LOOKING BACK ON 2022

On January 22, 2022, the consolidation of JPMorgan Chase & Co.'s (the "Firm", "JPM Group") existing EU legal entity structure into J.P. Morgan SE (the "Bank", "our", "we") was executed through a merger of J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank (Ireland) plc into the German entity J.P. Morgan AG which was subsequently converted into a "Societas Europaea", a European public company.

This important step marked the conclusion of a Firmwide project to deliver a more scalable, well capitalized, and simplified structure for EEA-based clients to interact with the newly created J.P. Morgan SE, offering products and services across J.P. Morgan's businesses, including its Corporate & Investment Bank, Commercial Banking and Private Bank, and providing access to Euro liquidity for clients operating globally.

J.P. Morgan SE continues to be headquartered in Frankfurt and maintains a network of 14 branches across the European Economic Area (EEA) as well as in London. With more than 4,000 employees and significant operations in Dublin, Frankfurt, London, Luxembourg and Paris, we leverage the depth of the European labor market and the local talent pools.

The combined unit is among the five largest banking legal entities in Germany, and among the top 20 under direct supervision of the ECB in the EU, based on size of the balance sheet. Per year-end 2022, its total capital base was approximately € 36.5 billion, with capital ratios of 19.73 % CET1 and 33.80 % Total Capital Ratio.

One month later, on February 24, 2022, Europe woke up to a war on its eastern flank as Russia invaded neighboring Ukraine, sparking the worst conflict on the continent since World War II. In response to Russia's military aggression against Ukraine, the EU and the US massively expanded their existing sanctions against Russia by adding a significant number of persons and entities to the sanctions list, adopting unprecedented measures.

Thanks to our diversified business portfolio, the negative impact as result of the geopolitical turbulences, i.e. sanctions, declining stock prices as well as increasing energy prices, for some of our business segments, in particular Banking and Private Bank, was compensated by other segments such as Markets, which were able to take advantage of heightened market volatility in 2022.

July 27, 2022, marks another important milestone with the ECB increasing the deposit rate to 0 % after it had been in negative territory for more than eight years. Three additional steps of interest rate increases followed in 2022, bringing it to 2 % at the end of the year. A similar development of increasing interest rates was observable for other currencies. Deposit-taking segments, such as Banking, Securities Services, Commercial Banking and Private Bank ultimately benefited from this development.

Throughout the year, we continued our efforts to expand our product offering to our clients, to further strive for simplification, leverage our branch network, and strengthen our capital base. Highlights in 2022 include the newly established presence of bankers of the Private Bank in Athens and Brussels, and Global Investment Banking in Dublin. Furthermore in August 2022, we introduced Brussels as the 5th booking location for Payments, providing access to local and domestic instruments to support our clients' operating business. And

finally, we successfully injected € 2.5 billion in additional Tier 2 capital in order to support further growth.

We closed this turbulent year 2022 with a strong performance, showing total revenues of € 4,817 million and Profit before Tax of € 1,743 million, based on IFRS. We also demonstrated our solid expense management discipline with a good cost-income ratio of 62.4 %.

1.2. OVERVIEW OF BUSINESS AND RISK STRATEGY

The successful creation of J.P. Morgan SE combines the main business areas of Corporate & Investment Bank ("CIB"), Private Bank ("PB") and Commerical Banking ("CB") in a single, EU headquartered pan-European banking entity with a network of branches in the European Economic Area ("EEA") and the United Kingdom. It thereby facilitates the provision of JPM Group's global products and capabilities to EEA clients of the CIB and CB, as well as EMEA clients of the PB, and provides access to Euro liquidity and products for globally operating clients.

J.P. Morgan SE is headquartered in Frankfurt with13 branches in the EEA, as well as a third-country branch in the UK. As part of a global Firm, we combine – thanks to our global product and technology leadership – product innovation and client service excellence with local presence and expertise. Our business activities are embedded in the Group's global operating model. This guarantees a consistently high quality of control processes worldwide for ourselves and for our customers.

J.P. Morgan SE is a core part of JPM Group's long-term strategic commitment in Europe which continues to:

- Deliver a cross-line of business ("LOB") platform with significant scale and capability;
- Ensure adequate capital base to support business strategic growth and a fortress balance sheet;
- Strive for simplification and efficiencies; and
- Support and help clients with a well-diversified product offering, including the development and implementation of ESG promoting products.

Details are outlined in the Business Strategy of J.P. Morgan SE which is jointly approved by the Bank's Supervisory Board and Management Board. We are convinced that we have implemented a business model which puts our clients in the center of our efforts and which ensures adequate profitability of J.P. Morgan SE, supporting future business growth through organic capital generation and strengthening our capital basis which is particularly important in times of headwinds arising from adverse market conditions.

The overall objective of our Supervisory Board and our Management Board is to take reasonable care to ensure an effective governance structure to manage and oversee the development of the Bank's business activities in line with our Business Strategy and to maintain risk systems and controls across all Three Lines of Defense that are appropriate to the business of J.P. Morgan SE and its branches.

Our model of Three Lines of Defense intends the early identification of emerging new risks and their effective management thanks to comprehensive controls and strong governance and on-going management of the major and emerging risks in our business activities. These structures are set out in detailed frameworks and policies, in particular the J.P. Morgan SE Risk Strategy, also promoting a strong business conduct and risk culture.

The J.P. Morgan SE Risk Strategy sets out the risk strategies for a broad spectrum of core risk areas such as Business, Capital, Pension, Liquidity, Credit, Market, and Operational Risk, and risks that manifest across other risk categories, such as Reputation Risk, Fiduciary Risk, Country Risk, Conduct Risk and Climate Risk. Risk Governance and Oversight. It comprises structured processes spanning the risk identification and inventory, setting the risk strategy and the risk appetite to implement the business strategy and to ensure capital and liquidity levels are maintained. It includes detailed risk management for individual risks set out in their risk strategy and individual frameworks and guidelines. For more details, we refer to section 6.2.

2. Governance

2.1. OUR MISSION STATEMENT

JPMorgan Chase's mission is to be the best and most respected financial services company in the world, serve its clients and contribute to communities around the world.

To achieve this, J.P. Morgan SE must consistently deliver excellence as a part of JPMorgan Chase. Only as a healthy and dynamic company can we invest in long term value and be successful in both good and bad times. We want to conduct our business with foresight, be a reliable partner for our customers, and invest in our excellent and diverse workforce. Wherever we operate, we also want to be aware of our social responsibility.

Our Business Principles

Based on this mission statement, the Firm has established long-term business principles, which J.P. Morgan SE fully adopts. These principles form the foundation of our corporate culture as well as the way we operate.

Further information on our Business Principles can be found online at https://www.jpmorganchase.com/about/our-business/business-principles.

Our Code of Conduct

Our Code of Conduct focuses on the personal responsibility of each of our employees to operate with integrity, transparency and ethical conduct. It emphasizes on avoiding real or apparent conflicts of interest, protection of confidential information and creating a safe and non-violent workplace.

As a bank, we want to be open, honest and direct with our customers, employees, suppliers, shareholders and other stakeholders. The Code of Conduct, our Business Principles, and other internal policies and concepts are designed to promote a strong culture of risk as well as respect, so that all employees feel safe and can raise their concerns.

2.2. CORPORATE GOVERNANCE

Strong corporate governance is critical to protecting the interests of all our stakeholders. Senior Management at J.P. Morgan SE is focused on promoting accountability, transparency and ethical behavior – and we regularly evaluate and improve our corporate governance so that we can perform at best of our ability for all our stakeholders.

2.2.1. Supervisory Board

The J.P. Morgan SE Supervisory Board appoints, supervises and advises the Management Board and is directly involved in decisions of fundamental importance to the Bank. It works together closely with the Management Board in a cooperative

relationship of trust. The Supervisory Board decides on the appointment and dismissal of members of the Management Board including long-term succession planning for the Management Board taking into account recommendations of the Nomination Committee. Based on proposals of the Remuneration Control Committee, the Supervisory Board determines the total compensation of the individual members of the Management Board, resolves on the compensation system for the Management Board and reviews it regularly.

The internal organization and duties of the Supervisory Board and its four sub-committees, as well as the tasks and profiles of the individual members are subject to specific statutory and regulatory requirements that further specify and supplement the corporate-law regulations concerning corporate governance. Such requirements are founded on, among other things, the German Banking Act (Kreditwesengesetz), the Remuneration Ordinance for Institutions (Institutsvergütungsverordnung), the guidelines of the EBA and the administrative practices of the ECB as our supervisory authority.

The Supervisory Board receives reports from the Management Board at the very least within the scope prescribed by law or administrative guidelines, in particular on all issues of relevance for the Bank concerning strategy, intended business policy, planning, business development, risk situation, risk management, staff development, reputation and compliance. Furthermore, Internal Audit informs the Audit Committee regularly, and without undue delay in the case of severe deficiencies. The Chairman of the Supervisory Board is informed accordingly of any serious findings against the members of the Management Board.

Business Principles

Exceptional client service	Operational excellence	A commitment to integrity, fairness and responsibility	A great team and winning culture
1. Focus on the customer	4. Set the highest standards of performance	11. Do not compromise our integrity	16. Hire, train and retain great, diverse employees
2. Be field and client driven and operate at the local level	5. Demand financial rigor and risk discipline; we will always maintain a fortress balance sheet	12. Face facts	17. Build teamwork, loyalty and morale
3. Build world-class franchises, investing for the long term, to serve our clients	6. Strive for the best internal governance and controls	13. Have fortitude	18. Maintain an open, entrepreneurial meritocracy for all
	7. Act and think like owners and partners	14. Foster an environment of respect, inclusiveness, humanity and humility	19. Communicate honestly, clearly and consistently
	8. Strive to build and maintain the best, most efficient systems and operations	15. Help strengthen the communities in which we live and work	20. Strive to be a good leader
	9. Be disciplined in everything we do		
	10. Execute with both skill and urgency		

The Risk Committee of the Supervisory Board, chaired by an independent director, aims to advise the Supervisory Board on the Bank's current and future risk appetite and strategy, to support the Supervisory Board to monitor the implementation of the Bank's risk strategy as well as to form an opinion about the Bank's Internal Capital Adequacy Assessment Process ("ICAAP") results and the development of the risk profile across the various risk stripes. In addition, the Risk Committee is closely kept up-to-date in the definition of the recovery scenarios and their analysis. The Risk Committee, in carrying out its responsibilities, deliberates on a regular basis on the adequacy of the risks incurred with J.P. Morgan SE's current and future ability to manage these risks and the internal and regulatory own funds and liquidity reserves, taking into account the results of the stress tests related to the Bank's ICAAP and Internal Liquidity Adequacy Assessment Process ("ILAAP"). In 2022, the Risk Committee had particular focus on the consequences of the war in the Ukraine on the Bank's risk profile, especially the impact on the Bank's credit portfolio as well as the consequences of EU sanctions. Furthermore it closely monitored the progress made by the Bank regarding the integration of climate and environmental risk into its risk strategy.

The Audit Committee of the Supervisory Board, chaired by an independent director, usually meets five times a year, with the internal and external auditors participating regularly to discuss their audit plans and audit findings, the annual financial statements and the final results of the statutory audit report. The Audit Committee focuses on the monitoring of the financial accounting process, the implementation of the statutory audit of accounts, particularly regarding the independence of the auditor and services provided by the external auditor, as well as effectiveness of the internal control system across the Three Lines of Defense. During 2022, the Audit Committee additionally focused on the effectiveness of the Bank's branch oversight model as well as the sustainability of the outsourcing oversight model.

The Remuneration Control Committee of the Supervisory Board meets with the primary objective to monitor the structure of the Bank's remuneration system for the Management Board and Material Risk Takers and to support the Supervisory Board with regard to the actual remuneration decision. The Remuneration Committee provides oversight of the alignment of remuneration processes with the Bank's policies, including the Remuneration Policy and the Malus & Clawback Policy.

The Nomination Committee advises the Supervisory Board on the structure, size, composition and performance of the Bank's Management and since the merger, added focus has been put on these topics.

The committees coordinate their work and consult each other on matters of common interest. Additionally, the chairs of the committees regularly report on their work at Supervisory Board meetings.

2.2.2. Management Board

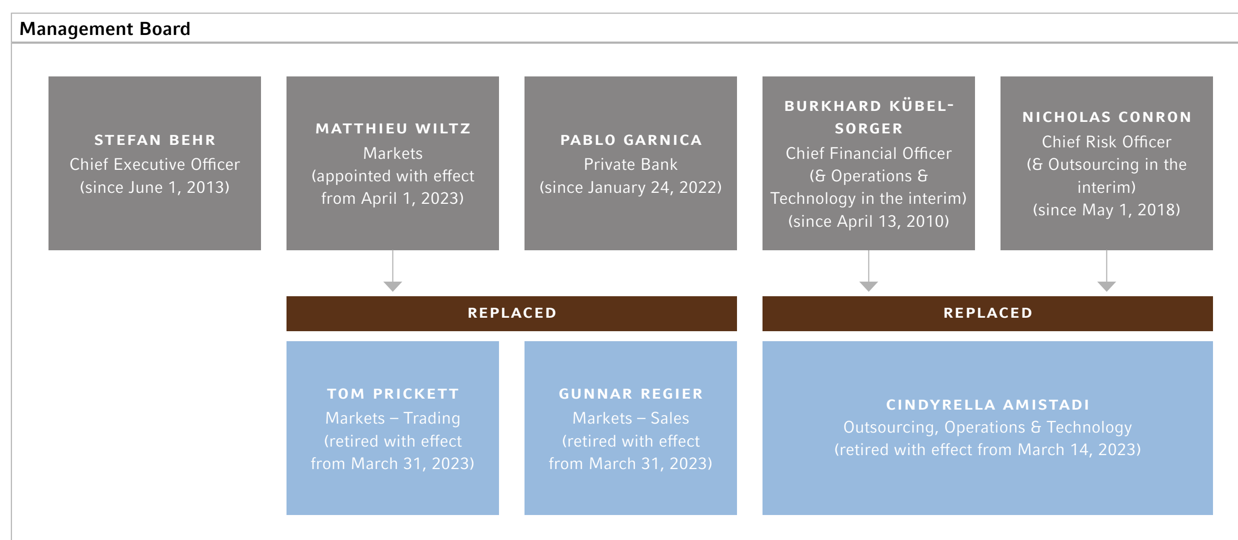
The J.P. Morgan SE Management Board is responsible for the management of the company in accordance with the law, the Articles of Association of J.P. Morgan SE and the Terms of Reference for the Management Board, with the objective of creating sustainable value in the interests of the Bank. It considers the interests of the shareholder, employees and clients. The members of the Management Board are collectively responsible for managing the Bank's business.

The Management Board decides on all matters prescribed by law and the Articles of Association and ensures compliance

with the legal requirements and internal guidelines. It also takes the necessary measures to ensure that adequate internal guidelines are developed and implemented. The Management Board's responsibilities include, in particular, the Bank's strategic management and direction, the allocation of resources, financial accounting and reporting, control and risk management, as well as a properly functioning business organization. The Management Board decides on the appointments to the senior management level below the Management Board. In appointing people to management functions, the Management Board takes diversity into account and strives, in particular, to achieve an appropriate representation of women.

The Management Board works closely together with the Supervisory Board in a cooperative relationship of trust and reports to the Supervisory Board at a minimum within the scope prescribed by law or administrative guidelines, in particular on all issues with relevance for J.P. Morgan SE concerning strategy, the intended business policy, planning, business development, risk situation, risk management, staff development, reputation and compliance.

In 2022, the five segments – Banking, Markets, Securities Services, Commercial Banking and Private Bank – were managed by four members of the Management Board. The segments were controlled and supported by three additional members of the Management Board, namely the CFO, the CRO and a Board Member with responsibilities for Outsourcing, Operations and Technology. With the changes to the composition of the Management Board in the 1st quarter of 2023, the segments are managed by three board members, and are being supported and controlled by the CFO and CRO, who currently share the responsibilities for Outsourcing, Operations and Technology.



In the spirit of strong governance, the Bank's Management Board has mandated a number of committees to oversee the day-to-day activities. It has delegated the monitoring of operational business activities and the associated operational risks to the Head Office Location Operational Risk & Control Committee ("LORCC"). The LORCC, which is chaired jointly by the CFO and the Location Control Manager for Germany, acts across segments and is made up of representatives from each of these segments, the various control functions and the corporate functions. In its monthly meetings, the LORCC oversees operational risk handling, control themes or issues originating within or impacting the Bank. This enables the LORCC to (i) identify operational risks and control aspects, trends or issues that require escalation in accordance with the applicable criteria, (ii) ensure the necessary monitoring of operational risks and control issues, including the recommended remedial action, and (iii) take the necessary actions in order to address the identified operational risks accordingly. Furthermore, the LORCC has established four sub-fora to allow technical discussion with subsequent reporting to the LORCC. These are the Technology Forum, Outsourcing Forum, Change Advisory Forum, and the Regulatory Change Monitoring Forum.

The Management Board has also mandated the Risk Oversight Committee, which is chaired by the CRO and comprises experts of all significant types of risk, with the following tasks. It is responsible for setting J.P. Morgan SE's risk appetite, for monitoring the risk strategy, developing adequate methods and procedures for the assessment of the risk-bearing capacity, for analyzing individual risk events and for regularly informing the Management Board about the risk profile of J.P. Morgan SE. Besides the consequences of the Ukrainian war, heightened market volatility and rising interest rates on the Bank's risk profile and capital adequacy, the committee focused on the integration of climate and environmental risk into the Bank's risk inventory as well as on the execution and analysis of the first ECB Climate stress test.

In the light of the Bank's branch network encompassing 13 branches in the EEA and a third-country branch in the UK, the Management Board is overseeing business activities and adherence with legal entity strategy, key policies and regulatory obligations through the Branch Oversight Committee, which is chaired by the CEO.

Additionally, the Management Board has mandated the Assets & Liabilities Committee, which is chaired by the Bank's Treasurer, to monitor the liquidity and refinancing risk as well as the interest rate risk in the banking book of the Bank.

In January 2022, the ICAAP Steering Committee was established. The committee, which is chaired by the CFO, defines the ICAAP normative and economic perspective methodology as well as the stress scenarios for the quarterly ICAAP update. It reviews and challenges the quarterly results in preparation of the subsequent discussion by the Management Board.

The R&R Steering Committee, also chaired by the CFO, is responsible for the oversight of all Recovery & Resolution activities of J.P. Morgan SE and its branches, including the preparation and annual update of the Bank's recovery plan as well as execution of the multi-annual work program of the Single Resolution Board ("SRB"), working closely with the Firmwide Recovery & Resolution function with J.P. Morgan SE being classified as a "Material Legal Entity" for the JPM Group.

The financial sector has an important role to play in helping to address some of the most pressing environmental and social challenges of our time, primarily by supporting its clients and providing targeted capital. As outlined in the JPMor-

gan Chase & Co. 2022 Climate Report, we help clients navigate the challenges and realize the economic opportunities of the transition to a low-carbon economy. We have implemented a governance structure on ESG as well, including climate and environmental risk. This includes on the one hand the J.P. Morgan SE ESG Forum sponsored by our CEO and the EMEA Head of ESG, and on the other hand the J.P. Morgan SE Climate and Environmental Risk Forum[1] sponsored by our CRO. For more information, please refer to section "6.6.3 Climate Risk of the Risk Report".

Further details in relation to the ESG-related efforts of J.P. Morgan SE are provided in the Annex "Separate Non-Financial Report".

Our corporate governance is embedded in the Firmwide structures and spans across all locations of J.P. Morgan SE. The Three Lines of Defense model enables us to oversee all business activities across all locations from where J.P. Morgan SE operates.

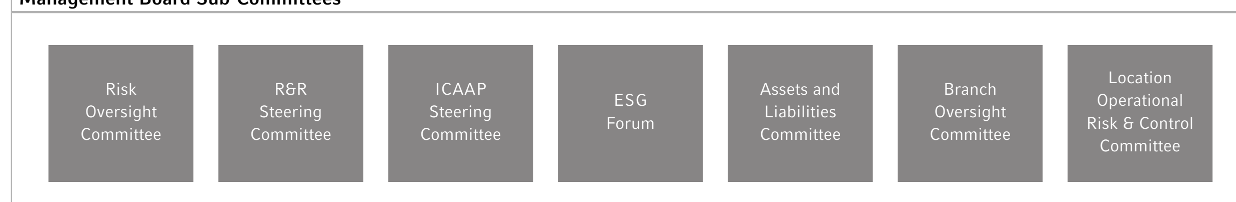
2.2.3. Three Lines of Defense Model

The Three Lines of Defense Model is generally a regulatory requirement which European financial institutions are required to adhere to. J.P. Morgan SE has recognized the model as an opportunity to operate the Bank effectively and to have a robust governance framework in place, able to minimize risks and to adequately react to changes in the macroeconomic situation. We will continue operating in the Three Lines of Defense Model and aim for enhancements, where possible, to be able to respond to an increasing complexity and fast-moving risk landscape of the banking sector.

We operate on the basis of a Three Lines of Defense Model to avoid duplication of efforts throughout the Firm as well as to effectively identify and manage risks. Additionally, the senior management, respectively our management bodies (Management Board and Supervisory Board), receive independent information from the Three Lines of Defense about the Firm's most significant activities and risks.

The Management Board sets clear expectations on the tasks and duties of the Lines of Defense, thereby outlining distinct roles and responsibilities within the organization to the Lines of Business, Risk Management and Compliance organizations, as well as Internal Audit. This model is aligned to the German Banking Act, detailed in the MaRisk, and the Securities Trading Act.

The First Line of Defense acts as business and process owners. At J.P. Morgan SE, this is predominantly represented by the different LOBs. It also encompasses Treasury/Chief Investment Office and Line of Business ("LOB")-aligned Operations,



[1] This reports directly to the ROC and LORCC.

Outsourcing, Technology and Control Management. Other Corporate Functions, such as Finance, Human Resources ("HR"), Legal and Enterprise Technology contribute to the control environment but are not considered part of any Line of Defense.

All LOBs and functions have the prime responsibility to ensure adherence to applicable laws, rules, and regulations within the day-to-day operational activities. The First Line of Defense acts within the overarching governance measures formalized by our Risk Management, Compliance Framework and further internal control functions. These governance measures include, amongst others, defining policies, standards, frameworks, limit and thresholds setting as well as monitoring and testing activities.

The Second Line of Defense ensures effective risk management by supporting the identification of emerging risks in the economic environment J.P. Morgan SE is performing business in. It provides additional expertise, process excellence and performs monitoring and testing activities. The Second Line of Defense activities are distinct from the First Line of Defense to have an independent risk management and senior management reporting. At J.P. Morgan SE, the Second Line of Defense is represented by the Independent Risk Management Function which consists of our Risk Management and Compliance organizations including respective support functions. For more information, please refer to section 6.2.2 of the Risk Report.

The Third Line of Defense provides assurance to the management bodies regarding the effectiveness of the First and Second Line of Defense. This is achieved by performance of independent testing and evaluation of processes and controls across the First and Second Line of Defense activities. At J.P. Morgan SE, the Third Line of Defense is assigned to Internal Audit.

Internal Audit does not only aim to bring a systematic and disciplined approach to evaluate the activities of the First and Second Line of Defense, but also aims to improve the effectiveness of the organization's governance, risk management, and internal control processes.

Within the Three Lines of Defense Model, Internal Audit is the function with the highest level of independence and objectivity. It reports directly to the management bodies and provides an overview regarding effectiveness of governance, risk management and internal controls.

3. Our Business Segments and Performance 2022

In 2022, we focused on the smooth integration of the expanded business of the Securities Services segment and of Payments within the Baking segment, as well as the new business segment of Private Bank including an expanded network of branches.

The 2022 financial year was a very successful one for J.P. Morgan SE, with total revenues of € 4,817 million exceeding the plan for 2022, mainly driven by outperformance in Markets and Private Bank, compensating the relative small shortfall in Banking. The development of Actuals was generally impacted by the geopolitical crisis, market uncertainties and interest rates developments.

While Markets, and Rates specifically, was able to take advantage of market volatility, the same development brought parts of the Investment Banking activities to a sudden slowdown, with Non-Interest Revenues being clearly below Plan. The consequences of the Ukrainian war also had a direct impact

on the payment volume in Payments due to EU sanctions and the exit of Russian clients, resulting in slightly lower than Plan Non-Interest Revenues. Although the decline in stock market prices had a direct impact on the Assets under Custody in Securities Services and Assets under Management in Private Bank, these segments were able to compensate the negative impact on the non-interest revenues by other products.

When it comes to the impact of the increase in interest rate, those segments with client deposits were immediately benefiting, ultimately contributing to the out-performance of planned Net Interest Income in Payments, Securities Services, Commercial Banking and Private Bank, while Markets as a consumer of liquidity had to absorb significantly higher than planned interest rate expenses.

Total Expenses were materially in-line with the Plan 2022. Expected Credit Losses were higher than Plan which was mainly driven by additional reserves built in the Private Bank due to the geopolitical situation.

Therefore, the positive business development in 2022 is ultimately reflected in a more than satisfactory pre-tax profit of € 1,743.3 million, demonstrating solid expense management in spite of some unplanned Loan Loss Provisions.

3.1. OVERVIEW OF INFLUENCING FACTORS IMPACTING BUSINESS ACTIVITIES IN 2022

While the COVID-19 pandemic has been the significant influencing factor for the global economy over the past three years, the banking sector proved to be resilient throughout, showcasing its ability to support the economy in spite of the high instability and volatility in the markets. As banks emerged from the COVID-19 crisis, their stability was again put to the test with the outbreak of the war in Ukraine, with no end on the horizon. This has created serious headwinds for the global economy contributing to the rise of uncertainty and market volatility. While the degree of macroeconomic uncertainty unleashed by the war in Ukraine bears similarity to the initial phase of the pandemic, the repercussions of each shock on global energy and commodity markets, and therefore on inflation, are different. While the initial impact of the pandemic was deflationary, the outbreak of the war in Ukraine has been inflationary.

The war in Ukraine and sanctions against Russia have suspended Europe's energy supplies, with the energy and commodity crisis adding to the price pressures from the pandemic-related bottle necks in supply chains. Beyond a weakening of economic activity in general, 2022 was characterized by record high inflation and rising interest rate levels. With the end of the zero-interest rate regime, banks are now operating in a new and challenging environment. At the start of 2022, the key policy rates of the ECB were at −0.50 %. By end of 2022, they rose to 0.75 % in September and to 2 % at the end of the year, and are expected to rise higher in the months ahead despite recession concerns. By end of Q1 2023, the rates rose to 3 %.

Despite high inflation, however, growth was supported by the boost in demand that followed the post-pandemic reopening of the economy, and in particular services, with Germany's real GDP increasing by 1.8 % in 2022.

3.2. BANKING

Corporations, governments and institutions throughout Europe entrust us with their business. Our Investment & Corporate Banking provides strategic advice, capital raising and risk management expertise. Payments offers a full suite of treasury, trade and global payment solutions, while Lending

supports the activities of our clients by granting loan commitments.

3.2.1. Investment & Corporate Banking

J.P. Morgan SE's Investment & Corporate Banking business is one of the leading wholesale banking client franchises in the EEA. This includes the activities of Debt Capital Markets ("DCM"), Equity Capital Markets ("ECM") and Mergers & Acquisitions ("M&A").

We serve clients, including corporations, governments, banks and financial institutions, private equity companies and family/start-up companies. Our clients operate in the EEA and beyond. With the strength of our franchise, we offer a complete range of strategic banking services to help clients achieve their goals. Our approach to serving clients has always centered on doing first-class business in a first-class way. We strive to build trusted, long-term relationships by taking a holistic and forward-looking view on our relationships, and identifying ways to help clients achieve their most important business objectives.

2022 has been a challenging year across DCM, ECM and M&A as a result of macroeconomic and geopolitical uncertainty. Nevertheless, companies continued to turn to M&A to help drive growth and adapt business strategies to counter the uncertainty, resulting in the M&A division maintaining last year's revenue levels. The widening of credit spreads, as well as the increased swap rates in the 2022 financial year, led to a significant increase in refinancing costs for our customers, which was directly reflected in a decrease in new DCM issues and thus in our fee income year-on-year. Our ECM fee income was also lower. More positively, however, we're proud of the discipline we kept in underwriting. This puts us in prime position to help companies when activity picks up which we observed at the start of 2023. Equity capital markets also saw a dramatic drop-off in deal activity during the year. Volatile and uncertain markets nearly shut down the IPO market, although J.P. Morgan SE did help lead one of the year's most notable deals: Volkswagen's € 9.4 billion IPO of Porsche. Private placement activity was strong and contributed to a larger proportion of ECM revenues compared to previous years.

Throughout these challenging times, we have supported our clients as part of our continued partnership with them. Through our extensive branch network, the Investment & Corporate Bank has presence in all major EU markets, enabling us to navigate the complexity of the region. The JPM Group continues to maintain the #1 rank in EEA Investment Banking with a wallet share of 7.6 % for FY 2022 (Dealogic).

Climate change is one of the most pressing challenges of our age. With added tailwinds from Europe's energy challenges, a huge opportunity exists in committing capital and expertise to help clients transition to the low-carbon economy. Going forward, we plan to deepen coverage of clients engaged in the green economy and low-carbon transition, create new products and allocate capital to finance ESG objectives, and build on the success of our two centers of excellence, the Center for Carbon Transition and ESG Solutions, a specialist team of investment bankers providing ESG-related advice and transaction support. For further details on the Firm's 2030 portfolio level emissions intensity reduction targets, refer to our Separate Non-Financial Report.

Subject to ongoing macroeconomic and political developments, we expect to see the start of a gradual recovery of capital markets activities to take place during the second half of 2023 whilst the M&A pipeline is expected to be subdued compared to 2021 highs.

3.2.2. Payments

Payments, as a business area within the Banking Segment, offers solutions for payment services, working capital management, liquidity management and financing and hedging solutions along the entire value chain in various industries and markets. Our clients include Financial Institutions (including Central Banks), Public Sectors, Non-Bank Financial Institutions (incl. FinTech companies), Corporates and other JPM Group entities.

After the merger in January 2022, J.P. Morgan SE not only offers its range of payment and liquidity solutions in Frankfurt, but also in Amsterdam, Dublin and Luxembourg. The product offering includes accounts and payments processing in 35 currencies. In August 2022, we acquired Brussels as a smaller booking location which migrated from JPMorgan Chase Bank, N.A., Brussels branch into J.P. Morgan SE Brussels branch.

With the rapid growth of new products and services and the changing payments landscape (e. g., digital wallet, marketplaces, real-time) in recent years, the client base is also changing with FinTechs representing now a growing client segment for J.P. Morgan SE.

J.P. Morgan SE continues to bear the global responsibility for Group-wide "high value" payment transactions in Euro. The Bank is a member of all relevant Euro Clearing Systems, for high-value and for low-value, and is one of the leading banks in the area of clearing in TARGET2 and EURO1. With respect to Euro-Clearing through TARGET2, in 2022 J.P. Morgan SE's volume market share accounted for 11.4 % of the total volume of direct participants in TARGET2, up from 10.5 % market share in 2021. With respect to value of payments cleared in TARGET2, in 2022 J.P. Morgan SE accounted for 11.4 % of total value – up from 11.2 % share in 2021 and with a 15.3 % YoY increase in value – and gained one position in the ranking from third to second in 2022 compared to other banks. Similarly, J.P. Morgan SE's EURO1 volume share of the total EURO1 volume increased from 6.5 % in 2021 to 7.6 % in 2022.

It is also our goal to build up our position as one of the leading Euro-clearers and Liquidity solutions providers with offers to our multi-national corporate customers and financial institutions globally. With the flexibility of the booking location and strong focus on the topic of digitization and the innovation associated with it, the cooperation with FinTechs and the launch of products with ESG components, we expect to further expand our market position on the area of Payments in the coming years.

In the area of Trade & Working Capital, we offer our customers a large number of innovative working capital-oriented products in addition to traditional trade finance products. These are products such as supplier financing programs or inventory financing programs. We book the Trade & Working Capital business of J.P. Morgan SE exclusively in Frankfurt. The expansion of the sales team, the cooperation with FinTechs, the combination of products with ESG components and of course the further development of products will help us to continue to grow in the area of Trade & Working Capital.

3.2.3. Lending

In 2022, J.P. Morgan SE continued to support its clients in the EEA, including private and public corporates, financial institutions and private equity companies, by granting further loan commitments. The product range includes bilateral, syndicated and bridge loans, club deals, asset-based lending as well as agent and trustee services.

The size of our loan portfolio in J.P. Morgan SE is expected to grow slightly in the coming years as historical commitments by other JPM Group entities are refinanced through J.P. Morgan SE.

3.3. COMMERCIAL BANKING

Commercial Banking provides comprehensive financial solutions, including lending, payments, investment banking and asset management products across three primary client segments: Middle Market Banking, Corporate Client Banking and Commercial Real Estate Banking. Middle Market Banking covers small and midsized companies, local governments and non-profit clients. Corporate Client Banking covers large corporations. Commercial Real Estate Banking covers investors, developers, and owners of multifamily, office, retail, industrial and housing properties.

Commercial Banking engages and introduces other LOBs to meet the needs of its clients, acting primarily as a coverage function that leverages product capabilities of the Corporate & Investment Bank, including Payments, DCM, ECM, M&A and corporate derivative products and services. Commercial Banking's business in J.P. Morgan SE targets Corporates headquartered in the EEA, as well as EEA-based subsidiaries of multinational Corporates.

Commercial Banking's client base includes, but is not limited to, the following industries: Technology, Media and Telecommunications; Consumer and Retail; Industrials; and Healthcare. In order to support future growth plans, the Corporate Client Banking business is entering new markets within the Nordic region, as well as pursuing sectoral expansion in the areas of Innovation and Green Economy, whilst enhancing its support for Debt products.

3.4. SECURITIES SERVICES

Following the merger, J.P. Morgan SE now offers the full range of services through branches in Amsterdam, Brussels, Copenhagen, Dublin, Helsinki, Luxembourg, Oslo and Stockholm. Our range of products has also expanded to include services such as securities lending, collateral services, alternative fund services and transfer agency, which, prior to the merger, were primarily provided by J.P. Morgan Bank Luxembourg S.A.

As a global custodian, J.P. Morgan SE also uses the services within the JPMorgan Chase Group. With a total of 93 sub-custodian locations, it has one of the largest networks in the world. 17 of these are managed directly by JPMorgan Chase. Our clients include Asset and Fund Managers, Asset Owners, Banks and Broker-dealers, Pension Funds, Hedge Funds and Alternative Investors as well as Insurances Companies and Corporates.

In 2022 we provided safekeeping for a total volume of € 2.5 trillion for our institutional clients. Within key EEA locations, J.P. Morgan SE is the 2nd largest custodian in Luxembourg (for local domiciled funds) and 3rd in Ireland. In Germany, we are the 5th largest custodian.

As in previous years, we have given high priority to the implementation of product and process-related adjustments as part of our custody and depositary business.

The consolidation of the European business activities in one unit in the EU enables us to continue to offer our business in the usual high quality, taking into account the increased customer expectations. In the later part of 2023, we plan to introduce an innovative online portal with more flexible options through the use of the latest technologies, real-time ESG and risk reporting with direct access to proprietary trading and

risk management systems of J.P. Morgan SE across all asset classes. In addition, we continue to invest in a comprehensive and provider-independent integration of front-, middle- and back-office systems through an open interface concept, which offers us and our customers new possibilities for automation and increased efficiency.

Overall, the Securities Services industry is undergoing fundamental change. Trends that have started a few years back are really gaining momentum and are currently experiencing a paradigm shift across the industry. This includes the increasing importance of Digital Assets which will transform the collateral market for commercial transactions through the tokenization of traditional assets, and also increasing ESG-related data requirements in order to be compliant with the various European Regulations as well as effective portfolio analysis for our customers. Through all these changes, we will continue to support our customers as a competent and innovative partner.

3.5. MARKETS

Following the full implementation of the Brexit program in December 2021, J.P. Morgan SE is the central risk management entity within JPM Group for products with a strong EU nexus. The business areas covered in the "Markets" segment are the following:

Fixed Income:	Equities:
Rates	Cash Equities
Currency & Emerging Markets	Equity Derivatives Group
Commodities	Prime Finance
Fixed Income Financing	Futures and Derivatives Clearing
Credit Trading & Syndicate	
Securitized Products Group	

Our client base consists of institutional clients across all client sectors, including banks, asset managers, pension funds, insurance companies, hedge funds, private equity firms, special purpose vehicles, public sector entities and corporates.

J.P. Morgan SE is the primary client-facing entity for EEA clients and holds JPM Group's memberships of the EEA trading venues. This includes memberships on all relevant European stock exchanges and with the majority of European central counterparties ("CCP"). CCPs outside the EEA are accessed under indirect clearing agreements through the memberships of other sister companies within the JPM Group.

At the end of 2022, the Bank employed Trading personnel primarily in Paris, with a significant additional footprint of Markets sales staff in selective branches with a focus on servicing predominately EEA clients. Our Sales & Marketing organization seeks to help corporate and institutional clients navigate the breadth of JPM Group's product offerings across Markets and Platform Sales. The teams focus on matching the Firm's resources to our clients' needs. Importantly, we seek to utilize the resources and profit from the global footprint of the broader JPM organization.

The strategic direction of our Markets segment remains unchanged and aims at the continuous gain in market share as a full-service provider in Markets products and services, through consistent, reliable and high-quality service, both in terms of client interactions as well as execution services and capabilities. Competition varies in scope and intensity within the different business segments. Typically, our competition consists of other US investment banks as well as some of the major European banks from Germany, France, Switzerland and the United Kingdom.

In the last three years, JPM Group and J.P. Morgan SE have maintained a leading position with clients in the European Union and currently hold top 3 positions in our main business areas of Rates, Credit Trading and Equities according to external league tables[1]. Our current strategy is to maintain these leadership positions, close any key client gaps through further penetration across all asset classes, and look to keep ahead via innovation and client focus. To achieve this, we invest in our staff, products, services and brand.

3.6. PRIVATE BANK

The Private Bank in J.P. Morgan SE has a strategic focus to provide services to Ultra-High Net Worth clients across EMEA and offers expertise across wealth management disciplines to help advance toward their goals to grow, manage and sustain their wealth.

The Private Bank offering can be divided into Investment Services, Credit and Banking services: (i) Investment services offered on a Discretionary Investment Management (Entrust), Advisory (Engage) or self-directed (Execute) approach basis, depending on the level of guidance and involvement of our client advisors, (ii) Credit and custody services, and (iii) Banking services with a full range of cash management options.

Our Private Bank has defined a clear multi-year growth plan focusing on client acquisition and client deepening (increase in the existing clients' share of wallet). We serve clients in the existing core onshore markets Benelux (Belgium, Netherlands, Luxembourg), France, Germany, Greece, Italy, Nordics (Denmark, Finland, Norway, and Sweden), Spain, United Kingdom as well as the offshore markets Ireland and MENAT (Middle East, North Africa, and Turkey), and the Emerging Markets.

To achieve the growth targets, we are increasing the advisors population to cover the above listed markets leveraging the branches of J.P. Morgan SE, improving our client and advisors experience via digital tools, upgraded systems and simplified processes while leveraging our products palette.

4. Earnings, Financial and Asset Position (IFRS)

J.P. Morgan SE's internal control and regulatory reporting is based on IFRS. For this reason, after the presentation of the earnings, financial and asset situation according to IFRS, a reconciliation for the profit after tax from IFRS to HGB will be provided and a subsequent presentation of the earnings, financial and asset situation is presented according to HGB as well.

4.1. IFRS

4.1.1. Earnings

The financial year 2022 was impacted by the successful completion of the merger with an accounting effective date of January 1, 2022. The merger impacted in particular the segments of Securities Services, Banking and the Private Bank as an incremental new business segment. In addition, the geopolitical crisis and the impact on loan loss provision, net interest income and the impact coming from market volatility and market uncertainty need to be considered in the comparison with the financials of the prior year.

In the financial year 2022, the net fee and commission income was € 2,616 million, 35% up compared to the previous year. The net interest income shows a positive trend which is driven by the several interest hikes in 2022 and is reported at € 535 million, which is € 577 million higher than previous year.

[1] Coalition Proprietary Analytics

The balances at the Deutsche Bundesbank reported under the item cash and central bank balances and incremental positions as a result of the merger in particular in the segments of Securities Services and Private Bank are to be seen as a main factor influencing net interest income. The planned profit before tax for the financial year 2022 was overachieved by 18% despite the geopolitical crisis and the respective impacts on the financials.

The net income from financial assets and liabilities measured at fair value in the amount of € 1,665 million was in 2022 with € 1,223 million significantly above the prior year. This is mainly driven by the migration of risk positions in the "Markets" segment towards the end of the year 2021 and the impact coming from the geopolitical crisis on market volatility and market uncertainty during 2022.

In the financial year 2022, the worsening of the economic outlook (which supported the change to a more adverse scenario weighting scheme, see credit risk note 35) in relation to the geopolitical crisis led to a significant difference in loan loss provisions from positive € 40.9 million in 2021 to an incremental new loan loss provision of € 66.8 million in 2022, which reflects an increase of € 107.7 million from previous year.

The total administrative expenses and depreciations rose significantly by 147 % in 2022, which was mainly due to the successful merger and the respective increase of staff and business related costs.

Profit before tax for the year increased significantly from € 1,168 million to € 1,743 million. The annual result in the financial year 2022 amounts to a profit after taxes of € 1,238 million.

This result means a Return on Equity of 5.2 % compared to 4.6 % in the prior year.

4.1.2. Financial Position

4.1.2.1. Principles and Objectives

The total balance sheet as of December 31, 2022, increased by 55 % compared to the balance sheet as of December 31, 2021. The main drivers were, on the one hand, the impact from the incremental new business and respective positions from the merger which are mainly reflected in the increase in the cash and central bank balances, the loans and advances to customers on the asset side and from the increase in deposits from customers on the liability side, and, on the other hand, the increase driven by the market volatility and market uncertainty related to the geopolitical crisis which are reflected in the increase of the trading assets and trading liabilities as well as the increase in Reverse Repo and Repo balances at year-end.

J.P. Morgan SE was always provided with sufficient liquidity in 2022. The liquidity coverage ratio of 157.3 % as of December 31, 2022, is significantly above the mandatory minimum rate of 100 %.

4.1.2.2. Capital Structure

The regulatory capital has materially increased compared to December 31, 2021, due to the creation of the single EU headquartered pan-European banking entity J.P. Morgan SE on January 22, 2022, as the Tier 1 and Tier 2 capital of J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank (Ireland) plc had been transferred into the new legal entity.

Further, regulatory capital increased by the profit from prior year which was transferred to reserves and through the capital injection by € 2.5 billion carried out on December 23, 2022, in

consideration for the issue of 500 Subordinated Tier 2 Floating Rate Notes based on a issuance and purchase agreement between J.P. Morgan SE (Issuer) and J.P. Morgan International Finance Limited (Purchaser). The Subordinated Tier 2 Floating Rate Notes in the amount of € 2.5 billion have a maturity date of December 23, 2032, and a reference interest rate based on the Compounded EUR STR Average Rate plus the margin of 1.79 percent per annum with a minimum interest rate of 0.00% and a monthly interest payment. A further capital increase in the amount of € 2.5 billion is planned in Q2 2023.

As of December 31, 2022, J.P. Morgan SE had a Tier 1 capital ratio of 19.7 % and a total capital ratio of 33.8 % according to the CRR[1] regulation. With these capital holdings and in the view of the Management Board, J.P. Morgan SE is in a solid position to provide the required capital underpinning for the existing business as well as further planned business activities. J.P. Morgan SE's regulatory capital of € 36,451 million was made up of the following components as of the reporting date of December 31, 2022:

– Core capital (Tier 1): € 21,280 million in share capital and reserves; and
– Tier 2 capital: € 15,171 million from subordinated loans and issued Tier 2 notes.

4.1.2.3. Off-Balance Sheet Business

The irrevocable loan commitments totaling € 16.1 billion are related business activities in the lending business segment. The merger-related impact from the "Private Bank" segment amounts to € 1.8 billion. In addition, in the Payments business, J.P. Morgan SE has largely continued to directly collateralize its own credit risks in the form of contingent liabilities within the rest of the JPM Group.

The financial guarantees given totaling € 18.0 billion constitute mainly of standby letters of credit issued to third-party clients, in addition to agency lending guarantees (related to the J.P. Morgan SE merger), whereas J.P. Morgan SE is acting as an agency lender by guaranteeing the lender of the securities in an ASL (Agency Security Lending) arrangement against the failure of the borrower to return the lent securities.

Against the J.P. Morgan Structured Products B.V., J.P. Morgan SE has issued a guarantee that bonds, warrants and certificates issued by the sister company and held by third parties up to a maximum nominal volume of USD 5 billion are secured against the insolvency of J.P. Morgan Structured Products B.V. J.P. Morgan SE is committed to settle payments due to the holders of the guarantees if J.P. Morgan Structured Products B.V. defaults. The fair value of the guarantees – and thus the payments due – can also be higher than the maximum nominal volume. For the guarantee, J.P. Morgan SE receives no separate remuneration. The guarantee should be seen more in the overall context of the expansion of the business activities as part of the implementation of JPM Group's Brexit strategy. As of December 31, 2022, the fair value of the issued guarantee was € 1.3 billion; in the same period in 2021 it was also € 1.3 billion. Of this, J.P. Morgan SE as of December 31, 2022 holds € 1.2 billion in the portfolio and a further € 90.2 million were held by clients. The guaranteed amount on the balance sheet date is therefore € 90.2 million. In the same period in 2021, it was € 175.3 million.

J.P. Morgan SE is a member of several securities and derivative exchanges and clearing houses through which it provides clearing services. Membership in these CCPs requires the Firm to pay a pro-rata share of the losses incurred by the organization as a result of the default of another member. For

[1] CCR = Capital Requirements Regulation

some CCPs, the Firm can only estimate maximum possible exposure under these membership agreements (based on the CCPs' rulebooks), which are reported as "Other commitments" as an off-balance sheet item. As at December 31, 2022, the commitment amounted to € 1.8 billion (December 31, 2021: € 1.9 billion). These unfunded capped default fund commitments, which represent the maximum potential loss, relate to a commitment to provide funds to clearing houses and central counterparties (CCPs) in the event of default by a member of those counterparties. When a member defaults, the loss incurred by the counterparties is allocated on a pro-rata basis among the other non-defaulting members, where the amount of loss is allocated based on the volume of activity between the non-defaulting member and the defaulting member.

4.1.3. Asset Situation

Loans and advances to customers increased mainly due to the merger by € 15,213 million to € 19,747 million which was mainly driven by the impact coming from the Private Bank segment. Claims on banks, including deposits with central banks, increased by € 38,396 million, primarily due to higher central bank placings, to € 85,104 million (thereof deposits with central banks: € 75,341 million). Securities purchased under agreements to resell or borrowed increased by € 21,474 million to € 66,244 million mainly in TCIO Treasury of the Corporate segment. Trading assets increased by € 75,080 million to € 220,384 million in Markets as a result of the market volatility and market uncertainty linked to the geopolitical crisis.

Deposits from customers are impacted by the merger and increased by € 76,299 million to € 94,780 million especially in the Securities Services, Private Bank and Banking business segments. Deposits from banks decreased by € 5,456 million, mainly due to lower Treasury activities to € 43,097 million on the balance sheet date. Trading liabilities are impacted by the market volatility and market uncertainty and increased by € 50,087 million to € 194,541 million in the Markets business segment. The position of subordinated liabilities increased by € 5,631 million driven by the merger and the new subordinated Tier 2 Floating Rate Notes in the amount of € 2.5 billion.

The aforementioned developments increased the total balance sheet of J.P. Morgan SE by 55 % compared to the balance sheet date in the previous year, and stood at € 435,829 million as of December 31, 2022. As of December 31, 2022, the total capital ratio was 33.8 % with the average for 2022 being 29.4 %.

4.1.4. Reconciliation of Profit after Taxes from IFRS to HGB

€M	2022	2021
Profit (+)/Loss (–) of the year (IFRS)	**1,237.8**	**774.0**
Amortization of intangible assets	−41.3	−43.5
Valuation adjustments according to § 340e para. 3 and 4 HGB	−181.0	−37.1
Loan loss provision	−48.0	8.5
Change in fair value of the plan assets	−84.9	3.6
Day 1 P&L and other valuation differences related to assets valued at FVPL under IFRS vs. AC under HGB	63.3	36.2
ESG FVPL	10.9	0
Taxes	−76.4	−18.7
Others	4.0	11.3
Profit of the year (HGB)	**884.3**	**734.3**

Profit after tax as of December 31, 2022, based on HGB is at € 884.3 billion compared to € 1,237.8 billion under IFRS (€ 353.6 million lower). In addition to valuation changes, the

two accounting frameworks have differences in terms of presentation.

Amortization of intangible assets which is related to goodwill, has a different treatment between IFRS and HGB. Goodwill which has resulted from replacement cost related to Brexit-headcount transfers, has been amortized under HGB, whereas for IFRS it was directly debited to equity. The amount was € 41.3 million as of year-end.

Trading-related special reserve and VaR risk discount were respectively € 172.2 million and € 8.9 million at year-end. Trading-related special reserve, as stipulated in § 340e para. 3 of HGB, requires the Bank to add at least 10 % of the net trading income to a trading related-special reserve, if that special reserve does not meet at least 50 % of the average net trading income of the last 5 years (only considering years with an income, not years with losses). Additionally, as per local regulation, the Bank has to account and value financial instruments in the trading book at their fair value, considering a valuation adjustment based on value at risk of the trading book. The potential risk is that unrealized gains may be not realized in the future.

The loan loss provision under HGB has a broader scope than IFRS, meaning that held for sale loans and fair value loans are subject to ECL calculation. The loan loss provision as a result of the difference in scope amounted to € 48.0 million at year-end.

Change in fair value of plan assets resulted in € 84.9 million difference between the two GAAPs. This is attributed to the valuation parameters for pension liabilities and market price movements of assets valued through profit and loss for HGB versus other comprehensive income for IFRS.

Other valuation differences between HGB and IFRS which impact net trading profit and net interest income are related to the mark down valuation difference and Day 1 P&L for assets classified as level 3 on the fair value hierarchy. The mark down valuation difference consists in reversing the write-down for HFS (held for sale loans) for HGB. Additionally, as previously stated, these loans are subject to ECL recognition, which is not the case for IFRS. Day 1 P&L is another valuation difference which is being performed under IFRS, however not applied under HGB. Day 1 P&L represents the gains or losses that are recognized (at the time of initial recognition) as the difference between a transaction price (in relation to an asset or a liability) and the item's fair value. The amount resulting from this different approach between the two GAAPs totaled € 63.2 million, respectively: mark-down of HFS € 12.8 million and Day 1 P&L is € 50.4 million.

Net trading profit is impacted by another delta which is related to ESG loans treatment under IFRS at the amount of € 10.9 million. Given that the ESG loans held at amortized cost have failed the SPPI test, they were considered to be accounted for as held at fair value through profit and loss. As per HGB, there is no need to make any considerations on these loans, therefore leading to a delta between the two GAAPs.

Taxes are treated differently under IFRS and HGB leading to a delta presented in the walk from one GAAP to the other. Under HGB, deferred taxes are reversed given the optionality (per § 274, Para. 1 sentence 2, HGB) that exists to do that. Additionally, current taxes are treated differently under IFRS. The overall delta attributed to taxes for year-end 2022 is € 76.4 million.

''Others'' includes all the valuation differences which are not material when compared to the above-mentioned deltas.

4.1.5. Reconciliation of Total Assets from IFRS to HGB

€M	2022	2021
Total Asset (IFRS)	**435,829**	**281,415**
Derivatives & Cash Collateral	−147,028	−115,340
Notional Pooling	7,749	–
Reverse Repurchase Agreements	107,402	79,505
Central Counterparties Balances related to OTC derivatives	−40,180	−11,587
Others	752	−1,276
Total Asset (HGB)	**364,524**	**232,717**

Total assets as of December 31, 2022, based on HGB are at € 364.5 billion compared to € 435.8 billion under IFRS and therefore € 71.3 billion lower. In addition to valuation changes, the two accounting standards differ with one another in terms of presentation.

With regards to assets, under HGB the reverse repo transactions (except reverse repo positions in business lines of Treasury and CPG) amounting to € 139.9 billion are reclassified from loans and advances to banks and customers into trading assets. Derivatives and cash collateral have different treatment between the two GAAPs, and this delta at the amount of € −147.0 billion has been presented in the table above. This difference shows the net between what is applicable under IFRS to be grossed-up or offset (in compliance to IAS 32) and what is applicable under HGB to be offset or grossed-up (in compliance to local German regulation). The overall impact as a result of gross-up and offsetting for derivatives under IFRS is € −152.2 billion. Under HGB, where the rules are stricter, the overall impact of the gross-up applied with the applicable offsetting, is at the amount of € 5.2 billion. The resulting difference from the application of the gross-up and offsetting has been shown as a delta between IFRS and HGB (net of € 152.2 billion and € 5.2 billion).

Notional Pooling accounts for a further difference of € 7.8 billion due to different netting requirements being applied for IFRS, nonetheless due to stricter netting criteria under HGB, this netting is not applicable for HGB purposes and client deposits are grossed-up.

Reverse repurchase agreements account for a difference of € 107.4 billion between the two GAAPs which pertains to the presentation of these instruments. Netting of the positions is not allowed under HGB. Therefore, a reversal is applied compared to IFRS.

In addition, other debtors were reclassified from loans and advances to banks and customers to other assets according to IFRS, consisting primarily of unsettled trades amounting to € 8.3 billion. Moreover, the recognition of CCP clearing OTC derivatives leads to a gross-up of the balance sheet in accordance to IFRS, amounting to € 40.2 billion which under HGB is not applicable.

The ''Others'' category encompasses multiple differences with the main contributor being: client money (trust assets) which are being derecognized from the balance sheet for IFRS purposes, whereas for HGB the balances are shown under trust assets / trust liabilities at the amount of € 4.8 billion. Additionally, failed receivables and payables netting of € 1.2 billion, which is allowable under IFRS under specific conditions, is not allowed under HGB. Further, the gross-up of CCP clearing of exchange-traded derivatives is allowable under IFRS whereas under HGB there is no such applicability and accounts for € 3.7 billion. Deferred taxes were not capitalized in the HGB financial statements, given that there is the optionality according to § 274 Para. 1 sentence 2 HGB to not capitalize.

4.2. EARNINGS, FINANCIAL AND ASSET POSITION (HGB)

4.2.1. Earnings

The financial year 2022 was impacted by the successful completion of the merger with an accounting effective date of January 1, 2022. The merger impacted in particular the segments of Securities Services, Banking and the Private Bank as an incremental new business segment. In addition, the geopolitical crisis and the impact on loan loss provision, net interest income and the impact coming from market volatility and market uncertainty need to be considered in the comparison with the financials of the prior year.

As at December 2022, the net fee and commission income was € 2,148 million, 20 % higher compared to the previous year. The net interest income shows a positive trend which is driven by the several interest rate hikes in 2022 and is reported at € 656 million, which is € 576 million higher than previous year. The balances at the Deutsche Bundesbank reported under receivables from credit institutions and incremental positions as a result of the merger in particular in Securities Services and Private Bank are to be seen as main influencing factors for net interest income.

The net income from trading portfolio in the amount of € 1,368 million in 2022 was with € 1,054 million significantly above the prior year. This is mainly driven by the increase in trading result by the market volatility seen during 2022 and the respective trading-related special reserve slightly offset by a decrease in the value at risk discount.

In financial year 2022, the worsening of the economic outlook (which supported the change to a more adverse scenario weighting scheme) in relation to the geopolitical crisis led to a significant increase of loss allowance by € 151 million to € 115 million charge for the year (2021 release: € +35.8 million).

The total administrative expenses and depreciations rose significantly by 155 % in 2022, which was mainly due to the merger and the respective increase of staff and business-related costs.

Profit before tax for the year increased significantly from € 1,147 million to € 1,466 million. The annual result in the financial year 2022 amounts to a profit after taxes of € 884 million.

4.2.2. Financial Position

4.2.2.1. Principles and Objectives

The basic statements about the composition of the balance sheet do not differ significantly from the statements made in the relevant IFRS section. The balance sheet as of December 31, 2022, significantly increased compared to the balance sheet as of December 31, 2021, from € 232.7 billion to € 364.5 billion. The main drivers were, on the one hand, the merger which affected the overall business with the integration of a new segment, Private Bank, on the other hand the increase was affected by the positions in the trading portfolio and increases in deposits with Deutsche Bundesbank.

4.2.2.2. Capital Structure

The information on the capital structure according to the German Commercial Code (HGB) does not differ from the information provided in the corresponding IFRS section.

4.2.2.3. Off-Balance Sheet Business

The information on off-balance sheet transactions does not differ between IFRS and HGB.

4.2.3. Asset Situation

Receivables from customers increased by € 29,170 million to € 36,168 million primarily driven by the integration of the Pri-

vate Bank segment as a result of the merger. Receivables from banks, including the deposits with central banks, increased by € 100,220 million to € 123,239 million (thereof cash reserve with central banks: € 2,380 million and receivables with central banks: € 72,961 million), mainly due to the liquidity need of the operating business segments. Liabilities to customers increased by € 88,268 million to € 103,156 million primarily attributed to the merger and specifically in the segments of Securities Services, Private Bank, Banking (Payments) and Commercial Banking. Liabilities to banks increased by € 732 million to € 52,908 million mainly due to lower intercompany treasury activities on the balance sheet date. Other reasons for the extension of the balance sheet are mainly related to the increase in the trading portfolio of approx. € 29,778 million on the asset-side and € 26,605 million on the liability-side of the balance sheet mainly as a result of the market uncertainty and market volatility throughout the year.

The total balance sheet of J.P. Morgan SE has increased by around 57 % compared to the balance sheet of the prior year and stood at € 364,524 million as of December 31, 2022.

4.2.3.1. Overall Statement on Earnings, Financial and Assets Position

In summary, the earnings, financial and asset position can be assessed as positive. The expectations from the beginning of 2022 for the development of the profit of the year have been overachieved despite uncertainties driven by the latest geopolitical developments. The capital measures taken in 2022 had the expected effect on the capital ratios over the course of the year. As predicted, the requirements for the liquidity coverage ratio remained clearly over the threshold during the financial year.

4.3. FINANCIAL AND NON-FINANCIAL PERFORMANCE INDICATORS

4.3.1. Financial performance indicators

Financial performance indicators according to IFRS, which are used for the internal management of J.P. Morgan SE, include in particular absolute KPIs such as net interest income, fee and commission income and the profit of the year. In addition, return on equity, cost-income ratio and profit margin before taxes are used to assess the performance. The KPIs are derived directly from the information contained in the balance sheet and the income statement of the IFRS individual financial statements and are as follows for the current and previous year.

€M	2022	2021
Total operating income	4,816.9	2,344.0
Net interest income	535.0	−41.9
Net fee and commission income	2,616.3	1,942.3
Loan loss provision	66.8	−40.9
Total administrative expenses, depreciation and amortization	3,006.8	1,216.8
Profit before tax	1,743.3	1,168.0
Profit for the year	1,237.8	774.0
Equity	**23,700**	**16,958**
Return on Equity (RoE) (Profit of the year/Equity)	5.22 %	4.6 %
Return on Investment (Profit of the year/Total Balance Sheet)	0.28 %	0.28 %
Cost-Income-Ratio[1] – before loan loss provision (Sum of administrative expenses and depreciation and amortization/Total operating income)	62.42 %	51.91 %
Pre-tax profit margin (Profit before tax/Total operating income)	36.19 %	49.83 %
Tier 1 capital ratio	19.73 %	17.2 %
Total capital ratio	33.80 %	27.8 %
Return on Risk Weighted Assets (RoRWA) (Profit of the year/Total Risk Weighted Assets)	1.15 %	0.86 %

[1] Indicator before loan loss provision

The profit for the year reported an increase from € 774.0 million to € 1,238 million in 2022. The return on equity (RoE) increased from 4.6 % in the previous year to 5.2 % in 2022. The cost-income ratio increased from 51.9 % in the previous year to 62.4 %. As a result of the merger and additional injection of Tier 2 capital, the total capital in J.P. Morgan SE has increased, so that we are reporting a total capital ratio of 33.8 % as of December 31, 2022. In our initial Outlook for 2022, we expected a stable development of the Tier 1 ratio and the total capital ratio which we even improved during 2022. In addition, in our Plan for 2022 we targeted a cost-income ratio before loan loss provision of below 70 % which we achieved as well with 62 % for the year 2022.

4.3.2. Business Drivers, Non-Financial Performance Indicators and Operational Excellence

Non-financial performance of a firm acts as a missing link between value-driving activities and its economic performance. In order to provide a more holistic picture of our performance, the following section focuses on non-financial indicators.

We have identified key business steering metrics as part of our strategic planning process, and each business monitors specific drivers as an indicator of strategic alignment to the Bank's business plan. Additionally, we fully embrace the business principles of the Firm, which translate into tangible objectives for J.P. Morgan SE, focusing on "First Class Business" measurements. These objectives also consider the Bank's approach of leveraging the global operating model and its commitment towards strong governance and are monitored on a frequent basis.

Exceptional Client Service

At J.P. Morgan SE, we measure Exceptional Client Service by the numbers of client complaints and leverage the respective complaints to improve our products, services and the underlying services. In 2022, we experienced a significant increase in complaints compared to previous years, which is in line with our enlarged business footprint into new service and product offerings based on the creation of J.P. Morgan SE on January 22, 2022. We take all complaints very seriously, and endeavor to resolve all issues and find long-term solutions.

Operational Excellence

Our Banking segment continues to retain a competitive position in 2022 with an EEA wallet share of 7.6 % for the FY 2022 primarily driven by the French market. Corporate Banking saw an increase in total clients, and in the Payments business, we continue to see a strong basis in our growth trajectory given strong development of client deposits and Euro-clearing volumes (+14.5 %). Another measure of efficiency and degree of automation in this business is the Straight-Through-Processing ("STP") Rate which remained at 98 % for the third year in a row. This is the percentage of transactions that are passed straight through the system from start to finish without manual intervention. For 2023 we are targeting to increase this rate to 98.5 %. In Securities Services space, Assets under Custody ("AUC") of € 2.5 trillion and assets under administration ("AUM") of € 800 billion are another signal of trust that our customers have in J.P. Morgan SE. In Commercial Banking, we saw stable growth together with a solid client deposits base. In the Markets segment, the increase in volumes was exceptional in 2022, mainly driven by market volatility, structural changes to developed market monetary policies, and the consequences on asset allocation and the cost of financial resources. The Private Bank also contributed to J.P. Morgan SE's performance showing increase in client balances and flows, primarily due to additional clients (+178) and a growing client advisors team.

To support the breadth of the Firm's business, technology plays a key role. The technology strategy is to deliver best-in-class products, platforms and experiences across business segments and strengthen software development and infrastructure, as well as protect the Firm and its clients[1].

A Commitment to Integrity, Fairness and Responsibility

Information on how we support our communities, clients and employees is detailed in section 5.1 of J.P. Morgan SE's Separate Non-Financial Report (see Annex "Separate Non-Financial Report" of this Annual Report).

A Great Team and Winning Culture

The number of employees at J.P. Morgan SE in 2022 was 4,105 employees on average, compared to an average of 1,287 employees at J.P. Morgan AG the year before[2]. The staff turnover rate was 10.2 %. Of the total number of employees, 3 % took advantage of flexible work arrangements[3].

The Bank's human resources strategy focuses on attracting the best people, investing in employee development, supporting and rewarding our people and creating a culture of diversity, equity and inclusion. We want to build a business that our customers and clients trust, and employees want to work for. To do this, we are placing diversity, equity and inclusion (DEI) at the heart of everything we do.

Details of the Bank's human resources and diversity strategy can be found in J.P. Morgan SE's Separate Non-Financial Report (see Annex "Separate Non-Financial Report" of this Annual Report).

[1] https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/investor-relations/documents/events/2022/jpmc-Investor-Day-2022/2022-global-technology.pdf

[2] This excludes interns and part-time employees working under 20 hours a week.

[3] Flexible work arrangement defined as those working part-time hours who are benefits eligible.

Statement on corporate governance pursuant to § 289f Abs. 4 HGB (disclosures on the quota for women)

In 2017, the J.P. Morgan AG Supervisory Board established a five-year target of 30 % for the number of women on both the Supervisory Board and the Management Board. Likewise, the Management Board set a target of 30 % women at the two management levels below the Management Board. Since the goal was set, there have been a number of structural and demographic changes to the entity, including the addition of new segments. Following the merger, the diversity, equity and inclusion strategy for the newly established J.P. Morgan SE was reviewed and the target of 30 % was upheld. The target will be reviewed for key levels below the Management Board in 2024 and the Supervisory Board and Management Board in 2027.

As at year-end 2022, women represented 41 % of the workforce, 42 % of the Supervisory Board, 14 % of the Management Board, and 26 % and 29 % respectively at the two management levels below the Management Board. We know we have more work to do to increase the representation of women in senior roles. Guided by the Firmwide DEI framework, the Management Board works continuously to advance an inclusive workplace culture where our people feel supported to bring their whole, authentic selves to work every day, confident that they can thrive with equal opportunities for career advancement. DEI is what makes the Bank and our Firm strong, and we want to build a workforce that brings together people with unique skills, backgrounds and professional experiences.

4.4. RELATIONSHIPS WITH RELATED COMPANIES

We identified our parent company, J.P. Morgan International Finance Ltd., and also J.P. Morgan Securities plc and

JPMorgan Chase Bank, N.A., as well as the J.P. Morgan Structured Products B.V. as companies closely related to J.P. Morgan SE. We consider the members of the Management Board and the Supervisory Board of J.P. Morgan SE and their family members as well as related persons.

The following financial transactions are carried out with related companies:

- Money market transactions, investing and borrowing money as well as financial guarantees;
- Transactions in total return swaps, OTC derivatives and other trading related positions;
- Transactions in the Global Clearing and Cash Equity sector;
- Reverse Repos;
- Nostro accounts;
- Provision of subordinated capital; and
- Purchasing and supplying corporate services.

4.4.1. Declaration on Dependency Company Report in Accordance with § 312 German Stock Corporation Act ("AktG")

J.P. Morgan SE is a dependent company of J.P. Morgan International Finance Limited. Since there is no domination agreement between the companies, the Management Board of J.P. Morgan SE prepared a report on relationships with affiliated companies in accordance with § 312 of the German Stock Corporation Act ("AktG"), which concludes with the following declaration:

"The Management Board declares that J.P. Morgan SE has received an appropriate consideration for each legal transaction in accordance with the circumstances that were known to it at the time when that individual legal transaction was entered into or the step undertaken or refrained from, and was not placed at a disadvantage due to the measure being taken or refrained from."

4.5. INTERNAL CONTROL SYSTEM

4.5.1. General Remarks

Please refer to the explanations provided in the Risk Report for a description of the risks and the measures for mitigating these risks. The internal control system ("ICS") and the risk management system, which cover the J.P. Morgan SE accounting process, focus on the guidelines, procedures and measures taken to ensure the efficacy, economic viability and orderliness of the accounting as well as guaranteeing adherence to the key statutory regulations. The ICS consists of two areas, namely Control, and Monitoring. In organizational terms, the Financial Control & Tax division is responsible for the control.

The Monitoring measures consist of elements integrated into the process as well as external and independent elements. Among other factors, the integrated measures include a monthly control process covering all of the Bank's activities, during which the balance sheet as at that date and the income statement are examined to assess and confirm their correct presentation and risks. Moreover, in all instances the four-eye principle is applied, along with technical controls, mainly by software-controlled audit mechanisms. In addition, qualified staff members with due expertise and specialist functions such as Financial Control & Tax take part in the process-integrated monitoring and control functions.

The Management Board and the Supervisory Board (in particular the Audit Committee) as well as the internal audit department are engaged in the internal monitoring system in the form of process-independent audit measures. The audit of the annual financial statements constitutes a key element of pro-

cess-independent monitoring. With reference to accounting, the risk management system is geared to identify, evaluate and communicate risks from faulty bookkeeping, accounting, and reporting in a timely manner.

4.5.2. IT Use

The software used in the Bank to support accounting processes is made up of the IT applications used throughout the JPM Group. The proper running of programs and interfaces is regularly assessed and confirmed. As part of our IT audit, the Group auditors check the due operation of the accounting-related applications at all computer center locations. The general IT system, including that for accounting, is secured against unauthorized access.

4.5.3. Key Regulations and Control Activities

The rules and measures of the ICS aim to ensure that business transactions are recorded in compliance with legal and internal requirements in a timely and complete manner, and that assets and liabilities within the annual financial statements are properly estimated, valued and reported. The booking documentation provides a reliable information base and a clear paper trail.

In the JPM Group, the regulations of the Financial Accounting Standard Board are applied as uniform valuation and accounting principles according to US GAAP and supplemented and commented on by the JPM Group's "Accounting Policies" department. Here, too, stipulations are made with regard to the JPM Group accounting practices. As part of the preparation of the annual financial statements according to HGB and the IFRS individual financial statements for J.P. Morgan SE, a reconciliation is made from US GAAP to the HGB and IFRS financial statements. Local work directives regulate the formal requirements and the material information in the annual financial statements and in the IFRS separate financial statements respectively.

5. Business Outlook

5.1. SIGNIFICANT OPPORTUNITIES AND RISKS FOR THE UPCOMING FINANCIAL YEAR

As part of the process to define the 3-year business plan and strategy for J.P. Morgan SE, we need to acknowledge external factors which bear on one hand a significant risk to the execution of our plans and on the other hand could also turn into meaningful business opportunity as result of a proactive and determined management to address the impact of these external factors. This section also focuses on key industry trends which are taken into account as part of our Legal Entity Strategy, capturing the main topics which have recently impacted or will impact the business in the upcoming years.

5.1.1. Macroeconomic and Geopolitical Factors

COVID-19 Pandemic

While the COVID-19 pandemic had been the significant influencing factor for the global economy over the past three years, we consider that we have already entered the post-pandemic period.

Ukraine

The war against Ukraine, which Russia started on February 24, 2022, with no end on the horizon, created serious headwinds for the global economy, spurring inflationary pressures resulting in declining confidence and household purchasing power as well as increasing risks worldwide.

With the risk of further escalation, this war remains one of the biggest known uncertainties in 2023 and beyond. We continue

to monitor the situation and its business impact very carefully. Our assessment will be reflected in the quarterly forecast process in J.P. Morgan SE.

Monetary Policy, Inflation and Energy Prices

The increase of EUR currency area inflation to 8.4 % in 2022 has multiple drivers, primarily the large increases in energy and food prices, but also the negative consequences of the supply chain disruptions which continued to persist throughout the year. With respect to monetary and interest rate policies of the most important central banks, we expect that interest rates will remain high for most of year which will drive tightness in financial conditions with an increased probability of a US recession in the second half of the year.

In the light of the ongoing war in the Ukraine and the uncertainty around Russia's gas supply to EU countries, energy prices and, subsequently, inflation remains one of the external factors to watch. The prices are also impacted by "green policy-making" of EU governments on energy consumption and prices in order to achieve climate-related targets and shift from fossil to renewable energy sources.

Trade Disputes

The ongoing trade dispute between the United States and China is on our radar, but we do not see any immediate negative impact for J.P. Morgan SE specifically in 2023, while remaining a geopolitical risk over the medium- to long-term.

5.1.2. Industry Trends and Regulatory Change

ESG and Climate Change

Despite macroeconomic challenges, particularly from the global political environment, we expect sustainability to remain a megatrend in shaping the economy and financial industry. The growing demand for climate and sustainability solutions is reflected in the increasing volume of sustainable financing on the market.

Climate change continues to be a key focus of many ESG strategies and we expect investors to increasingly focus on credible transformation strategies in exposed sectors such as oil & gas, power generation and autos. But ultimately, climate change affects every economic sector, including the financial industry. This offers J.P. Morgan SE new business opportunities to support our clients in their strategies to transition to a lower carbon economy and to position themselves in the field of sustainability solutions. Section 4.2 of our Separate Non-Financial Report describes how we support our customers in the transition to a low-carbon economy.

Climate change and the transition to a low-carbon economy create risks for financial institutions and their customers. Understanding and managing climate risks will therefore remain a key priority for the Bank. Climate-related and environmental risks are integrated in J.P. Morgan SE's business objectives. Oversight of these risks is part of the schedule of responsibilities of our Management Board and Supervisory Board.

In addition to climate and environment, we expect diversity, equality and inclusion to become increasingly strategic drivers to attract talented employees and perform strongly for our customers and society. We report on social and employee matters in section 5 of our Separate Non-Financial Report.

IT and Cybersecurity

Exponential growth in information technology and development of digitization of banking technology continues to transform the financial services industry. Financial services companies continue to be on the lookout for new technologies

to improve efficiency and speed of service, as well as remain competitive by adapting to customer needs.

The Markets e-trading initiative, for example, will address the current trading application landscape looking at efficiency creation and focusing on convergence across selective Markets desks. E-Trading delivers an electronic execution environment across Markets' converging lines of business with specific solutions and enhances capabilities to improve the client experience. Furthermore, we continue to focus on IT development including our Cloud Strategy. Cloud computing is in fact moving to the forefront as a key priority and is a part of the long-term strategy of our Bank.

The cybersecurity outlook for J.P. Morgan SE and the financial sector as a whole will be driven, in large part, by the continued geopolitical instability and socioeconomic volatility that businesses continue to face in 2023. It is expected that nation-state threat actors will continue to conduct cyber espionage campaigns, while advanced cybercriminal groups will continue to evolve and adapt for the greatest return on investment. This includes ransomware attacks which have significantly increased and have resulted in higher pay-outs for threat actors. Additionally, we expect attacks targeting the supply chain to continue and as long as suppliers fail to implement adequate security controls, the threat will persist in 2023. While J.P. Morgan SE and the financial sector are not a priority target for these attacks, the Firm's suppliers could act as a conduit to its systems and its data. Although we see these as a true risk for the Firm, we also see this as an opportunity to work with our clients, suppliers and the industry to mitigate cybersecurity threats.

To protect the confidentiality, integrity and availability of the Firm's infrastructure, resources and information, the Firm maintains a cybersecurity program designed to prevent, detect and respond to cyberattacks including three 24 hours/7 days a week Security Operations Centers. J.P. Morgan SE utilizes this program. The Firm has a cybersecurity incident response plan designed to enable it to respond to attempted cybersecurity incidents, coordinate such responses with law enforcement and other government agencies and notify clients and customers, as applicable.

Digitalization and Automation

The COVID-19 pandemic has provided an unintended catalyst for companies to accelerate digitalization of their businesses. While government restrictions on people's movement across the globe have led in the past to an overall decline in business activity, the same measures have prompted companies to look toward virtual solutions for growth or to maintain business continuity. Digital transformation is in fact crucial for the financial industry in light of changing customer demands together with pressure to reduce costs and increase efficiency. All of these factors are encouraging banks, including JPMorgan Chase & Co., to continue to move towards innovation. JPM Group recently announced a USD 12 billion investment per year towards technology, ensuring that the Firm is at the forefront of the industry also in terms of innovation. As a result, all of our business segments are directly or indirectly involved.

Blockchain as an emerging technology has experienced notable adoption among Institutional and Retail Banks over the last few years and is one of the core technological trends in the upcoming future. In 2022, the Payments business launched a number of blockchain initiatives, concentrating on blockchain based products and services – such as the JPM Coin and programmable payments – and within J.P. Morgan SE, live transactions are already being booked for clients. From

a Markets perspective, Distributed Ledger Technologies and algorithmic/high frequency trading opportunities will continue to be key topics for the business.

In addition to opportunities, we are also well aware of the potential risks linked to Blockchain Technology, including but not limited to cyberattacks, public blockchains downtime, distributed denial-of-service attacks, manual errors, and hack of public-key encryption schemes.

Client Service Innovation
Exceptional client service is one of the main pillars outlining the Firm's Business Principles. Since we consider it vital to operate on a local level, we will continue to grow our network of bankers, client advisors, product experts and client coverages staff.

From streamlined onboarding to fast support, we strive to help clients achieve their goals, as well as provide innovative solutions. Among others, our Markets business continues to monitor demand for platforms providing pricing and also focuses on best execution, processing, and post-trade services and support. Automation plays a key role for the trading desks and their ability to deliver client trading opportunities. Private Bank has enlarged the product panel including enhanced advisory services to ensure the Bank is providing needed solutions for clients. Securities Services announced Fusion being the next generation client-facing data platform.

More broadly, the Bank maintains a dominant position in Europe and continues to innovate in financial and technology solutions across front-to-back needs to ensure the continued delivery of a state-of-the-art spectrum of products and services.

Talent Sourcing
Hiring in the financial services industry continues to be highly competitive and it is important, now more than ever, to have a strategic recruiting approach. Increased pressure following Brexit's and COVID-19's "great resignation" trend has led to more competitive and challenging talent sourcing including higher generalized pressure on key recruiting and retention factors.

At J.P. Morgan SE, our people drive our success in serving our customers, clients and communities. Our goal is to maintain a diverse and inclusive workforce reflective of the communities we serve where our employees feel a sense of belonging. We therefore continue to promote an inclusive corporate culture where our employees can develop freely and have equal opportunities for professional development.

Regulatory Change
J.P. Morgan SE is generally subject to supranational and various national requirements. Classified as a significant financial institution within the European Union, we are directly supervised for prudential regulatory matters by the ECB. Local regulators and National Competent Authorities may also act as authoritative bodies having an impact on us, where there is a branch respectively business performed. These authorities are mainly focusing on implementing Europe-wide applicable Anti-Money Laundering and Market Conduct related matters into the local legal and regulatory context.

In that regards, the legal framework around AML/CFT [1] requirements and obligations are further advancing with attempts to align local nuances across EU states, like the idea to establish an EU regulatory body to harmonize such regulatory practices across the National Competent Authorities. In addition, there

[1] Anti-Money Laundering/Countering the Financing of Terrorism

has been a recent increase on financial sanctions rules attributable to the ongoing geopolitical situation.

At the beginning of the year, the new set of Brexit regulations came into force and are referred to as the Phase 3 Border Operating Model. The latest rules place further restrictions on the import of certain products from the EU into the UK. Increased border checks on specific goods have been implemented as well as more comprehensive security declarations. The regulatory divergence between the EU and the UK is growing. This will increase the complexity and cost of regulatory programs, and international firms will need to focus on developing a comprehensive approach towards cross border governance, risk management and compliance. We will continue to observe these developments with the established regulatory change monitoring governance. Based on the monitoring results, the challenges will be addressed.

Management focus in 2023 will continue to be around the implementation of the ESG regulatory agenda. This will also be driven by the ECB's clear statement that "climate change, environmental degradation and their related effects are some of the greatest challenges facing Europe and the world today". As a consequence climate-related and environmental risks are integrated into J.P. Morgan SE's capital and risk management processes, and ultimately steer the business decisions.

Furthermore, the Bank will keep focus on other regulatory changes in relation to the Basel III implementation, the Digital Finance Package, and the EU Anti-Money Laundering Package.

5.2. EXPECTATIONS FOR THE BANK'S FUTURE PERFORMANCE

In spite of the geopolitical crisis, market uncertainties and volatilities as well as interest rate developments, 2022 has been a successful year for the segments which J.P. Morgan SE hosts. This is a very strong baseline for the execution of our business strategy in the next few years, not only defending our market position in EEA, but also to expand, where possible. In addition, the expected interest rate development in 2023 will continue to strengthen our financial performance in Banking, Commercial Banking, Securities Services as well as Private Bank.

Although JPM Group maintained the #1 rank in Investment Banking for the fourth consecutive year, the total wallet size and consequently J.P. Morgan SE's revenues shrank significantly in 2022 due to geopolitical uncertainty in Ukraine, sharp rise in global energy prices and global inflationary pressures. While we expect a recovery of activities during 2023, we expect Equity Capital Markets and Debt Capital Markets activities to drive the growth in 2023 with Mergers & Acquisitions revenues to be down due to lower announced activities in 2022.

In the Payments business, we continue to see a strong basis in continuing our growth trajectory offering our clients four strategic booking locations with almost identical product offering, which they can chose from based on their business needs and preferences. While the exit of Russian clients and associated sanctions had some impact on 2022 revenues, we expect that this negative impact will be more than compensated by the additional growth momentum which continues to come from FinTech companies, i.e. Payment Service Providers, Third-Party Payment Processors as well as Electronic Money Institutions which need reliable and innovative bank partners.

Payments in J.P. Morgan SE is well-positioned to face the challenges and associated business opportunities of the rapid digitization of the world in one of the most fast-changing and disruptive industries in the next decades.

The Commercial Banking segment is primarily a coverage organization, leveraging the product capabilities of the Corporate & Investment Bank. In order to support future growth plans, the Corporate Client Banking & Specialized Industries strategy will focus on regional expansion of its front office coverage as well as expansion into new sectors, strengthen the payments franchise, building leverage finance capabilities and supporting clients on their ESG agenda. We expect this segment to be one of the most dynamic segments within J.P. Morgan SE with regard to growth in client deposits and loan balances, subsequently translating into growth in operating income.

Various industry trends in Securities Services, such as ESG-driven product developments, further digitalization including digital assets as well as the further expansion into private equity investments will create new revenue opportunities in the same way as they result in continuous cost pressure. Investment in a more efficient technology and production platform as well as the review of the current operating model will be key to protect our current revenues over the next three years.

Markets had an exceptional year in 2022 being among the Top 3 in the EEA markets. Industry trends, that we expect to drive markets in 2023, include continuous geopolitical turmoil with high market volatility, structural changes to developed market monetary policies and the consequences on asset allocation and the cost of financial resources. Other drivers to consider will be regulatory changes across our global client footprint (i.e. ongoing independent EU and UK regulatory developments); the evolution of the competitive landscape across multiple financial centers in this time zone and the impact this has on talent retention and acquisition; and computational and technology advancement to support both complex instrument evolution.

While worldwide inflation and the Russia-Ukraine war are likely to hamper real wealth creation over the next few years, the Private Bank business continues to have a strategic focus on being well-diversified across onshore and offshore markets to provide services to ultra-high net worth clients across EMEA outside Switzerland. The Private Bank plans to continue its investment strategy in expanding its market coverage and in increasing the number of client advisors, while improving the client experience through further digitalization. We expect to see a steady improvement of the Efficiency Ratio for the Private Bank.

For 2023, we expect the Profit before Tax ("PBT") is expected to grow moderately in comparison to 2022. We expect our Tier 1 Capital Ratio to stay around 20 %, and the Total Capital Ratio is expected to remain around 35 %. This offers an adequate capital buffer and flexibility in pursuing our strategic goals including new business opportunities. Based on the Financial plan for 2023, the Cost-Income ratio is calculated to be below 65 %.

In our well diversified activities, we do not expect any significant changes to the 2023 composition of contributing segments. J.P. Morgan SE's profitability will remain a key priority for the J.P. Morgan SE Management Board because profitability is essential for any bank to maintain ongoing activity and to generate additional capital resources to support future growth.

6. Risk Report

6.1. RISK MANAGEMENT

Risk is an inherent part of the business activities of J.P. Morgan SE ("the entity") and JPMorgan Chase & Co. ("the Firm"). When J.P. Morgan SE extends a loan, makes markets in securities, or offers other products or services, it takes on some degree of risk. The overall objective is to manage its business, and the associated risks, in a manner that balances serving the interests of its clients, customers and investors and protecting the safety and soundness of the entity and the Firm.

Effective risk management in J.P. Morgan SE requires, among other things:

- Acceptance of responsibility, including identification and escalation of risk issues, by all individuals within the entity;
- Ownership of risk identification, assessment, data and management within each of the lines of business (LOBs) and Corporate functions; and
- Independent risk governance which is embedded into Firmwide risk governance and oversight structure as appropriate.

The entity and the Firm strive for continual improvement in their efforts to enhance controls, ongoing employee training and development, talent retention, and other measures.

J.P. Morgan SE Risk Management has remained focused on serving its stakeholders. In compliance with directives by governments around the world, the Firm and the entity have been reducing the exposures and managing key risks arising from the Russia-Ukraine crisis, including country, credit, market, capital and liquidity risk, as well as assessing potential secondary impacts of the crisis. J.P. Morgan SE has implemented strategies, processes and controls designed to respond to increased market volatility, client demand for credit and liquidity, distress in certain industries or economic sectors and governmental actions, including the imposition of financial and economic sanctions.

Arising from the merger of the three legacy entities in Germany, Luxembourg and Ireland, the risk profile of J.P. Morgan SE in 2022 was impacted by the significant increase in scale of the entity, together with the addition of Private Banking business and ongoing growth throughout 2022. There continue to be developments to internal processes for management of the risk profile, for example, enhancements to risk inventory post the merger and to risk taxonomy / risk classification. The ongoing instability in the geopolitical environment is closely monitored and the impact to the risk profile assessed where applicable to individual risks. Recent market turbulences with the collapse of Silicon Valley Bank and the takeover of Credit Suisse by UBS had limited impact on J.P. Morgan SE's risk profile. Exposures to affected counterparties were limited.

Risk Management is also focused on risks related to the increased potential for cyberattacks that may be conducted in retaliation for the sanctions imposed on Russia, and has instituted additional precautionary measures to address these risks, and procedures to expedite the remediation of any high risk vulnerabilities, as they are identified. Regular interactions were implemented with the business within the entity as well as close dialogue across risk stripes to closely monitor market developments.

The current outlook for 2023 should be viewed against the backdrop of the global and EU economies, the ongoing war between Russia and Ukraine, financial markets activity, the geopolitical environment, the competitive environment, client and customer activity levels, and regulatory and legislative

developments in the EU and other countries where the Firm does business. Each of these factors may affect the performance of the entity and the Firm. J.P. Morgan SE will continue to make appropriate adjustments to its businesses and operations in response to ongoing developments in the business, economic, regulatory, and legal environments in which it operates.

6.2. RISK GOVERNANCE FRAMEWORK

The risk governance framework involves understanding the drivers of risks, types of risks, and impacts of risks.

Drivers of risks are factors that cause a risk to exist. These include, but are not limited to, the economic environment, regulatory or government policy, competitor or market evolution, business decisions, process or judgment error, deliberate wrongdoing, dysfunctional markets and natural disasters.

Types of risks are categories by which risks manifest themselves. The Firm and the entity risks are generally categorized in the following four risk types:

- Strategic risk is the risk to earnings, capital, liquidity, or reputation arising from poorly designed or failed business plans or inadequate responses to changes in operating environment.
- Credit and investment risk is the risk associated with the default or change in credit profile of a client, counterparty or customer, or loss of principal or a reduction in expected returns on investments.
- Market risk is the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.
- Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes or systems, human factors, or external events impacting the Firm's processes or systems.

Impacts of risks are consequences of risks, both quantitative and qualitative. There may be many consequences of risks manifesting, including quantitative impacts such as a reduction in earnings and capital, liquidity outflows, and fines or penalties, or qualitative impacts such as damage to the Firm's and entity's reputation, loss of clients and customers, and regulatory and enforcement actions.

6.2.1. J.P. Morgan SE Risk Strategy

J.P. Morgan SE's approach to risk management builds on the Firmwide approach. The risk strategy brings together the various components of the Firm's and J.P. Morgan SE's Risk Governance Framework. It sets out the principles for risk management in J.P. Morgan SE as defined by the Management Board of J.P. Morgan SE and is approved by the Supervisory Board. The completeness and suitability of the risk strategy are reviewed at least annually based on the J.P. Morgan SE business strategy.

The principles set out in the risk strategy are derived from J.P. Morgan SE's Business Strategy 2023–2025, where it outlines the key external factors that could threaten the execution of J.P. Morgan SE's Business Strategy. These include amongst others climate change, inflation, trade disputes and changes in the regulatory environment that could present difficulties for the LOBs to successfully implement their business strategies and meet their targets.

The linkage of the risk strategy to the business strategy is ensured by the involvement of the risk function in the

business strategy process. The risk function is involved in any update to the business strategy and assesses necessary changes to the Risk Strategy and Risk Appetite from a risk perspective. It also takes into consideration the business strategy in the forward-looking risk identification process which ultimately goes into the Risk Appetite and monitors Business Risk Indicators in the Risk Appetite Statement, especially in the RoE.

J.P. Morgan SE's businesses are highly regulated, and the laws, rules and regulations that apply to J.P. Morgan SE have a significant impact on its business and operations. The Risk Strategy of the entity is compliant to the specific rules and regulations for a German bank and through its branch network established across a number of jurisdictions in EMEA. The increased regulation and supervision of J.P. Morgan SE has affected the way that it sets its risk strategy and structures its risk appetite.

J.P. Morgan SE's risk strategy could be adversely impacted by changes in laws, rules and regulations, or changes in the application, interpretation or enforcement of laws, rules and regulations, that:

- Proscribe or institute more stringent restrictions on certain financial services activities;
- Impose new requirements relating to the impact of business activities on environmental, social and governance ("ESG") concerns, the management of risks associated with those concerns and the offering of products intended to achieve ESG-related objectives; or
- Introduce changes to antitrust or anti-competition laws, rules and regulations that adversely affect the business activities of J.P. Morgan SE.

External Market Change that can cause uncertainty to J.P. Morgan SE's businesses and operations has also been accounted in building the risk strategy. New monetary, fiscal and policy initiatives within the European Union could impact the European market and global economic growth and create market volatility in the financial market.

J.P. Morgan SE's overall appetite for risk is governed by the Risk Appetite framework for quantitative and qualitative risks. By setting a tolerance for risk, the entity aims to always ensure risk-bearing capacity and liquidity. The risk strategy covers all material risks identified by the Risk Inventory and is, if necessary, further specified for individual risk categories in the form of partial risk strategies and then made concrete and operational using policies, frameworks, guidelines, and operating procedures.

The following principles apply for overall risk management and monitoring:

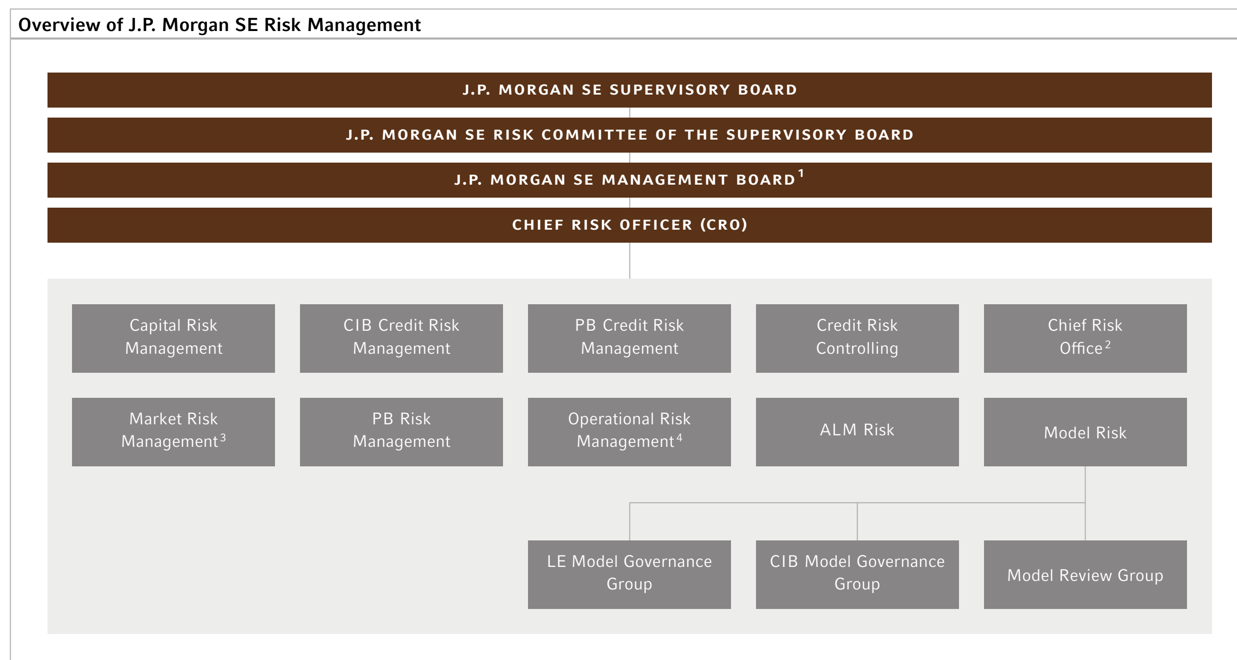
- Clearly defined organizational structures and documented processes are in place for all risks and respective business activities, from which the responsibilities and competencies of all involved functions are derived.
- There is a clear segregation of duties between First and Second Line of Defense to avoid potential conflicts of interest.
- J.P. Morgan SE defines and implements suitable procedures for risk identification, measurement, aggregation, management, monitoring, and communication of the risk categories.
- There is an established approach to creating and managing a sound risk culture within the entity through the Business Conduct and Risk Culture Framework. This is further achieved through J.P. Morgan SE's Remuneration Policy to encourage individuals to behave with standards of integrity and deter excessive risk taking.

6.2.2. J.P. Morgan SE Risk Governance and Oversight Structure

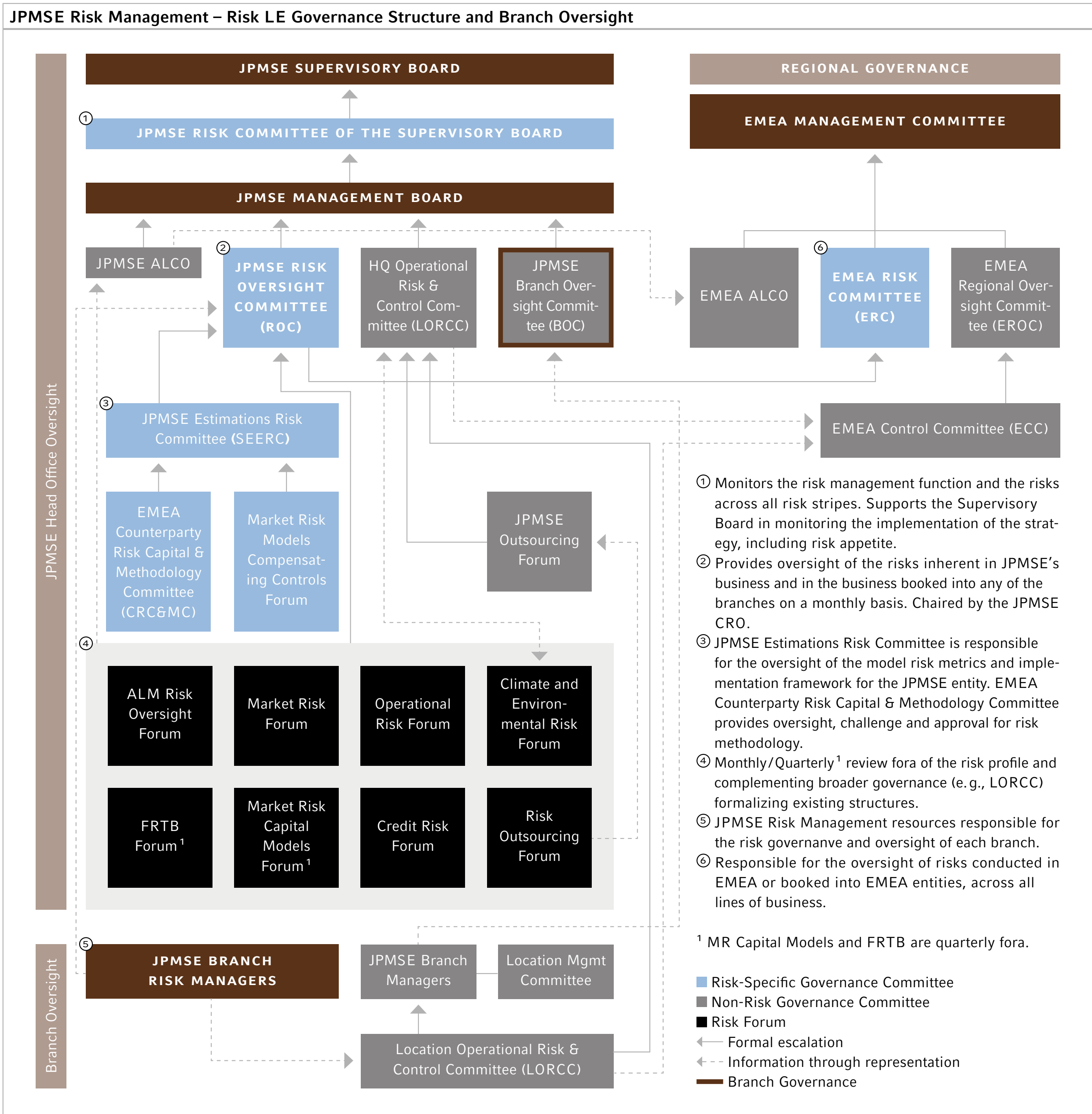
J.P. Morgan SE has an Independent Risk Management (IRM) function, which consists of the Risk Management and Compliance organizations. The Chief Risk Officer ("CRO"), a Management Board member, leads the IRM organization and is responsible for the risk governance of J.P. Morgan SE.

Each area of J.P. Morgan SE giving rise to risk is expected to operate within the parameters identified by the IRM function, and within its own management-identified risk and control standards. J.P. Morgan SE's First Line of Defense consists of each LOB, Treasury and Chief Investment Office (T/CIO) and certain Other Corporate initiatives, including their aligned Operations, Technology and Control Management. The First Line of Defense owns the identification of risks within their respective organizations and the design and execution of controls to manage those risks. Responsibilities also include adherence to applicable laws, rules and regulations and implementation of the risk governance framework established by IRM, which may include policies, standards, limits, thresholds and controls.

Overview of J.P. Morgan SE Risk Management



[1] JPMSE Chief Risk Officer is a member.
[2] Includes LE Risk Reporting, RM & C Control Management and Climate Risk.
[3] Includes Market Risk Quantitative Research.
[4] Includes Tech & Cyber Operational Risk Management.


JPMSE Risk Management – Risk LE Governance Structure and Branch Oversight
JPMSE Head Office Oversight
Branch Oversight
JPMSE SUPERVISORY BOARD
JPMSE RISK COMMITTEE OF THE SUPERVISORY BOARD
JPMSE MANAGEMENT BOARD
REGIONAL GOVERNANCE
EMEA MANAGEMENT COMMITTEE
JPMSE ALCO
JPMSE RISK OVERSIGHT COMMITTEE (ROC)
HQ Operational Risk & Control Committee (LORCC)
JPMSE Branch Oversight Committee (BOC)
EMEA ALCO
EMEA RISK COMMITTEE (ERC)
EMEA Regional Oversight Committee (EROC)
JPMSE Estimations Risk Committee (SEERC)
EMEA Control Committee (ECC)
EMEA Counterparty Risk Capital & Methodology Committee (CRC&MC)
Market Risk Models Compensating Controls Forum
JPMSE Outsourcing Forum
ALM Risk Oversight Forum
Market Risk Forum
Operational Risk Forum
Climate and Environmental Risk Forum
FRTB Forum[1]
Market Risk Capital Models Forum[1]
Credit Risk Forum
Risk Outsourcing Forum
JPMSE BRANCH RISK MANAGERS
JPMSE Branch Managers
Location Mgmt Committee
Location Operational Risk & Control Committee (LORCC)
① Monitors the risk management function and the risks across all risk stripes. Supports the Supervisory Board in monitoring the implementation of the strategy, including risk appetite.
② Provides oversight of the risks inherent in JPMSE's business and in the business booked into any of the branches on a monthly basis. Chaired by the JPMSE CRO.
③ JPMSE Estimations Risk Committee is responsible for the oversight of the model risk metrics and implementation framework for the JPMSE entity. EMEA Counterparty Risk Capital & Methodology Committee provides oversight, challenge and approval for risk methodology.
④ Monthly/Quarterly[1] review fora of the risk profile and complementing broader governance (e.g., LORCC) formalizing existing structures.
⑤ JPMSE Risk Management resources responsible for the risk governanve and oversight of each branch.
⑥ Responsible for the oversight of risks conducted in EMEA or booked into EMEA entities, across all lines of business.
[1] MR Capital Models and FRTB are quarterly fora.
Risk-Specific Governance Committee
Non-Risk Governance Committee
Risk Forum
Formal escalation
Information through representation
Branch Governance

The Second Line of Defense is the IRM function which is separate from and independently assesses and challenges the First Line of Defense risk management practices. IRM is also responsible for the identification of risks within its respective organization, adherence to applicable laws, rules and regulations and for the development and implementation of policies and standards with respect to its own processes.

The J.P. Morgan SE CRO is responsible for independently overseeing, monitoring/controlling and reporting J.P. Morgan SE risks. In order to ensure optimal effectiveness of J.P. Morgan SE's Risk Management and to leverage the Firmwide expertise, J.P. Morgan SE Risk is integrated into Firmwide and Europe, Middle East and Asia (EMEA) risk stripes aiming to achieve consistency across legal entities.

The Internal Audit function, as the Third Line of Defense, operates independently and provides objective assessment of the adequacy and effectiveness of entity's processes, controls, governance and risk management. In addition, other functions contribute to the J.P. Morgan SE control environment, including Finance, Human Resources, Legal, Control Management and Technology.

The independent status of the IRM function is supported by a governance structure that provides for escalation of risk issues to senior management, the J.P. Morgan SE Risk Oversight Committee (ROC), or the J.P. Morgan SE Management Board. J.P. Morgan SE's risk management is organized into risk functions which cover the risk profile of the entity.

The overall objective of the Management Board of J.P. Morgan SE, under the supervision of the Supervisory Board, is to take reasonable care to establish and maintain risk systems and controls that are appropriate to the business of J.P. Morgan SE and its branches. J.P. Morgan SE Management Board delegated the J.P. Morgan SE ROC to review the entity's overall risk situation monthly in light of current market conditions and identifies forward-looking risk concerns and mitigations. The ROC provides oversight of any risk issues in relation to risk-bearing capacity and the J.P. Morgan SE Internal Capital Adequacy Assessment Process (ICAAP), where appropriate or required. Analysis, monitoring and reporting of performance against risk and capital limits is presented to the relevant fora on a regular basis.

If necessary, the J.P. Morgan SE ROC escalates issues to the Management Board, the Risk Committee of the Supervisory Board and/or the Supervisory Board of J.P. Morgan SE. The ROC can escalate to and feeds into the EMEA Risk Committee in order to ensure that the J.P. Morgan SE risk governance is closely aligned to the Firmwide governance.

6.3. J.P. MORGAN SE RISK MANAGEMENT FRAMEWORK

6.3.1. Risk Identification

Part of J.P. Morgan SE's risk management framework is the identification of risks, as well as the design and execution of controls, inclusive of Risk Management-specified controls, to manage those risks. To support this activity, J.P. Morgan SE has established a risk inventory procedure which is based on the Firmwide risk identification framework. It is designed to supplement the existing risk management processes by providing a means to comprehensively and consistently document material risks that are inherent in the entity's business.

The classification of individual risk categories as a material risk is based on whether the occurrence of the risk could have a serious negative effect on J.P. Morgan SE's risk-bearing capacity, liquidity or capital situation or profitability. The

materiality thresholds are recalibrated on an annual basis to consider the size, business model and complexity of the legal entity.

As per the risk inventory dated December 31, 2022, the following risk categories are considered material for J.P. Morgan SE:

- Credit risk including wholesale credit risk, and investment portfolio risk (pension risk);
- Market risk, including interest rate risk in the banking book (IRRBB);
- Operational risk; and
- Strategic risk including capital risk, business risk and liquidity risk.

The materiality assessment follows a gross approach (i.e. without taking into account actions designed to mitigate the underlying risks) and is forward-looking (1 year horizon) to ensure a comprehensive overview of J.P. Morgan SE's potential vulnerabilities, identifying also the risks that J.P. Morgan SE may be exposed to in the future.

6.3.2. Risk Appetite

J.P. Morgan SE has developed a Risk Appetite Framework for quantitative and qualitative risks. Quantitative parameters are used to monitor and measure J.P. Morgan SE's risk bearing capacity consistent with its stated risk appetite. Qualitative Risk Appetite assessment and monitoring protocol have been added leveraging the Firmwide Qualitative Risk Appetite framework, but which are tailored to J.P. Morgan SE's own business profile, governance, regional footprint and scale of activities.

Risk appetite is set for the material risks. It is set below risk capacity which is the maximum level of risk J.P. Morgan SE could bear without breaching constraints imposed by regulatory capital or liquidity requirements, other regulatory restrictions, or obligations to third parties which impact capital. Risk appetite must always be defined to be below Risk Capacity and incorporate a buffer deemed prudent by the J.P. Morgan SE Management Board. The buffer may be expressed in absolute or relative terms and may be lower than the "business as usual" buffer that management adheres to outside of a stress period. Where applicable, risk appetite quantitative parameters are expressed as losses under stress for individual risk types which can be used by risk stripes to propose more granular limits calibrated to these risk appetite levels.

Quantitative Risk Appetite thresholds were calibrated to account for the updated business strategy and increased risk sensitivities coming into the entity. The operationalization of Risk Appetite remains the same and calibration was carried out on stress results as the maximum amount of risk J.P. Morgan SE is willing to take.

J.P. Morgan SE manages and mitigates each of its qualitative risks down to appropriate levels by application of materially effective controls adequate to reduce risks where possible and practical. Factors that indicate a qualitative risk is "in excess" of these appropriate levels are for example:

- Significant levels of risk that exist without mitigating controls;
- Inability to monitor and evaluate either the risk or performance of controls through metrics; or
- Indication of a breakdown in the business operating model requiring significant changes to the business strategy, organizational structure, and governance processes.

6.3.3. Risk Measurement and Reporting

Risk measurement and reporting in J.P. Morgan SE are performed by risk category on a daily (credit, capital, market, and liquidity risk), monthly (IRRBB, country and conduct risk) or quarterly cycle (operational, model, climate, reputation, business and pension risks). The Internal Capital (ICAAP) and Internal Liquidity Adequacy Assessment Process (ILAAP) is refreshed on a quarterly basis. All risk reports are subject to the data governance policy and the BCBS 239 framework.

In addition to regulatory limits, the Management Board at J.P. Morgan SE has defined a series of early warning indicators, which are monitored in a timely manner. Indicators and risk limits are clearly documented and include inter alia recovery indicators, credit limits, investment limits, bidding limits, position limits, as well as the minimum liquidity of J.P. Morgan SE. These also consider concentration risk with respect to other J.P. Morgan entities.

For its meetings, the Management Board receives a detailed monthly overview of the development of the business areas, information on financial trends, a detailed risk report as well as a report from the Corporate functions. The scope of the quarterly risk report extends considerably beyond the monthly reporting and presents the risk situation in more detail.

For their meetings, the Supervisory Board as well as its Risk Committee receive a current summary of the topics discussed in the meetings of the Management Board, including a summary of the risk report. Any changes on the overall risk strategy of the entity, including its risk appetite and guiding principles governing risk measurement and reporting are presented to the Supervisory Board.

6.3.4. Recovery and Resolution Planning

The Bank Recovery and Resolution Directive (BRRD) was adopted in 2014 in response to the financial crisis of 2008, which had shown the lack of adequate tools to effectively deal with unsound or failing credit institutions and investment firms. The purpose of these tools is to prevent insolvency or, should insolvency occur, to minimize negative repercussions by preserving the systemically important functions of the institutions as well as preventing also the use of taxpayers' money to the greatest extent possible. Recovery planning is the first tool which aims to pursue these objectives. The recovery plans set out measures to be taken in order to restore the financial position following a significant deterioration. Such plans should include the governance arrangements, set a framework of indicators to alert the entity of a deterioration and test the recovery measures in a range of severe but plausible scenarios.

In January 2022, following the merger of J.P. Morgan AG, J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank (Ireland) plc, J.P. Morgan SE submitted a targeted Recovery Plan to the European Central Bank (ECB), covering the main aspects of the Recovery Plan Framework. In June 2022, J.P. Morgan SE submitted its first full Recovery Plan to the ECB. The Recovery Plan is prepared in compliance with the BRRD and its German transposition, the German Act on the Recovery and Resolution of Credit Institutions (Gesetz zur Sanierung und Abwicklung von Kreditinstituten – SAG). The Recovery Plan complies also with the relevant European Commission Delegated Regulations, the Guidelines of the European Banking Authority (EBA) and incorporates feedback provided by the ECB on pre-merger (pre-J.P. Morgan SE) Recovery Plan submissions. The 2022 J.P. Morgan SE Recovery Plan aligns to the methodology and framework adopted in the JPMorgan Chase & Co. Global Recovery Plan and other recovery plan-

ning exercises within the EMEA region. This approach ensures consistency across the different recovery plans while taking into account the relevant local regulatory requirements.

The financial crisis also showed that authorities lacked the tools and preparation to wind down institutions in an orderly manner, therefore a cross-border resolution mechanism has been established via the BRRD, and also the Single Resolution Mechanism Regulation (SRMR), providing the resolution authorities with comprehensive powers and resolution tools to intervene when an institution is deemed failing or likely to fail (FOLTF) and subsequently meets the conditions for resolution. The Single Resolution Board (SRB), in cooperation with BaFin as the National Resolution Authority (NRA), is responsible for preparing J.P. Morgan SE's resolution plans by outlining the respective Preferred Resolution Strategy (PRS) and detailing how J.P. Morgan SE could be resolved by implementing the relevant resolution tool(s), while ensuring taxpayers avoid carrying the financial burden of the institution's failure.

Likewise it determines the institution's Minimum Requirements for own funds and Eligible Liabilities (MREL), the purpose of which is to ensure that an institution has sufficient loss absorbing and recapitalization capacity at all times, which can credibly and feasibly be written down or converted into equity in case of resolution.

In 2022, as part of the SRB's Multi-Annual Work Program, J.P. Morgan SE continues to take relevant steps to build up and demonstrate resolution capabilities across dimensions such as governance, loss absorbing capacity, liquidity and funding, operational continuity in resolution (OCIR) and access to FMIs in order to meet the SRB's Expectations for Banks (EfB), which requires institutions to be fully resolvable by the end of 2023, and to improve the operationalization of its resolution plan.

6.4. INTERNAL CAPITAL ADEQUACY ASSESSMENT PROCESS (ICAAP)

The ICAAP including the risk bearing capacity analysis is a key steering instrument at J.P. Morgan SE with the goal of maintaining, at all times, an appropriate risk profile, adequate capitalization and thereby ensuring business continuity on an ongoing basis.

The normative perspective is a multi-year assessment of J.P. Morgan SE's ability to meet all capital-related regulatory and supervisory requirements on an ongoing basis under a baseline and adverse scenarios.

The economic perspective assesses capital adequacy, covering all material risks, over a 1-year horizon using internal quantification methodologies and an internal definition of economic capital resources.

J.P. Morgan SE's ICAAP architecture consists of several building blocks which coherently fit together and ensure that the J.P. Morgan SE maintains at all times sufficient capital to cover the risks that it is exposed to.

- Risk identification and assessment: This forms the basis of the ICAAP and results in an inventory of risks to which J.P. Morgan SE is exposed to. These risks are subsequently assessed for materiality based on defined materiality thresholds. Further details can be found in the section "Risk Identification".
- Risk quantification: Under the economic perspective and by the usage of internal quantification methodologies, J.P. Morgan SE quantifies material risks that may cause economic losses and deplete internal capital. In order to determine the regulatory capital demand, the quantification of risks in the normative perspective follows regulatory and accounting

rules. Capital is held against all material risks except for those that cannot be adequately covered by capital, e. g. liquidity risk. However, any spill over effects on capital are taken into consideration.

- Capital resources: The available capital resources represent the amount of capital available to absorb unexpected losses and meet regulatory requirements on capital. A significant portion of J.P. Morgan SE's capital resources is in the form of Tier 1 capital which is the capital form capable of absorbing losses in a business continuity environment. While the normative perspective utilizes regulatory capital aligned with CRR rules and accounting standards, the economic perspective employs a more conservative definition of capital resources building on the normative perspective whereby only capital items capable of absorbing losses in a business continuity environment are considered.
- Risk appetite: J.P. Morgan SE has established a risk appetite framework which expresses the level of risk J.P. Morgan SE is willing to take to achieve its strategic objectives. Breaches of appetite are subject to a dedicated governance framework triggering escalations and management actions aimed at maintaining capital adequacy. The risk limits which are set below the Risk Appetite introduce additional levels of escalation. Further details can be found in the section “Risk Appetite”.
- Capital planning: The capital plan is compatible with J.P. Morgan SE's business strategy, risk appetite and capital resources. Internally set targets and limits of capital adequacy metrics constitute constraints in order to safeguard capital adequacy on a forward-looking basis.
- Stress testing: Capital adequacy metrics both under the normative and the economic perspective are subject to regular stress testing to evaluate J.P. Morgan SE's capital position and detect key vulnerabilities. Capital plan figures are considered under various tailored adverse scenarios in order to assess the resiliency of J.P. Morgan SE and the viability of its business strategy.
- Reverse stress testing: Reverse stress testing is a risk management tool which aims to improve the awareness of current and potential vulnerabilities, by assessing which scenarios may lead the entity to the point of non-viability. The Reverse Stress Test is an integral part of J.P. Morgan SE's stress testing and is carried out as part of the ICAAP on an annual basis. This analysis is performed on a risk-by-risk basis and takes into account the nature, size, scale and complexity of J.P. Morgan SE's business activities and risks. The list of potential scenarios and relative assumptions is the result of an assessment which considers all type of external adverse events, as well as the J.P. Morgan SE-specific risk factors, events and circumstances that could cause the business model of the entity to become unviable.
- Capital adequacy assessment: J.P. Morgan SE's Management Board produces and signs annually a Capital Adequacy Statement (CAS) reflecting its view on capital adequacy, which is linked to specific conclusions and management actions to be taken to safeguard capital adequacy on a forward-looking basis.

J.P. Morgan SE submits the results of the annual ICAAP, signed by the Management Board, to the supervisory authorities as part of the monitoring by the ECB. Further, the ICAAP as a key risk management instrument is at least refreshed and reported to the management body on a quarterly basis.

6.4.1. Normative Perspective

J.P. Morgan SE can, from a capital adequacy perspective, comfortably execute its business strategy for 2023–2025. According to its capital plan, J.P. Morgan SE's Tier 1 ratio is not expected to fall below 19 % and the Total Capital ratio not below 33 % in the next three years.

Capital methodologies in the normative perspective

- Credit Risk and Counterparty Credit Risk: J.P. Morgan SE applies the standardized approach (CRSA of CRR) to calculate its pillar 1 capital requirements for credit risk. External credit ratings are used to determine the credit quality steps and the associated risk weights based on the exposure class. The risk weights are then applied to the exposure to derive risk weighted assets (RWAs).
  - For OTC derivatives, both the internal model method (IMM) and SA-CCR are used to calculate exposure.
  - For securities financing and other collateralized transactions, the financial collateral comprehensive method, including supervisory volatility adjustments, is used to calculate exposure values.
- Market Risk: J.P. Morgan SE currently uses the standardized approach to calculate its regulatory market risk capital requirements. Capital requirements for FX risk, Interest Rate risk, Equity risk, and Commodity risk are calculated and aggregated without consideration of diversification effects.
  - Interest Rate Risk: J.P. Morgan SE uses the maturity approach, but for sub-sets of products, it has received the permission by the ECB to apply sensitivity models for interest rate risk in 2021.
  - Equity Risk: The standardized approach is used with a look-through for stock indices for the purposes of specific and general equity risks.
  - Commodity Risk: The maturity ladder approach is used to calculate capital requirements.
  - Non-delta risks (i.e. gamma and vega): The entity uses both the Delta-Plus method and the equity asset class scenario approach to quantify non-delta risks.
- Credit Valuation Adjustment (CVA) Risk: J.P. Morgan SE currently uses the standardized approach to calculate a CVA risk charge for OTC derivatives. Both the Internal Model Method (IMM) as well as SA-CCR are used to calculate the exposures.
- Operational Risk: Under the Basic Indicator Approach (BIA) as defined in the CRR, the capital requirement is equal to 15 % of the average over the previous three years of the relevant indicator. J.P. Morgan SE applies currently the modified BIA for calculating its OpRisk-RWA, where also forward-looking revenues are used instead of historical revenues. This approach avoids an underestimation of the OpRisk RWA during this transitional phase where historical revenues aren't representative of the current state of the entity following the transformation it has undergone through Brexit and the completed merger into J.P. Morgan SE.

6.4.2. Economic Perspective

J.P. Morgan SE assesses its internal capital adequacy from an economic perspective as the ratio of total economic capital demand to internal capital resources. As per December 31, 2022, utilization is 39 % compared to 46 % a year earlier. The economic capital demand increased by +32 % in 2022 mainly due to position migrations in the context of the creation of J.P. Morgan SE on January 22, 2022. Over the same period, the internal capital increased by € 6.4 billion mainly driven by the merger as the Tier 1 capital of J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank (Ireland) plc had been transferred into the new legal entity. The economic capital demand and internal capital is calculated at least on a quarterly basis and reported, as part of J.P. Morgan SE's risk reporting, to the Management Board.

J.P. Morgan SE does currently not take into account inter-risk diversification (i.e. between risk types) in the calculation of its total economic capital demand. The risk aggregation approach in use sums up risk-level economic capital results.

€M	Q4 2022	Q4 2021
Internal Capital Usage under the Economic Perspective	39 %	46 %
Total Internal Capital	23,383	16,973
Total Risk Capital Demand	7,902	5,997
Credit Risk	3,078	2,438
Market Risk	1,941	1,602
IRRBB	403	41
Operational Risk	1,168	851
Business Risk	1,288	1,041
Pension Risk	25	24

Economic capital risk measurement methodologies

All material risks are considered in the total economic capital demand and are quantified over a 1-year holding period at a 99.9 % confidence level.

- Credit Risk: Credit Risk is quantified using the wholesale Economic Credit Capital model (ECC), with add-ons for risks not yet covered by the model. ECC seeks to capture the distribution of portfolio losses arising from credit risk through either defaults or changes in value. The model produces loss distributions that are then used to assess the entity's capital adequacy in the ICAAP. The principal drivers of portfolio capital are the risk characteristics of individual exposures and the correlations among different borrowers.
- Market Risk: J.P. Morgan SE determines its market risk capital requirements under the economic internal perspective using a Basel 2.5 market risk model, which is based on a combination of full-revaluation and sensitivity approaches across all trading book positions within a consistent risk factor simulation framework capturing both linear and high-order risk factors during market movements.
- IRRBB: J.P. Morgan SE's IRR capitalization methodology under the economic perspective intends to capture the impact to the economic value of equity from an adverse interest rate scenario.
- Operational Risk: The operational risk capital quantification for J.P. Morgan SE is based on results of a scenario analysis process in addition to analysis of historical recurring losses and existing legal matters. The risk scenarios that are quantified during the scenario analysis process are derived from the list of material risks and therefore are a representation of the most material risks within J.P. Morgan SE. The lower and upper bound of an exceptional but plausible loss is used as an input into the economic capital model to derive the operational risk capital for the entity.
- Business Risk: The quantification is based on historically observed deviations between planned and actual P&L items such as operating income and operating expenses excluding loan loss provisions. The methodology uses historical simulation of the observed (weighted) deviations and calculates business risk factors by determining the 99.9th quantile from the historical distribution. Applied to the current P&L plan, it results in an estimated capitalization amount for Business Risk over a 1-year risk horizon.
- Pension Risk: Economic capital is derived by stressing both assets and liabilities in J.P. Morgan SE's defined benefit pension schemes and capitalizing any resulting deficits which the entity could be liable to fund.

While the general aim is to quantify all material risks, some of the defined risks are not (directly) quantified as part of the ICAAP. This is the case when the risk is covered in a separate process: General Liquidity Risk is covered as part of the ILAAP. Capital risk is considered intrinsically within the ICAAP framework.

6.4.3. Internal Capital Resources

J.P. Morgan SE uses its regulatory own funds as a starting point for deriving its internal capital. Adjustments are made for positions that do not reflect the fair value concept under-

lying the economic perspective. Furthermore, capital items that do not provide loss absorbing capacity in a going concern situation (e.g., Tier 2 capital) are de-recognized for internal capital purposes.

In J.P. Morgan SE's view, all risks are adequately covered by capital and the capital in the entity is of high quality as it mainly consists of CET1 capital.

6.5. RISK CATEGORIES

The following paragraphs provide details of the individual risk types. The 2022 Risk Management Report is a consolidated report that is aligned with International Financial Reporting Standard 7 (IFRS 7) Financial Instruments: Disclosures. Key sections include financial instruments grouped appropriately to the nature of the information presented and aligned with audited financial reports.

The report also contains key figures which are referenced to the Pillar 3 of Basel 3 information published in the Financial Reporting section of the J.P. Morgan SE.

6.5.1. Credit Risk

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer. J.P. Morgan SE is exposed to credit risk through its underwriting, lending, market-making, capital markets and hedging activities with and for clients and counterparties, as well as through its operating services activities (such as cash management and clearing activities), securities financing activities, and cash placed with banks.

J.P. Morgan SE Credit Risk's overall strategy is to manage risks arising from the execution of the business strategy in a manner that balances serving the interest of its clients, customers and investors and protects the safety and soundness of the entity. To achieve this, J.P. Morgan SE Credit Risk seeks to maintain a risk profile that is diversified in terms of obligor type and rating, product type, industry, family, collateral and geographic concentration.

Credit Risk Management

Credit Risk Management is an independent risk management function that monitors, measures and manages credit risk in J.P. Morgan SE and defines credit risk framework and procedures. This includes:

- Maintaining a credit risk management framework;
- Monitoring, measuring and managing credit risk across all portfolio segments, including transaction and exposure approvals both at Firmwide and entity levels;
- Setting industry and geographical concentration limits as appropriate, and establishing underwriting guidelines;
- Assigning and managing credit authorities in connection with the approval of credit exposure;
- Managing criticized exposures and delinquent loans; and
- Estimating credit losses and supporting appropriate credit risk-based capital management.

The comprehensive Firmwide Credit Risk Framework is supplemented by regional frameworks as required. As such, J.P. Morgan SE's Credit Risk Management framework supplements the Firmwide credit risk policy framework and is approved by J.P. Morgan SE's Management Board and the ROC. It specifies that credit decisions are made on the basis of clearly-defined, separate responsibilities for "Front Office" ("Markt") and "Back Office" ("Marktfolge") as well as the process of assigning and managing credit authorities in connection with the approval of all credit exposure.

Risk identification and measurement

The Credit Risk Management function monitors, measures, manages and limits credit risk across J.P. Morgan SE's businesses. Credit risk measurement employs several methodologies for estimating the likelihood of obligor or counterparty default. Methodologies for measuring credit risk vary depending on several factors, including type of asset, risk measurement parameters, and risk management and collection processes. Credit risk measurement is based on the probability of default (PD) of an obligor or counterparty, the loss severity given a default event (LGD) and the exposure at default (EAD).

Risk ratings are reviewed regularly by Credit Risk Management and revised as needed to reflect the borrower's current financial position, risk profile and related collateral. The calculations and assumptions are based on both internal and external historical experience and management judgment are reviewed regularly.

For portfolios that fluctuate in value based upon an underlying reference asset or index, potential future exposure is measured using probable and unexpected loss calculations based upon estimates of probability of default and loss severity given a default.

Expected credit losses

Credit impairment is estimated through an allowance for expected credit losses ("ECLs"), recognized in three stages. The measurement of ECLs reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. To this end J.P. Morgan SE uses five economic scenarios and calculates the ECL by weighting the outcomes.

The effects of the current economic crisis are captured in macroeconomic scenarios which in turn are reflected in the calculation of ECLs. Additionally, J.P. Morgan SE has decided to adjust the standard weighting scheme and attribute higher weights to the adverse scenarios compared to Firmwide weighting scheme to further reflect uncertainties in the outlook.

The measurement of ECL also reflects how the Firm categorizes and manages the financial instruments for credit risk purposes, specifically Traditional Credit Products ("TCP"), and Non-Traditional Credit Products ("Non-TCP"). Instruments in scope for TCP include loans and lending-related commitments stemming from extensions of credit to borrowers; whereas Non-TCP includes, but is not limited to, other debt instruments valued at amortized cost such as reverse repurchase agreements and margin loans.

The determination of the ECL is based on the Staging of financial instruments. Stage 1 captures the instruments for which credit risk has reduced or has not significantly increased since initial balance sheet recognition. The ECL for Stage 1 assets is the expected credit losses over the next year (12-month ECL). Stage 2 captures the instruments for which credit risk has increased significantly since initial balance sheet recognition. The ECL for Stage 2 assets considers the expected credit losses over the entire residual term of the instrument (Lifetime ECL). Stage 3 assets are those which are classified as impaired as of the reporting date.

The ECL is determined for Stage 1 and Stage 2 customers on a collective basis using statistical risk parameters and forecasts of the economic environment. The underlying modelling framework is regularly reviewed and updated if necessary. For impaired instruments, the ECL is determined individually on counterparty level. For Stage 3 exposures, J.P. Morgan SE considers several counterparty specific scenarios as a base for calculation of the allowance. An impaired loan's allowance

is measured using the present value of expected cash flows, discounted using the contractual interest rate as of the date the loan was deemed to be impaired. If the present value of expected cash flows is less than the gross carrying amount of the instrument, the ECL is equal to the shortfall.

In determining how exposures should be grouped for collective valuation, the Bank considers many factors including, but not limited to, internal credit ratings, loan duration, borrower country, and industry sector. Internal risk assessments generally correspond to those defined by Standard & Poor's ("S&P") and Moody's Investors Service.

During the course of the year, Expected Credit Losses arising from loans and other lending-related commitments rose to € 245 million at the end of March and went down to € 241 million at the end of September, to € 259 million by year-end. At year-end, allowance for credit losses of non-performing loan (NPL) was € 16.1 million, while recovery for the year totaled € 8.3 million, across two of the NPL positions.

Modelling approach used for calculation of Stage 1 and Stage 2 allowances

J.P. Morgan SE uses the models of the J.P. Morgan Group to determine the ECL results for the credit portfolio. The historical credit data of the Group is pooled to generate a broad database for the calibration and validation of the risk models. The models are then specifically tailored to regions and industry sectors.

To model the default risk of credit exposures, J.P. Morgan separately models the point-in-time PD as well as risk migrations between grades. These results are combined with a through-the-cycle approach for the PD beyond the reasonable and supportable (R&S) period (eight quarters). The point-in-time PD and migrations are driven by the macroeconomic variables (MEV) in the different scenarios.

For LGD modelling purposes, J.P. Morgan SE applies a two-stage approach. The LGD is modelled as the product of the probability of impairment of the facility (Stage 1) and the expected LGD in case of impairment (Stage 2). The modelled LGD is dependent on the availability and type and collaterals the type of the credit product. The model generates a point-in-time forecast dependent on the MEVs of the underlying scenario for the R&S horizon and through the cycle forecasts beyond that horizon.

The exposure at default is modelled based on the type of the credit facility, utilization and line of business. Future utilization is considered dependent on the underlying scenario for the R&S horizon. After the R&S forecast period, a long run EAD is determined.

Portfolio-based component

The portfolio-based component begins with a quantitative calculation that considers the likelihood of the borrower changing delinquency status or moving from one risk rating to another. The quantitative calculation covers expected credit losses over an instrument's expected life and is estimated by applying credit loss factors to the Firm's estimated exposure at default. The credit loss factors incorporate the probability of borrower default as well as loss severity in the event of default. They are derived using a weighted average of five internally developed macroeconomic scenarios over an eight-quarter forecast period, followed by a single year straight-line interpolation to revert to long run historical information for periods beyond the eight-quarter forecast period. The five macroeconomic scenarios consist of a central, relative adverse, extreme adverse, relative upside and extreme upside scenario, and are

updated by the Firm's central forecasting team. The scenarios take into consideration the Firm's macroeconomic outlook, internal perspectives from subject matter experts across the Firm, and market consensus and involve a governed process that incorporates feedback from senior management across LOBs, Corporate Finance and Risk Management.

Stress testing

Stress testing is important in measuring and managing credit risk in J.P. Morgan SE's credit portfolio. The process assesses the potential impact of alternative economic and business scenarios on estimated credit losses for J.P. Morgan SE.

Economic scenarios and the underlying parameters are defined centrally, articulated in terms of macroeconomic factors and applied across the businesses. The stress test results may indicate credit migration, changes in delinquency trends and potential losses in the credit portfolio. In addition to the periodic stress testing processes, management also considers additional stresses outside these scenarios, including industry and country specific stress scenarios, as necessary. Stress testing is used to inform decisions on setting risk appetite, as well as to assess the impact of stress on individual counterparties.

Credit Risk Approval and Control

- Approval of clients: All clients are subject to credit analysis and financial review by Credit Risk Management before new business is accepted.
- Establishment of credit lines: All credit exposure must be approved in advance by a J.P. Morgan SE Credit Officer with the level of credit authority required by the applicable credit authority grid. Such approvals, together with details of the credit limits, are recorded in the Credit Systems.
- In some instances, credit lines can be approved according to predetermined rules that are subject to annual review by the appropriate J.P. Morgan SE Credit Officers and the CRO of J.P. Morgan SE.
- Intraday exposure control: Intraday credit risk arising from cash payments is captured by the Firm's intraday exposure control system. Any exposure which exceeds a facility and is outside of a tolerance range requires the approval of an authorized Credit Officer.

Risk monitoring and management

J.P. Morgan SE implements policies and practices developed by the Firm. The policy framework establishes credit approval authorities, concentration limits, risk-rating methodologies, portfolio review parameters and guidelines for management of distressed exposures.

In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are independently validated by groups separate from the LOBs.

As part of its management of credit and counterparty credit exposures, credit risk mitigation techniques are actively used to reduce the amount of credit risk, to spread the concentration of risk across the portfolio, and ultimately to ensure efficient use of capital in compliance with the applicable regulations. This is accomplished through a number of means, including receipt of collateral, master netting agreements, guarantees and credit derivatives and other risk-reduction techniques.

Credit risk is monitored regularly at an aggregate portfolio, product, segment, industry and individual client and counterparty level with established concentration limits that are reviewed and revised as deemed appropriate by management, typically on an annual basis. Industry and counterparty limits, as measured in terms of exposure and economic risk appetite, are subject to stress-based loss constraints.

Wrong-way risk is actively monitored. This refers to the risk that exposure to a counterparty is positively correlated with the risk of a default by the same counterparty, which could cause exposure to increase at the same time as the counterparty's capacity to meet its obligations is decreasing.

The Credit Risk Reporting Tool ("CRRT") provides the ability for live aggregation of loans and portfolios by isolation of client or facility level attributes, for example by obligor rating, industry (and sub-industry), product or geography, permitting J.P. Morgan SE to monitor the risks, within the portfolio. A credit risk report is prepared and a forum held on a monthly basis, attended by the Credit Officers, J.P. Morgan SE LOB Heads of Credit and Credit Risk Controlling, where key trends and any concentrations in the portfolio are highlighted, discussed, and further investigated as appropriate, with further escalation to the Risk Oversight Committee (ROC) as deemed appropriate – in particular, forborne and non-performing loans are escalated to the ROC on a monthly basis.

Risk reporting

Credit risk reporting is carried out daily (e. g., for overdrafts), while a monthly credit risk report is used for monitoring credit risk and to support effective decision-making on the part of J.P. Morgan SE. Monthly reporting includes aggregate credit exposure, concentration levels and risk profile changes and is reported regularly to senior members of Credit Risk Management. Detailed portfolio reporting of industry, clients, counterparties and customers, product and geographic concentrations also occurs monthly, and the appropriateness of the allowance for credit losses is reviewed by senior management at least on a quarterly basis.

Through the risk reporting and governance structure, credit risk trends and limit exceptions are provided regularly to, and discussed with, the Risk Oversight Committee, the LOB Heads of Credit Risk and Credit Risk Controlling, the CRO and the Management Board of Directors as appropriate.

Credit Portfolio

J.P. Morgan SE's credit risk profile continued to evolve significantly throughout 2022 principally as a result of the J.P. Morgan SE merger, which combined Asset & Wealth Management (AWM) business which was predominantly booked in J.P. Morgan Bank Luxembourg S.A. with CIB/CB business which was predominantly booked in J.P. Morgan AG. As at year end 2022, the credit portfolio consists of € 69.0 billion primary exposure which is comprised of Traditional Credit Products (TCP), Derivatives Risk Equivalent (DRE) and Securities Risk Equivalent (SRE). DRE is a measure of derivative exposure intended to be equivalent to the risk of loan exposures. SRE is the primary measure of credit exposure (i. e. expected plus unexpected potential loss) on counterparty securities trading, securities financing and margin lending transactions. The key risk components as at year end are € 49.0 billion of TCP (committed facilities and utilizations under advised lines), € 16.6 billion of DRE and € 3.5 billion of SRE.

J.P. Morgan SE focuses on the management and diversification of its industry exposures and pays particular attention to industries with actual or potential credit concerns. The breakdown of the credit portfolio by industry is shown in the following table.

The credit portfolio is considered well diversified by industry as of December 31, 2022. Individuals (dominated by AWM exposure which, prior to the J.P. Morgan SE merger, had been booked in JPMorgan Bank Luxembourg), Asset Managers and Consumer and Retail represent 41.9 %, 16.2 %, and 4.5 % of the portfolio, respectively.

€M	2022		2021	
	Exposure	% of portfolio	Exposure	% of portfolio
Individuals	28,945	41.9 %	57	0.2 %
Asset Managers	11,190	16.2 %	7,198	20.5 %
Consumer & Retail	3,104	4.5 %	3,028	8.6 %
Banks & Finance Cos	3,078	4.5 %	2,556	7.3 %
Industrials	2,874	4.2 %	1,637	4.7 %
Utilities	2,507	3.6 %	1,988	5.7 %
Technology, Media & Telecommunications	2,303	3.3 %	6,521	18.5 %
Central Govt	2,291	3.3 %	1,447	4.1 %
Real Estate	1,574	2.3 %	1,289	3.7 %
Other Industries	11,137	16.1 %	9,436	26.8 %
Total	**69,002**	**100.0 %**	**35,157**	**100.0 %**

€M	2022					2021	
	TCP	DRE	SRE	Total Exposure	% of portfolio	Exposure	% of portfolio
Diversified Assets [1]	12,166	12	–	12,178	17.6 %	57	0.2 %
Funds global [2]	3,869	5,969	263	10,101	14.6 %	6,803	19.4 %
United States	8,469	716	57	9,242	13.4 %	2,572	7.3 %
France	3,502	2,413	1,058	6,974	10.1 %	5,265	15.0 %
United Kingdom	5,438	91	289	5,818	8.4 %	876	2.5 %
Germany	1,482	1,481	397	3,360	4.9 %	3,244	9.2 %
Spain	2,418	880	60	3,359	4.9 %	6,875	19.6 %
Netherlands	2,154	714	66	2,934	4.3 %	972	2.8 %
Belgium	1,646	256	709	2,611	3.8 %	1,501	4.3 %
Other	7,814	4,060	550	12,425	18.0 %	6,992	19.9 %
Total	**48,959**	**16,593**	**3,450**	**69,002**	**100.0 %**	**35,157**	**100.0 %**

[1] Diversified Assets: classification used for AWM clients where the loan is against collateral that is well diversified across eligible assets.
[2] Funds Global: classification used for Investment Managers of mutual funds and hedge funds, as well as the investment vehicles themselves, whose business is managing investments in traditional and alternative financial products where the underlying assets are generally diversified across multiple countries and where no single country represents a significant concentration over a sustained period.

The breakdown of the credit portfolio by geography is shown in the previous table. Geographic concentrations in the portfolio are monitored and reported on a monthly basis. The credit portfolio is considered well diversified as of December 31, 2022. Diversified Assets, Funds Global and United States represent the largest country concentrations

€M	2022		2021	
Internal Rating Equivalent	Exposure	% of portfolio	Exposure	% of portfolio
AAA/Aaa to AA–/Aa3	27,709	40.2 %	5,942	16.9 %
A+/A1 to A–/A3	10,540	15.3 %	6,518	18.5 %
BBB+/Baa1 to BBB–/Baa3	17,972	26.0 %	13,980	39.8 %
BB+/Ba1 to B–/B3	11,200	16.2 %	6,347	18.1 %
CCC+/Caa1 and below	1,538	2.2 %	1,711	4.9 %
NR[1]	42	0.1 %	658	1.9 %
Total	**69,002**	**100.0 %**	**35,157**	**100.0 %**

[1] The NR category includes obligors not graded because J.P. Morgan SE relies on guarantor's grade, and obligors not graded because all exposure is fully secured by cash or marketable securities (with acceptable margin).

with 17.6%, 14.6%, and 13.4% of the credit portfolio, respectively.

The above table summarizes the ratings profile of the credit portfolio. Internal ratings equivalent to BBB–/Baa3 or higher are considered investment grade. Overall, we believe the portfolio has a good credit quality, with 81.5% of the portfolio being classified investment grade and 18.5% sub-investment grade as at December 31, 2022. Non-performing exposure represents less than 0.5% of the credit portfolio and 7 clients were considered in default as at December 31, 2022.

Russia-Ukraine Conflict

Credit Risk Management continues to monitor the Russia-Ukraine conflict very closely to assess its potential impact to J.P. Morgan SE and continues to take the relevant actions (including rating adjustments and exposure management) to address the situation. Credit Risk provides frequent updates to the J.P. Morgan SE Risk Oversight Committee and other stakeholders as requested.

6.5.2. Market Risk

Market risk is the risk associated with the effect of changes in market factors such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.

Market Risk Management monitors market risks and defines market risk policies and procedures. J.P. Morgan SE's Market Risk Management function reports to the CRO, and seeks to facilitate efficient risk/return decisions, reduce volatility in operating performance and ensure that J.P. Morgan SE's market risk profile is transparent to senior management, J.P. Morgan SE Management Board and regulators. J.P. Morgan SE's Market risk management objectives are achieved through a comprehensive and holistic approach to risk management as described in the following section.

Risk Governance & Policy Framework

J.P. Morgan SE's approach to market risk governance mirrors the Firmwide approach and is outlined in J.P. Morgan

SE's Market Risk Management Framework which outlines the following:

- Responsibilities of the CRO and the Market Risk Officer ("MRO");
- Market Risk measures utilized such as VaR, Stress Testing and non-statistical measures; and
- Controls such as J.P. Morgan SE's market risk limits framework (limit levels, limit signatories, limit reviews; and escalation).

The Management Board approves substantive changes to the Framework and approves the Framework annually.

Risk measurement

There is no single measure to capture market risk and therefore J.P. Morgan SE uses various metrics, both statistical and non-statistical, to assess risk. The appropriate set of risk measures utilized for a given business activity is tailored based on business mandate, risk horizon, materiality, market volatility and other factors.

Value-at-Risk ("VaR"), based on Expected Shortfall

The entity utilizes VaR, a statistical risk measure, to estimate the potential loss from adverse market moves in the current market environment.

The VaR framework is employed using historical simulation based on data for the previous twelve months. The framework's approach assumes that historical changes in market values are representative of the distribution of potential outcomes in the immediate future.

VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95 % confidence level. VaR provides a consistent framework to measure risk profiles and levels of diversification across product types and is used for aggregating risks and monitoring limits across businesses. These VaR results are reported to senior management and regulators.

As VaR is based on historical data, it is an imperfect measure of market risk exposure and potential future losses. In addition, based on their reliance on available historical data, limited time horizons, and other factors, VaR measures are inherently limited in their ability to measure certain risks and to predict losses, particularly those associated with market illiquidity and sudden or severe shifts in market conditions.

For certain products, specific risk parameters are not captured in VaR due to the lack of inherent liquidity and availability of appropriate historical data. The VaR framework utilizes proxies to estimate the VaR for these and other products when daily time series are not available. It is likely that using an actual price-based time series for these products, if available, would affect the VaR results presented. J.P. Morgan SE therefore considers other non-statistical measures such as stress testing, in addition to VaR, to capture and manage its market risk positions.

The following table shows the result of J.P. Morgan SE's VaR measure, using a 95 % confidence level.

The VaR as of 2022 year-end for J.P. Morgan SE is € 9.90 million. J.P. Morgan SE's market risk profile is predominantly driven by Credit, Interest Rates and Equity related exposures. Out of the standard stress scenarios that J.P. Morgan SE is subject to, the Worst Case stress loss during 2022 was primarily driven by the Credit Crisis scenario.

J.P. Morgan SE is the primary risk management entity for the below trading activities:

- Global Rates & Rates Exotics: European government bonds, sovereign derivatives CDS, products linked to European inflation indices, Secondary Frequent Borrower's activity on the Quasi-Sovereign (e.g., Agency, Local, Supranational) issuers, EUR Swaps & XCCY and EUR Options;
- Currencies & Emerging Markets: Sovereign debt and associated financing activity in CE4 (Poland, Czech Republic, Hungary, Romania) issuers;
- Global Credit Trading & Syndicate: A subset of Corporate and Financial bonds & CDS within EMEA Credit Market Making, Secondary Loan facilities with EEA regulated borrowers and/or counterparties, European credit indices (including Options as well as IBOXX), Secondary CLO activity on Dutch SPVs/entities, BV issued Credit Linked Notes within Credit Exotics and European sovereigns (bonds and CDS), which include hedging as well as market making exposures;
- Global Equities: Block trades, rights issues and financing trades driven by EEA clients, corporate derivatives on EEA underlyings. Warrants, European Single Stock & Index flow options, Exotic structures on less liquid/proxy European indices and delta one products on European underlyings (excluding MSCI);
- Securitized Products Group: EUR denominated securitized product inventory (i.e. Residential Mortgage-Backed Security [RMBS] and commercial mortgage-backed securities [CMBS]), balance guaranteed swaps and lending activities;
- Fixed Income Financing: Financing trades with high EEA nexus.

J.P. Morgan SE does not currently hold any XVA as J.P. Morgan SE has a GMRA (General Master Revenue Agreement) with JPMorgan Chase Bank for central risk management.

J.P. Morgan SE reports the market risk exposure which the entity manages in the J.P. Morgan SE Daily Legal Entity Market Risk Summary report. Due to diversification benefit, J.P. Morgan SE level VaR would be lower than the simple aggregation of VaR from individual business areas.

Stress testing

Along with VaR, stress testing is an important tool to assess risk. While VaR reflects the risk of loss due to adverse changes in markets using recent historical market behavior stress testing reflects the risk of loss from hypothetical changes in the value of market risk sensitive positions applied simultaneously.

95 % 10Q VaR	As of Year-End		2022			2021		
€M	2022	2021	Avg.	Min.	Max.	Avg.	Min.	Max.
VaR by Risk Type – Risk Type Explained								
Fixed Income	11	7	9	5	16	7	2	27
Foreign Exchange	1	0	1	0	4	0	0	2
Equities	3	3	3	2	8	2	0	5
Commodities and Other	0	0	0	0	0	0	0	0
Total VaR	**10**	**7**	**10**	**5**	**15**	**6**	**2**	**27**

J.P. Morgan SE runs weekly stress tests on market-related risks across the LOBs using multiple scenarios that assume significant changes in risk factors such as credit spreads, equity prices, interest rates, currency rates or commodity prices.

J.P. Morgan SE uses a number of standard scenarios that capture different risk factors across asset classes including geographical factors, specific idiosyncratic factors and extreme tail events. The stress testing framework calculates multiple magnitudes of potential stress for both market rallies and market sell-offs for each risk factor and combines them in multiple ways to capture different market scenarios. The flexibility of the stress testing framework allows risk managers to construct new, specific scenarios that can be used to form decisions about future possible stress events.

Stress testing complements VaR by allowing risk managers to shock current market prices to more extreme levels relative to those historically realized and to stress-test the relationships between market prices under extreme scenarios. Stress-test results, trends and qualitative explanations based on current market risk positions are reported to risk senior management, the Management Board, the Segments and Firm, to allow them to better understand the sensitivity of positions to certain defined events and to enable them to manage their risks with more transparency.

Multiple stress scenarios are run weekly and these include, but are not limited to, Inflation Crisis, Equity Collapse, Credit Crisis, Bond Selloff, Eurozone Crisis, USD Crisis, Oil Crisis and Commodities Selloff. The stress results for each scenario are used to understand the position exposures responsible for those potential losses. Worst case scenario stress losses are monitored against limits set at the legal entity and business area level.

The following table shows J.P. Morgan SE's Stress Testing results (Worst Case Stress Loss), as of 2022 and 2021 year-end. The change in stress loss between year-end 2021 and 2022 was predominantly driven by change in interest rate and credit exposures in Global Rates & Rates Exotics business.

€M	2022	2021
Worst Case Scenario	**Inflation Crisis**	**Credit Crisis**
Worst-Case-Stress Loss	−158.6	−323.6

As of 2022 year-end, the Worst Case Scenario was Inflation Crisis with a € 158.6 million stress loss. The key assumptions are that the stress test is a one-time, instantaneous event and that the sale of assets, or adaptive behaviour such as hedging and re-hedging is not modelled. The Inflation Crisis scenario models a crisis triggered by an upside surprise in inflationary data indicating the inflationary cycle is not controlled and hawkish monetary policy is required. Expectations that central banks will aggressively increase short end rates prompt the curve to increase and flatten.

Other Non-statistical risk measures

Aside from VaR and stress testing, J.P. Morgan SE utilizes non-statistical risk measures, such as, but not limited to, Foreign Exchange Net Open Position (FX NOP) and Interest Rate Basis Point Value (IR BPV) to measure and monitor risk.

Risk Monitoring and Control

Limits

Market risk limits are employed as the primary control to align J.P. Morgan SE's market risk with certain quantitative parameters within J.P. Morgan SE's Risk Appetite framework.

Market Risk sets limits and regularly reviews and updates them as appropriate. Limits that have not been reviewed

within a specified time period by Market Risk are reported to senior management.

Limit utilizations and notifications of valid market risk limit breaches are sent to appropriate J.P. Morgan SE limit signatories and relevant members of senior management daily. A market risk valid limit breach requires that the business takes immediate steps to reduce exposure so as to be within limit, unless a temporary limit increase is granted. Aged or significant market risk limit breaches are escalated by Market Risk to the J.P. Morgan SE Market Risk Officer (MRO) if not already included as a signatory, J.P. Morgan SE Risk Oversight Committee, Global Legal Entity Market Risk Head and Firmwide Risk Executive – Market Risk.

J.P. Morgan SE's limits include 95 % VaR and Stress as well as non-statistical measures established for the legal entity in aggregate, and for individual businesses operating out of the legal entity:

- J.P. Morgan SE's CEO, CRO and MRO are limit approvers of VaR & Stress limits for the legal entity in aggregate.
- J.P. Morgan SE Management Board members covering Markets business and MRO are limit approvers of non-statistical measure based limits for the legal entity in aggregate.
- Appropriate business area representatives and MRO are signatories to business area specific limits.

Risk Reporting

J.P. Morgan SE has its own set of regular market risk reports, which include daily notification of limit utilizations and limit breaches, and, where applicable, granular market risk metrics which provide transparency into potential risk concentrations. J.P. Morgan SE reports the market risk exposure which the entity manages on a daily basis.

Concentration Risk

Concentration Risk refers to any significant concentration of factors (e.g., single name, positions, etc.) that may lead to financial losses for J.P. Morgan SE. This risk is inherently measured, monitored and controlled as part of J.P. Morgan SE market risk management framework and related control. As described above, J.P. Morgan SE's market risk profile is predominantly driven by Credit, Interest Rates and Equity related exposures.

Single Name Position Risk (SNPR)

SNPR captures exposure to credit families (and entities within credit families) or standalone issuers/issuer families not part of credit families, assuming default of the issuer with zero recovery (DEO). Business Units should not exceed the SNPR DEO limits unless expressly pre-authorized by a Temporary Limit Approval (TLA). A valid limit breach requires that the Front Office takes immediate steps to reduce exposure so as to be within limit, unless a limit increase or TLA is granted. J.P. Morgan SE SNPR limit utilizations and breaches are reported to senior management on a daily basis.

6.5.3. Structural Interest Rate Risk

Structural Interest Rate Risk (IRR), or Interest Rate Risk in the Banking Book ("IRRBB"), is defined as the risk stemming from interest rate exposure resulting from traditional banking activities (accrual accounted positions); these include the extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as "non-trading" activities) and also the impact from the Treasury and Chief Investment Office ("T/CIO") investment portfolio and other related T/CIO activities. IRRBB from non-trading activities can occur due to a variety of factors, including, but not limited to:

- Differences in timing among the maturity or repricing of assets, liabilities and off-balance sheet instruments;
- Differences in the amounts of assets, liabilities and off-balance sheet instruments that are maturing or repricing at the same time;
- Differences in the amounts by which short-term and long-term market interest rates change (for example, changes in the slope of the yield curve); and
- The impact of changes in the maturity of various assets, liabilities or off-balance sheet instruments as interest rates change.

The strategy for interest rate risk is to preserve the long-term economic value (EV) of the balance sheet, while maximizing net interest income (NII) without adversely impacting the stability of NII. Specifically this is achieved by managing two key metrics that respectively measure the sensitivity of the entity's EV and NII to changes in interest rates, under an array of scenarios designed to capture the vulnerabilities of the entity, such that they never exceed pre-determined levels represented by risk appetites.

Oversight and Governance

Management of IRRBB within J.P. Morgan SE is delegated to the J.P. Morgan SE Treasurer with primary oversight exercised through the J.P. Morgan SE Asset and Liability Committee (ALCO); the J.P. Morgan SE ALCO, chaired by the J.P. Morgan SE Treasurer, is responsible for reviewing the IRRBB exposures and/or profile of J.P. Morgan SE, and IRRBB assumptions applied within the entity.

Independent oversight of IRRBB within J.P. Morgan SE is delegated to the J.P. Morgan SE ROC.

The oversight of structural interest rate risk is carried out by the ALM Risk Management function. ALM Risk Management's responsibilities include, but are not limited to:

- Measuring and monitoring IRRBB and establishing limits;
- Creating and maintaining governance over IRRBB assumptions.

Risk Identification and Measurement

The J.P. Morgan SE Treasurer manages IRRBB exposure by identifying, measuring, modelling and monitoring IRRBB across the balance sheet. The J.P. Morgan SE Treasurer identifies and understands material balance sheet impacts of new initiatives and products and will execute transactions to manage IRRBB as appropriate, and ensure compliance with internal and regulatory requirements. LOBs are responsible for developing and monitoring the appropriateness of LOB-specific IRRBB modelling assumptions.

Measures to manage IRRBB include:

- Earnings-at-Risk (EaR), which estimates the change in net interest income (NII) and certain fees affected by interest rates over a given horizon for a particular interest rate scenario;
- Economic Value Sensitivity (EVS), which measures the change in economic value (EV) of the J.P. Morgan SE balance sheet due to changes in interest rates.

J.P. Morgan SE's exposure to IRRBB on the non-trading book is monitored through the above mentioned economic and earnings-based measures on a monthly basis. IRRBB for J.P. Morgan SE is assessed under a range of scenarios, including but not limited to regulatory defined scenarios (per EBA/

€M	EVS[1] 2022	EVS[1] 2021	EaR[2] 2022	EaR[2] 2021
Scenario				
Parallel upwards	107	147	514	383
Parallel downwards	−350	−82	−572	−305
Steeper	54	33	–	–
Flatter	−76	13	–	–
Short-term interest rates upwards	−11	54	–	–
Short-term interest rates downwards	−86	−33	–	–

[1] as per modelling assumptions prescribed in the EBA guidelines
[2] EaR scenarios include the interest rate floor as defined in the EBA guidelines.

GL/2018/02), and scenarios recommended in the 2016 BCBS IRRBB guidance. These scenarios include parallel, as well as steeper and flatter shifts in yield curves, and they include the prescribed interest rate floor, as defined in the EBA guidelines.

Note that these scenarios consider the impact on exposures due to changes in interest rates, as well as pricing sensitivities of deposits, optionality and changes in product mix when applicable. The scenarios do not include assumptions about actions that could be taken in response to any such instantaneous rate changes. The pricing sensitivity of deposits in the baseline and scenarios use assumed rates paid which may differ from actual rates paid due to timing lags and other factors, and further use assumptions on the repricing maturity of deposits based on historic observations.

The maximum impact to EVE under the regulatory +/−200 bp scenarios as of 2022 year-end was € 349 million from the −200 bp scenario, representing −1.6 % of Tier 1 capital. The impact from the BCBS scenarios on the economic value and net interest income of J.P. Morgan SE has been estimated as of 2022 year-end; the results for Economic Value Sensitivity (EVS) and EaR for J.P. Morgan SE are presented in the table below.

As of 2022 year-end, J.P. Morgan SE was compliant with the supervisory test for EVS/Equity.

Credit Spread Risk in the Banking Book (CSRBB) currently does not have a material impact on the calculation of the J.P. Morgan SE IRRBB metrics.

Throughout the period of the Russia/Ukraine conflict, J.P. Morgan SE did not experience material impacts to its IRRBB metrics.

Risk Reporting

J.P. Morgan SE has a monthly IRRBB report, where different scenarios for above mentioned IRRBB metrics are reported as appropriate in order to monitor and control IRRBB for plausible interest rate changes. The report includes notification of J.P. Morgan SE IRRBB limit utilizations and breaches. The IRRBB metrics are reported to the J.P. Morgan SE ROC on a monthly basis.

6.5.4. Liquidity Risk
Liquidity risk is the risk of J.P. Morgan SE becoming unable to meet its contractual and contingent financial obligations as they arise or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets and liabilities. The risk arises as a result of the business activities undertaken by the entity, and is primarily driven by secured funding outflows, intraday risk contingent outflows related to derivatives, outflows from third party client deposits and a drawdown of commitments.

The primary Liquidity Risk Strategy of J.P. Morgan SE is to ensure that the entity has sufficient amount, adequate composition and tenor of funding to support its assets and liabilities, its core businesses can operate in support of client needs and that the entity can meet contractual and contingent obligations through normal economic cycles and during stress events.

Specifically, this is achieved by managing the liquidity surplus under an array of adverse scenarios, such that it never falls below a minimum required buffer. The minimum required buffer is managed against a risk appetite which is sized in relation to the risk bearing capacity of the entity i. e. the capacity to support ordinary business without having to implement recovery measures.

J.P. Morgan SE may be exposed to concentration risk as it pertains to major sources of funding and liquidity, e. g. deposits. The materiality of this risk is considered at a specific client, counterparty and / or sector level, as part of a quarterly sensitivity analysis of liquidity assumptions.

The J.P. Morgan SE Management Board has ultimate responsibility for liquidity and associated risks within the entity. The Management Board reviews and establishes an appropriate level of liquidity risk appetite. The latter steers risk taking and deployment of liquidity in order to execute the business strategy and continue to service reasonable client demands throughout ordinary and stressed but plausible market environments, whilst exceeding minimum regulatory liquidity requirements. The Management Board also reviews and approves the entity's liquidity risk management framework.

J.P. Morgan SE has an established liquidity management framework. The primary objectives of effective liquidity management are to ensure that J.P. Morgan SE is able to operate in support of client needs, meet contractual and contingent obligations, to manage an optimal funding mix, and availability of liquidity sources, including under stressed conditions.

Liquidity risk management
The entity's Asset and Liability Management Risk Team provides independent oversight of liquidity risk, including the assessment, analysis, monitoring, and control of liquidity risk across the entity.

The team's responsibilities include:

- Defining, monitoring and reporting liquidity risk metrics;
- Independently establishing and monitoring limits and indicators, including liquidity risk appetite;
- Developing a process to classify, monitor and report limit breaches;
- Performing independent reviews of liquidity risk management processes;
- Monitoring and reporting internal liquidity stress tests, regulatory defined metrics as well as liquidity positions, balance sheet variances and funding activities; and
- Approving or escalating for review new or updated liquidity stress assumptions.

J.P. Morgan SE's Liquidity Risk Management Framework outlines the key liquidity risk measurement metrics, and describes specific liquidity risk governance, reporting and monitoring protocols. Further, it delineates roles and responsibilities among the relevant committees, and outlines limit and escalation procedures. The limits and indicators defined under the framework are set with the purpose to ensure an appropriate liquidity buffer such that unexpected reductions in the liquidity surplus do not result in a breach of minimum requirements (both regulatory and internal).

Liquidity management

The J.P. Morgan SE Treasurer is responsible for liquidity management in J.P. Morgan SE. The primary objectives of effective liquidity management are to:

- Ensure that the core businesses are able to operate in support of client needs and meet contractual and contingent financial obligations through normal economic cycles as well as during stress events;
- Manage an optimal funding mix and availability of liquidity sources.

J.P. Morgan SE achieves these objectives through:

- Analyzing and understanding the liquidity characteristics of assets and liabilities, taking into account legal, regulatory, and operational restrictions;
- Developing internal liquidity stress testing assumptions
- Defining and monitoring liquidity strategies, policies, reporting and contingency funding plans;
- Managing liquidity within approved liquidity risk appetite tolerances and limits;
- Managing compliance with regulatory requirements related to funding and liquidity risk; and
- Setting transfer pricing in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items.

As part of the overall liquidity management strategy, liquidity and funding are managed using a centralized, global approach in order to:

- Optimize liquidity sources and uses;
- Monitor exposures;
- Identify constraints on the transfer of liquidity between J.P. Morgan SE and other legal entities of the Firm; and
- Maintain the appropriate amount of surplus liquidity.

The primary liquidity requirements applicable to J.P. Morgan SE are set out in the directly applicable EU legislation, principally Commission Delegated Regulation 2015/61.

The Liquidity Coverage Ratio ("LCR") is intended to measure the amount of high quality liquid assets ("HQLA") held by J.P. Morgan SE in relation to estimated net liquidity outflows within a 30 calendar day stress period. As of 2022 year-end, J.P. Morgan SE was compliant with the LCR requirement.

The EBA Net Stable Funding Ratio (NSFR) framework was introduced in the EU as a binding liquidity standard on June 28, 2021 as set out in CRR II legislation. NSFR aims at reducing funding risk over a longer time horizon by requiring financial institutions to fund their activities with sufficiently stable sources of funding; NSFR is expressed as a ratio defined as available stable funding (ASF) divided by required stable funding (RSF).

Key ratios monitored for liquidity risk are:

As of Year-End	2022	2021	2020
Liquidity Coverage Ratio	157 %	341 %	147 %
Net Stable Funding Ratio	150 %	153 %	–

Throughout the period of the Russia/Ukraine conflict, J.P. Morgan SE did not experience material impacts to its regulatory or internal liquidity metrics; in particular, there was no requirement for additional funding from the Firm.

Risk governance and measurement

The committees responsible for liquidity risk governance in J.P. Morgan SE include the J.P. Morgan SE Asset and Liability Committee ("J.P. Morgan SE ALCO") and the J.P. Morgan SE Risk Oversight Committee ("ROC").

The J.P. Morgan SE ALCO is responsible for overseeing J.P. Morgan SE's asset and liability management activities and the management of liquidity risk, balance sheet and interest rate risk and the oversight of liquidity risk and interest rate risk of J.P. Morgan SE; with a specific focus on balance sheet and funding management considerations. The J.P. Morgan SE ALCO includes representatives of both first and second lines of defense and is chaired by the J.P. Morgan SE Treasurer.

Intraday liquidity risk governance

Intraday liquidity risk is managed centrally using the intraday dashboard (IDL dashboard).

The IDL dashboard provides real-time transparency into activity at key central banks, financial market utilities and correspondent banks. The dashboard also includes real-time views into credit extended at a Firmwide level and at a detailed level for J.P. Morgan SE, and further provides various analytical capabilities on the historical data to help understand trends, averages, extremes and changes in standard deviation.

Automated alerts are generated in the IDL dashboard in the event that balances exceed an agreed target balance or should the daily net movement exceed an agreed tolerance. The target balances and movement tolerances are defined by Liquidity Risk Management ("LRM").

Intraday liquidity alerts may initiate a defined response involving collaboration from various teams representing mainly EMEA hub cash management, EMEA Treasury front office, LRM, impacted LOB, the Intraday Liquidity team and corresponding J.P. Morgan SE functions. The response process is designed to quickly understand the drivers of the liquidity alert and guide management into what action should be taken (if any) to restore liquidity. There are pre-approved actions to take in the event of limit breaches.

Internal stress testing

Liquidity stress tests are intended to ensure that J.P. Morgan SE retains sufficient liquidity under a variety of adverse scenarios, including scenarios analyzed as part of recovery and resolution planning. Stress scenarios are produced for JPMorgan Chase & Co. ("Parent Company") and the Firm's material legal entities – including J.P. Morgan SE – on a regular basis, and other stress tests are performed in response to specific market events or concerns. Liquidity stress tests take into consideration:

- Varying levels of access to unsecured and secured funding markets;
- Estimated non-contractual and contingent cash outflows;
- Considerations of credit rating downgrades;
- Collateral haircuts;

- Intraday requirements; and
- Potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

Liquidity outflow assumptions are modelled across a range of time horizons and currency dimensions and contemplate both market and idiosyncratic stress.

Results of stress tests are considered in the formulation of the entity's funding plan and assessment of its liquidity position ensuring sufficient liquidity and funding is available to comply with liquidity risk tolerances and minimum liquidity requirements where access to normal funding sources is disrupted.

Contingency funding plan

The JPM Group Contingency Funding Plan (CFP) together with the J.P. Morgan SE CFP Addendum sets out the strategies for addressing and managing liquidity resource needs during a liquidity stress event and incorporates liquidity risk limits, indicators and risk appetite tolerances that make up Liquidity Escalation Points (LEP). The CFP also identifies the alternative contingent funding and liquidity resources available to J.P. Morgan SE in a period of stress along with the respective J.P. Morgan SE function and Firm senior manager responsible for execution and decision-making.

Funding

Management believes that J.P. Morgan SE's unsecured and secured funding capacity is sufficient to meet its on- and off-balance sheet obligations.

J.P. Morgan SE funds its balance sheet through diverse sources of funding including stable deposits, secured and unsecured funding in the capital markets and stockholders' equity.

December 2022 €M	Not later than one month	Later than one month and not later than three months	Later than three months and not later than one year	Later than one year and not later than five years	Later than five years	Total
Assets						
Cash and balances at central banks	75,341	–	–	–	–	75,341
Loans and advances to banks	9,607	3	53	100	–	9,763
Loans and advances to customers	6,719	2,741	3,260	5,675	1,352	19,747
Securities purchased under agreements to resell or borrowed	52,950	8,999	2,737	1,097	461	66,244
Trading assets	198,812	958	1,653	9,226	9,735	220,384
Property and equipment	339	–	–	–	–	339
Intangible assets	29	–	–	–	–	29
Deferred tax assets	164	–	–	–	–	164
Current tax assets	118	–	–	–	–	118
Other assets	43,700	–	–	–	–	43,700
Total assets	**387,779**	**12,701**	**7,703**	**16,098**	**11,548**	**435,829**

December 2022 €M	Not later than one month	Later than one month and not later than three months	Later than three months and not later than one year	Later than one year and not later than five years	Later than five years	Total
Liabilities						
Deposits from banks	36,097	–	–	2,000	5,000	43,097
Deposits from customers	89,193	3,201	2,376	10	–	94,780
Securities sold under repurchase agreements or loaned	23,930	3,428	491	–	2	27,851
Trading liabilities	173,576	488	1,024	7,619	11,834	194,541
Financial liabilities designated at fair value through profit or loss	474	61	112	2,234	111	2,992
Provisions	87	–	–	–	–	87
Current tax liabilities	319	–	–	–	–	319
Other liabilities	33,292	–	–	–	–	33,292
Subordinated liabilities	–	–	–	–	15,171	15,171
Total liabilities	**356,968**	**7,178**	**4,003**	**11,863**	**32,118**	**412,130**

The majority of short-term funding transactions by way of deposits and securities loaned or sold under agreements to repurchase have short-dated maturities, typically less than one month. Trade creditors predominantly include unsettled trades, other liabilities include cash collateral received; both categories have short-dated maturities. Deposits from banks include unsecured Evergreen borrowing instruments with a maturity of greater one year. Financial liabilities held for trading include derivatives and short positions and are ordinarily classified as liabilities falling due within one year for the purpose of disclosure under IFRS 7 "Financial Instruments: Disclosures".

The tables above present the maturity details of financial assets and financial liabilities. Securities loaned or sold under agreements to repurchase, financial liabilities held for trading and financial liabilities designated at fair value through profit or loss have been disclosed at their fair values, consistent with how these financial liabilities are managed. Amounts greater than one year mainly relate to long-term deposits and subordinated liabilities which are measured at amortized cost.

Credit ratings

The cost and availability of financing are influenced by credit ratings. Reductions in these ratings could have an adverse effect on access to liquidity sources, increase the cost of funds, trigger additional collateral or funding requirements and decrease the number of investors and counterparties willing to lend to the Firm. The nature and magnitude of the impact of ratings downgrades depends on numerous contractual and behavioral factors, which the Firm believes are incorporated in its liquidity risk and stress testing metrics. J.P. Morgan SE believes that it maintains sufficient liquidity to withstand a potential decrease in funding capacity due to ratings downgrades.

6.5.5. Operational Risk

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes or systems, human factors, or external events impacting the Firm's or the entity's processes or systems. Operational Risk includes compliance, conduct, legal, and estimations and model risk.

Operational risk is inherent in the entity's activities and can manifest itself in various ways, including fraudulent acts, business disruptions (including those caused by extraordinary events beyond the control of the entity), cyberattacks, inappropriate employee behavior, failure to comply with applicable laws, rules and regulations, inappropriate model application or failure of vendors or other third party providers to perform in accordance with their agreements. Operational Risk Management attempts to manage operational risk at appropriate levels in light of the entity's financial position, the characteristics of its businesses, and the markets and regulatory environments in which it operates.

Operational Risk Management Framework

J.P. Morgan SE Compliance, Conduct and Operational Risk Management Framework (J.P. Morgan SE CCOR Management Framework) is designed to enable J.P. Morgan SE to govern, identify, measure, monitor and test, manage and report on the legal entity's operational risk.

Operational Risk Governance

The LOBs and Corporate are responsible for the management of operational risk. The Control Management Organization, which consists of control managers within each LOB and Corporate, is responsible for the day-to-day execution of the J.P. Morgan SE CCOR Management Framework.

The Frankfurt Location Operational Risk and Control Committee ("LORCC") receives reports on quality and stability of processes, addressing key operational risk issues, focusing on processes with control concerns, and overseeing control remediation.

The Firm's Global Chief Compliance Officer ("CCO") and Firmwide Risk Executive ("FRE") for operational risk and qualitative risk appetite is responsible for defining the CCOR Management Framework and establishing minimum standards for its execution. The LOB and Corporate aligned CCOR Lead Officers report to the Global CCO and FRE for operational risk and qualitative risk appetite and are independent of the respective businesses or functions they oversee. At J.P. Morgan SE, the Operational Risk Officer ("ORO") reports to the Chief Risk Officer ("CRO").

The Firm's CCOR Management Framework is included in the Risk Governance and Oversight Policy that is reviewed and approved by the Board Risk Committee. The J.P. Morgan SE CCOR Management Framework is reviewed and approved by the J.P. Morgan SE CCO and the ORO periodically.

New operational risk concerns and actual operational risk events are escalated, as required, to the LORCC, as well as other relevant governance bodies.

Operational Risk Identification

J.P. Morgan SE utilizes a structured risk and control self-assessment process that is executed by the LOBs and Corporate. As part of this process, the LOBs and Corporate evaluate the effectiveness of their control environment to assess where controls have failed, and to determine where remediation efforts may be required. J.P. Morgan SE's operational risk and compliance organization ("Operational Risk and Compliance") provides oversight and challenge to these evaluations and may also perform independent assessments of significant operational risk events and areas of concentrated or emerging risk.

Material Risk identification is facilitated by J.P. Morgan SE's Second Line of Defense (including J.P. Morgan SE's Operational Risk Management, "ORM") in conjunction with the relevant First Line subject matter experts.

Operational Risk Measurement

Operational Risk and Compliance performs an independent assessment of operational risks inherent within the LOBs and Corporate, which includes evaluating the effectiveness of the control environment and reporting the results to Risk Senior Management and the Management Board.

In addition, operational risks are assessed through quantitative means, including operational risk-based economic capital and estimation of operational risk losses under both baseline and stressed conditions.

J.P. Morgan SE measures its regulatory capital using the Basic Indicator Approach (BIA) while economic capital for operational risk is measured using an internal approach that leverages an operational risk scenario analysis framework.

As required under the Basel III capital framework, J.P. Morgan SE's operational risk-based capital methodology incorporates internal and external losses as well as management's view of tail risk captured through operational risk scenario analysis, and evaluation of key business environment and internal control metrics.

Operational risk scenarios focus on exceptional but plausible operational risk events which may or may not have previously impacted J.P. Morgan SE which include legal risk and regulatory fines. Such operational risk events result from inadequate or failed internal processes or systems, human factors, or due to external events. The scenario analysis process is an important tool for assessing the operational risk, providing a forward-looking view to the Management and Supervisory Board of potential future losses under stressed conditions based on the risk profile of J.P. Morgan SE.

The outputs from the scenario analysis process are used as an input into the Capital Model to derive the operational risk capital for J.P. Morgan SE.

In addition, J.P. Morgan SE considers the impact of stressed economic conditions on operational risk losses and develops a forward looking view of material operational risk events that may occur in a stressed environment.

J.P. Morgan SE's Operational Risk Measurement framework is utilized in calculating results for the Legal entity's ICAAP process.

Operational Risk Losses

In 2022, J.P. Morgan SE's risk profile has remained stable, and business activities reflect the growth of the entity through the merger in January.

As of December 31, 2022, operational risk losses show a net gain of approximately € 7 million. This is explained by a gain event in 2022 linked to a loss event in a pre-merger entity in December 2021, which was recovered post-merger in January 2022. The overall loss amount without this single event is circa € 1 million.

Operational Risk events[1] in €	31/12/2022	31/12/2021
Customer and Client Management	279,985	−14,119
Financial Reporting and Accounting	−586,323	0
Transaction Processing and Reporting (former Execution, Delivery and Process Management)	−7,305,069	1,970,653
Market Practices	3,154	4,447
Risk Management Failure	0	−90,504
Sales Practices	3,099	0
Other	877,882	1,268,443
Total	**−6,727,272**	**3,138,919**

[1] Losses incurred and provisions, less OpRisk-based gains and recoveries

Operational Risk Monitoring and Testing

The results of risk assessments performed by Operational Risk and Compliance are used in connection with their independent monitoring and testing compliance of the LOBs and Corporate with laws, rules and regulations. Through monitoring and testing, Operational Risk and Compliance independently identifies areas of heightened operational risk and tests the effectiveness of controls within the LOBs and Corporate.

J.P. Morgan SE's ORM is directly involved as required in monitoring and testing activities impacting J.P. Morgan SE and leverages the subject matter expertise of LOB and Corporate ORM and the central Second Line of Defense testing team as required.

Management of Operational Risk

The operational risk areas or issues identified through monitoring and testing are escalated to the LOBs and Corporate to be remediated through action plans, as needed, to mitigate operational risk. Operational Risk and Compliance may advise the LOBs and Corporate in the development and implementation of action plans.

Operational Risk Reporting

All employees of J.P. Morgan SE are expected to escalate risks appropriately. Risks identified by Operational Risk and Compliance are escalated to the J.P. Morgan SE Risk Oversight Committee (ROC) and the LORCC, as needed.

Operational Risk and Compliance has established standards designed to ensure that consistent operational risk reporting and operational risk reports are produced on an entity-wide basis as well as by the LOBs and Corporate.

Reporting includes the evaluation of key risk and performance indicators against established thresholds as well as the assessment of different types of operational risk against stated risk appetite. The standards reinforce escalation protocols to J.P. Morgan SE Management Board and Supervisory Board.

Subcategories and examples of operational risks

Operational Risk can manifest itself in various ways. Operational risk subcategories include Compliance risk, Conduct risk, Legal risk, and Estimations and Model risk.

War in Ukraine and Sanctions

In response to the war in Ukraine, numerous financial and economic sanctions have been imposed on Russia and Russia-associated entities and individuals by various governments around the world, including the authorities in the U.S., U.K. and EU. These sanctions are complex and continue to evolve. J.P. Morgan SE continues to face increased operational risk associated with maintaining these complex compliance-related areas. To manage this increased risk, J.P. Morgan SE has implemented controls reasonably designed to mitigate the risk of non-compliance and to prevent dealing with sanctioned persons or in property subject to sanctions, as well as to block or restrict.

Cybersecurity Risk

Cybersecurity risk is the risk of the Firm's exposure to harm or loss resulting from misuse or abuse of technology by malicious actors. Cybersecurity risk is an important and continuously evolving focus for the Firm and J.P. Morgan SE. Third parties with which the Firm and J.P. Morgan SE do business or that facilitate business activities (e.g., vendors, supply chains, exchanges, clearing houses, central depositories, and financial intermediaries) are also sources of cybersecurity risk. As with other aspects of technology, J.P. Morgan SE outsources day-to-day operation of its Cybersecurity controls to the Firm. To protect the confidentiality, integrity and availability of the

Firm's infrastructure, resources and information, the Firm maintains a Cybersecurity program designed to prevent, detect, and respond to cyberattacks. J.P. Morgan SE leverages the program. The Firm continues to make significant investments in enhancing its cyberdefense capabilities and to strengthen its partnerships with the appropriate government and law enforcement agencies and other businesses in order to understand the full spectrum of cybersecurity risks in the operating environment, enhance defenses and improve resiliency against cybersecurity threats.

The Cybersecurity and Technology Controls (CTC) function is responsible for governance and oversight of the Firm's Information Security Program. In partnership with the Firm's LOBs and Corporate Functions, the CTC organization identifies information security risk issues and oversees programs for the technological protection of the Firm's information resources including applications, infrastructure as well as confidential and personal information related to the Firm's employees and customers. The Firmwide CTC organization is represented locally through a dedicated team which provides governance, oversight and local coordination of Cybersecurity-related topics for J.P. Morgan SE.

J.P. Morgan SE CTC manages and monitors a set of entity-specific controls and metrics to ensure appropriate ongoing monitoring, oversight and awareness of Cybersecurity-related risks.

The Firm's enterprise-wide cyber risk management framework includes an independent risk management function that provides assurance that the cyber risk management framework is implemented as intended. The Risk Governance and Oversight Policy outlines that the Firm's risk governance operates by means of Three Lines of Defense. The Lines of Business (LOBs), inclusive of Treasury, CIO and LOB aligned Operations, Technology and Control Management groups, are considered the First Line of Defense. Independent risk management (IRM) is independent of the LOBs and is the Second Line of Defense. Internal Audit operates independently from other parts of the Firm and is the Third Line of Defense. The IRM function sets and oversees various standards for the risk governance framework, including risk policy, identification, measurement, assessment, testing, limit setting, monitoring and reporting, and conducts independent challenge of adherence to such standards. J.P. Morgan SE Technology and Cybersecurity ORM (Operational Risk Management) team, as part of the IRM, also includes the regulated role of the Information Security Officer (ISO).

The Firm's incident response plan identifies requirements for the remediation of any identified weaknesses in systems and associated controls. The Cybersecurity Incident Management process is a centralized process utilized for cybersecurity incidents that require escalated engagement in alignment with the Security Incident Management standard and the Cybersecurity Incident Management Playbook. J.P. Morgan SE also has its own Cybersecurity Incident Management Playbook which aligns with Firmwide processes.

Third party cybersecurity incidents such as system breakdowns or failures, misconduct by the employees of such parties, or cyberattacks, including ransomware and supply-chain compromises, could affect their ability to deliver a product or service to the Firm or result in lost or compromised information of the Firm or its clients. Clients are also sources of cybersecurity risk to the Firm and its information assets, particularly when their activities and systems are beyond the Firm's own security and control systems. As a result, the Firm engages in regular and ongoing discussions with certain vendors and clients regarding cybersecurity risks and

opportunities to improve security. However, where cybersecurity incidents occur as a result of client failures to maintain the security of their own systems and processes, clients are responsible for losses incurred.

The Firm periodically reviews response strategy and exercises and updates them as necessary, based on lessons learned, threat intelligence, attack simulations and other sources.

Business and Technology Resiliency Risk

Disruptions can occur due to forces beyond J.P. Morgan SE's control such as the spread of infectious diseases or pandemics, severe weather, power or telecommunications loss, failure of a third party to provide expected services, cyberattacks and terrorism.

The Firmwide Business Resiliency Program, which J.P. Morgan SE leverages, is designed to enable the Firm to prepare for, adapt to, withstand and recover from business disruptions including occurrence of an extraordinary event beyond its control that may impact critical business functions and supporting assets (i. e., staff, technology, facilities and third parties).

The program includes governance, awareness training, planning and testing of recovery strategies, as well as strategic and tactical initiatives to identify, assess, and manage business interruption and public safety risks.

Payment Fraud Risk

Payment fraud risk is the risk of external and internal parties unlawfully obtaining personal monetary benefit through misdirected or otherwise improper payment. In 2022, Payment fraud risk associated with J.P. Morgan SE was heightened due to a rise in client escalated fraud cases impacting client assets. The Firm and J.P. Morgan SE continue to employ various controls for managing payment fraud risk as well as providing employee and client education and awareness training. JPM Payments anomalous transaction detection capabilities for potential fraudulent transactions are currently in place in J.P. Morgan SE for high-value payments utilizing the Firmwide strategic platform Global Payment Guardian and IPAY for low-value payments. IPAY screened transactions will migrate to the strategic solution which is planned in Q3 2023 in order to enhance the automated fraud screening processes for low-value payment flows.

Third-party Outsourcing Risk

The Firm's Third-Party Oversight ("TPO") and Inter-Affiliates Oversight ("IAO") framework assists J.P. Morgan SE in selecting, documenting, onboarding, monitoring and managing their supplier relationships including services provided by affiliates. The objectives of the TPO framework are to hold suppliers and other third party providers to a high level of operational performance and to mitigate key risks, including data loss and business disruptions. The Corporate Third-Party Oversight group is responsible for Firmwide training, monitoring, reporting and standards. J.P. Morgan SE governs third-party outsourcing risk through a centralized outsourcing management function which directly reports to the Head of Outsourcing, Operations & Technology.

Compliance Risk

Compliance risk, a subcategory of operational risk, is the risk of failing to comply with laws, rules, regulations or codes of conduct and standards of self-regulatory organizations.

Each of the LOBs and Corporate within J.P. Morgan SE holds primary ownership and accountability for managing their compliance risks. The operational risk and compliance organization ("Operational Risk and Compliance"), which are independent of the LOBs and Corporate, provide independent

review, monitoring and oversight of business operations with a focus on compliance with the laws, rules and regulations obligations applicable to the offering of the Firm's products and services to clients and customers.

These compliance risks relate to a wide variety of laws, rules and regulations obligations varying across the LOBs and Corporate, and jurisdictions, and include risks related to financial products and services, relationships and interactions with clients and customers, and employee activities. For example, compliance risks include those associated with anti-money laundering compliance, trading activities, market conduct, and complying with the laws, rules and regulations related to the offering of products and services across jurisdictional borders. Compliance risk is inherent in the Firm's and the entity's fiduciary activities, including the failure to exercise the applicable standard of care, to act in the best interest of fiduciary clients and customers or to treat clients and customers fairly.

Other functions provide oversight of significant regulatory obligations that are specific to their respective areas of responsibility.

Operational Risk Management and compliance implement policies and standards designed to govern, identify, measure, monitor and test, manage, and report compliance risk.

Governance and oversight

Compliance is led by the J.P. Morgan SE Chief Compliance Officer ("CCO") who reports to the entity's CRO. The entity maintains oversight and coordination of its compliance risk through the implementation of the CCOR Framework. The entity's CCO and ORO also provide regular updates to the Management Board and the Risk Committee of the Supervisory Board, on significant compliance risk issues, as appropriate.

Code of Conduct

The Firm has a Code of Conduct (the "Code"). This relates equally to the employees of J.P. Morgan SE and sets out the expectation that employees will conduct themselves with integrity at all times and provides the principles that govern employee conduct with clients, customers, shareholders and one another, as well as with the markets and communities in which the entity does business. The Code requires employees to promptly report any potential or actual violation of the Code, any internal Firm policy, or any law or regulation applicable to the Firm's business. It also requires employees to report any illegal conduct or conduct that violates the underlying principles of the Code, by any of the Firm's employees, clients, customers, suppliers, contract workers, business partners, or agents.

Code training is assigned to all newly hired employees upon joining J.P. Morgan SE and to current employees periodically on an ongoing basis. Employees are required to affirm their compliance with the Code at least annually. Employees can report any potential or actual violations of the Code through the Conduct Hotline by phone or the internet. The Hotline is anonymous and is available at all times globally, with translation services. It is administered by an outside service provider. The Code prohibits retaliation against anyone who raises an issue or concern in good faith. Periodically, the Audit Committee receives reports on the Code of Conduct program.

Conduct Risk

Conduct risk, a subcategory of operational risk, is the risk that any action or misconduct by an employee or employees could lead to unfair client or customer outcomes, impact the integrity of the markets in which the entity operates, harm employees or the Firm, or compromise the entity's and the Firm's reputation.

Overview

Each LOB and Corporate is accountable for identifying and managing its conduct risk to provide appropriate engagement, ownership and sustainability of a culture consistent with the Firm's How We Do Business Principles (the "Principles"). The Principles serve as a guide for how employees are expected to conduct themselves. With the Principles serving as a guide, the Firm's Code sets out the Firm's expectations for each employee and provides information and resources to help employees conduct business ethically and in compliance with the applicable law everywhere the entity operates. Further information about the Code can be found in the previous section on Compliance Risk.

Governance and oversight

The Conduct Risk Program is governed by the CCOR Management policy, which establishes the framework for governance, identification, measurement, monitoring and testing, management and reporting of conduct risk in the Firm and the entity. J.P. Morgan SE adopted this framework.

Conduct risk management encompasses various aspects of people management practices throughout the employee life cycle, including recruiting, onboarding, training and development, performance management, promotion and compensation processes. Each LOB, Treasury and CIO, and each designated Corporate completes an assessment of conduct risk periodically, reviews metrics and issues which may involve conduct risk and provides conduct education as appropriate.

Legal Risk

Legal risk, a subcategory of operational risk, is the risk of loss primarily caused by the actual or alleged failure to meet legal obligations that arise from the rule of law in jurisdictions in which J.P. Morgan SE operates, agreements with clients and customers, and products and services offered by J.P. Morgan SE.

Overview

The Legal function ("Legal") provides legal services and advice. Legal is responsible for managing J.P. Morgan SE's exposure to legal risk by:

- Managing actual and potential litigation and enforcement matters, including internal reviews and investigations related to such matters;
- Advising on products and services, including contract negotiation and documentation;
- Advising on offering and marketing documents and new business initiatives;
- Managing dispute resolution;
- Interpreting existing laws, rules and regulations, and advising on changes to them;
- Advising on advocacy in connection with contemplated and proposed laws, rules and regulations; and
- Providing legal advice to the LOBs and Corporate including their Operations, Technology and Oversight & Control functions (First Line of Defense), Risk Management and Compliance (Second Line of Defense), Internal Audit (Third Line of Defense) and Management Board.

Legal selects, engages and manages outside counsel on all matters in which outside counsel is engaged. In addition, Legal advises the Conflicts Office which reviews the Firm's and J.P. Morgan SE's wholesale transactions that may have the potential to create conflicts of interest for the Firm and the entity.

Governance and oversight

The Head of Legal of J.P. Morgan SE reports to the CEO. The entity's Head of Legal and other members of Legal regularly report on significant legal matters to the Management Board.

6.5.6. Estimations and Model Risk

Risk definition

Estimations and Model risk, a subcategory of operational risk, is the potential for adverse consequences from decisions based on incorrect or misused estimation outputs.

Risk profile

J.P. Morgan SE uses models and other analytical and judgment-based estimations across various businesses and functions. The estimation methods are of varying levels of sophistication and are used for many purposes, such as the valuation of positions and measurement of risk, assessing regulatory capital requirements, conducting stress testing, evaluating the allowance for credit losses and making business decisions. As estimations are simplified representations of real-world relationships, their use presents risk due to possible flaws in their methodology and numerical routines, inputs and assumptions, implementation, use, or relationships between interdependent estimations. Estimations are tiered based on complexity, exposure and reliance to provide an indicator of the potential risk posed by the estimation: with Tier 1 posing the highest risk and Tier 4 the lowest.

Risk management objectives

J.P. Morgan SE's model risk management objectives are to identify, monitor, measure where possible and manage model risk. To this end, model risk policies and procedures mandate the following:

- Robust review of models in order to identify model risks;
- Ensure compensating controls are considered where necessary;
- Perform ongoing performance monitoring of models to ensure that they continue to perform throughout their life; and
- Ensure all models are adequately documented and tested.

Approach to risk management

The J.P. Morgan SE Model Risk Governance Framework is set out in the J.P. Morgan SE Estimations and Model Risk Management Policy and Procedure and follows the same principles and guidelines as laid out in the Firmwide Framework.

Managing model risk throughout the model life cycle is the responsibility of multiple constituents, principally the model users, model developers, model owners, and the Model Risk Governance and Review Group ("MRGR"). The J.P. Morgan SE Estimations Risk Committee (SEERC), a sub-committee of the J.P. Morgan SE ROC, is responsible for the oversight of the model risk and implementation of the model risk framework for the entity.

Model risks are owned by the users of the models within J.P. Morgan SE based on the specific purposes of such models. Users and developers of models are responsible for developing, implementing and testing their models, as well as referring models to the MRGR for review and approval. Once models have been approved, model users and developers are responsible for maintaining a robust operating environment, and must monitor and evaluate the performance of the models on an ongoing basis. Model users and developers may seek to enhance models in response to changes in the portfolios and in product and market developments, as well as to capture improvements in available modelling techniques and systems capabilities. Model users within J.P. Morgan SE are responsible for ensuring that any model they use is captured both in the Firmwide inventory and in the J.P. Morgan SE inventory and for abiding by the scope and other conditions of the model's approval on an ongoing basis.

The MRGR within J.P. Morgan SE is an independent function reporting directly to the J.P. Morgan SE CRO, which is staffed with personnel to assess model risk independently from model

developers and model users. MRGR resources from other JPM entities support J.P. Morgan SE MRGR, subject to appropriate outsourcing arrangements and oversight. The MRGR defines and governs J.P. Morgan SE's policies relating to the management of model risk and risk associated with certain analytical and judgment-based estimations, such as those used in risk management, budget forecasting and capital planning and analysis. In its review of a model, the MRGR considers whether the model is suitable for the specific purposes for which it will be used. The model tiering is also subject to the MRGR's approval. When reviewing a model, the MRGR analyzes and challenges the model methodology and the reasonableness of model assumptions and may perform or require additional testing, including back-testing of model outcomes. Model reviews are approved by the appropriate level of management within the MRGR based on the relevant model tier.

Under the J.P. Morgan SE Estimations and Model Risk Management Policy, the MRGR reviews and approves new models, as well as material changes to existing models, prior to their use. In certain circumstances exceptions may be granted to the policy to allow a model to be used prior to review or approval. The MRGR may also require the user to take appropriate actions to mitigate the model risk if it is to be used in the interim. These actions will depend on the model and may include, for example, limitation of trading activity.

While models are inherently imprecise, the degree of imprecision or uncertainty can be heightened by the market or economic environment. This is particularly true when the current and forecasted environments are significantly different from the historical macroeconomic environments upon which the models were developed, as the Firm experienced during the early stages of the COVID-19 pandemic. This increased uncertainty may necessitate a greater degree of judgment and analytics to inform any adjustments that the Firm may make to model outputs than would otherwise be the case.

6.5.7. Capital Risk

Capital risk is the risk that J.P. Morgan SE has an insufficient level or composition of capital to support its business activities and associated risks during both normal economic environments and under stressed conditions.

A strong capital position is essential to J.P. Morgan SE's business strategy and competitive position. J.P. Morgan SE's capital risk management strategy focuses on maintaining long-term stability to enable it to build and invest in market-leading businesses, even in a highly stressed environment. Prior to making any decisions that could impact future business activities, the Management Board considers the implications on J.P. Morgan SE's capital.

Capital Risk Management

J.P. Morgan SE has a dedicated Capital Risk Management function, within its Risk Management function, whose primary objective is to provide independent oversight of capital risk across the entity. Capital Risk Management's responsibilities include, but are not limited to:

- Defining, monitoring and reporting capital risk metrics;
- Establishing, calibrating and monitoring capital risk limits and indicators, including capital risk appetite;
- Developing a process to classify, monitor and report capital limit breaches;
- Performing an assessment of the entity's capital management activities, including changes made to the Contingency Capital Plan (CCP) described below; and
- Conducting assessments of the Firm's regulatory capital framework to ensure compliance with applicable capital rules.

The framework used to manage capital risks within the entity is defined in J.P. Morgan SE's Capital Risk Management Framework. It is based around a regular cycle of point-in-time capital adequacy assessments, monitoring and reporting, supplemented by forward-looking projections and stress-testing, with corrective action taken when required to maintain an appropriate level of capitalization.

Through this process, key capital risk metrics such as capital ratios, leverage ratios, MREL requirements, Risk-weighted Assets (RWA) and capital utilization in the ICAAP economic perspective are calculated and monitored to ensure that minimum regulatory requirements as well as internally set limits and indicators defined in the framework are not breached. Each part of the process is subject to rigorous controls, including capital adequacy reporting at daily, weekly, monthly and quarterly frequencies to ensure appropriate oversight, in line with the Capital Risk Management Framework. The escalation of breaches of defined limits and indicators is also driven by this framework.

Capital Management

The Management Board is responsible for capital management. The primary objective of J.P. Morgan SE's capital management is to hold sufficient capital to:

- Support risks underlying business activities with a view of preserving capital strength;
- Meet and exceed minimum regulatory requirements on capital;
- Continue to build and invest in business activities through normal and stressed environments;
- Retain flexibility to take advantage of future investment opportunities; and
- Ensure continued operation in the event of the parent company stress or resolution.

The J.P. Morgan SE Management Board receives regular updates on the capital position and projections and has oversight of decisions related to capital usage and capital strategy.

Capital planning and stress testing

The quarterly ICAAP aims to ensure that J.P. Morgan SE is adequately capitalized in relation to its risk profile and risk appetite through the economic cycle and under a range of severe but plausible stress scenarios. The quarterly ICAAP results are reviewed by the ICAAP Steering Committee, the Risk Oversight Committee and the J.P. Morgan SE Management Board.

Contingency Capital Plan

J.P. Morgan SE's contingency capital plan specifies the principles underlying the entity's approach towards capital management in normal economic conditions and during periods of stress. The contingency capital plan defines how J.P. Morgan SE calibrates its targeted capital levels and meets minimum capital requirements, monitors the ongoing appropriateness of planned capital distributions, where applicable, and sets out the capital contingency actions that are expected to be taken or considered at various levels of capital depletion during a period of stress.

Capital Requirements

Throughout 2022, J.P. Morgan SE remained above the various regulatory minimum capital requirements.

Own Funds Regulatory Requirements

The minimum risk-based regulatory capital requirements increased overall between December 2021 and December 2022. As an Other Systemic Important institution (O-SII), J.P. Morgan SE's assigned O-SII buffer increased by 50 bps in 2022 to 0.75 % from 0.25 % in the prior year. The countercyclical buffer (CCyB) for J.P. Morgan SE also increased slightly

by 3 bps. Both these changes in turn led to an increase in the Combined Buffer Requirement (CBR) in 2022.

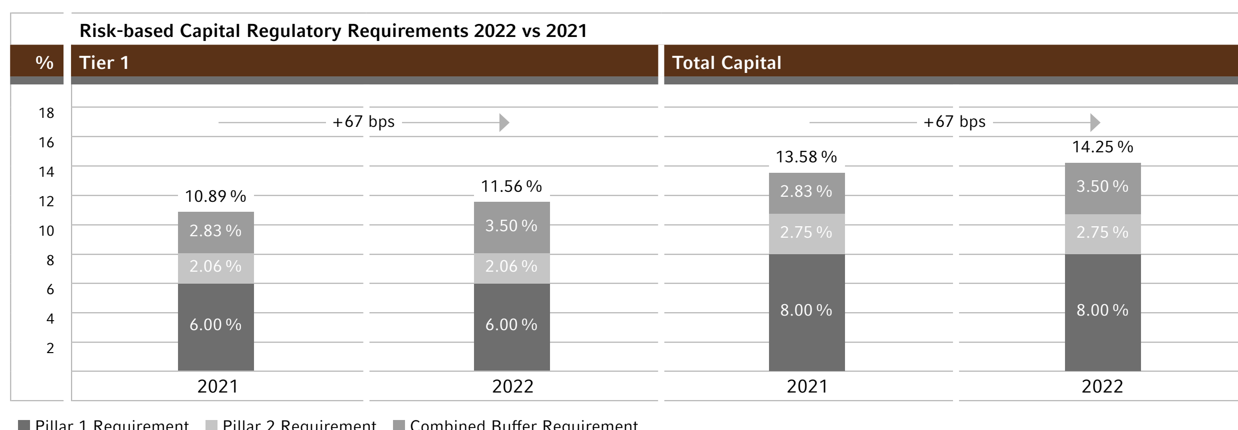
In addition to the above requirements, the ECB had communicated to J.P. Morgan SE in December 2021 an individual expectation to hold a further Pillar 2 capital add-on commonly known as the Pillar 2 Guidance (P2G) which must be met entirely with CET1 capital. Although not legally binding, the ECB expects J.P. Morgan SE to meet the P2G requirements. Failure to meet the P2G requirement does not lead to automatic supervisory measures such as restrictions of capital distributions or incentive compensation. This led to a further increase in the regulatory minimum in 2022 on account of this P2G requirement.

The chart below shows the minimum Tier 1 and Total capital requirements, excluding P2G, J.P. Morgan SE had to comply with as at December 2022 in comparison to December 2021.

The non-risk-based leverage ratio is intended to act as a supplementary measure to the risk-based capital requirements. Its objectives are to constrain the build-up of leverage in the banking sector and to reinforce the risk-based requirements with a simple, non-risk-based "backstop" measure. A minimum leverage ratio requirement of 3.0 % was introduced effective starting June 28, 2021, according to the CRR/CRD framework.

Minimum Requirement for own funds and Eligible Liabilities (MREL) Regulatory Requirements

The Minimum Requirement for own funds and Eligible Liabilities (MREL) represents the minimum amount of own funds and eligible liabilities that an entity is required to maintain so that it can absorb losses and have sufficient recapitalization capacity in the event of a resolution. The MREL requirements are set by the Resolution Authority and consist of an RWA-based requirement (MREL-RWA) and a leverage exposure-based requirement (MREL-LRE). Both requirements consist of the sum of a loss absorption amount (LAA) and a recapitalization amount (RCA) and must be met in parallel. These requirements can be met with own funds and/or eligible liabilities (i.e. bail-inable liabilities meeting certain eligibility requirements).



Given J.P. Morgan SE currently meets its MREL requirements solely with own funds (i.e. Tier 1 and Tier 2 capital), MREL-RWA has been the most binding constraint on capital since January 2022, when the MREL requirements under the Bank Recovery and Resolution Directive II (BRRD II) took effect, with a minimum requirement amounting to 26.72 % of total RWAs. For leverage, the most binding MREL constraint is under the Capital Requirements Regulation II (CRR II) rules and corresponds to the leverage exposure based internal Total Loss Absorbing Capacity (iTLAC Leverage Ratio) of 6.08 % of total Leverage Exposure.

Regulatory Capital and Ratios

Total regulatory capital for J.P. Morgan SE as of December 31, 2022 amounted to € 36.5 billion compared to € 25.0 billion at the end of December 31, 2021. The increase of € 11.5 billion was driven by a € 9.0 billion (€ 5.9 billion CET1 and € 3.1 billion Tier 2) increase resulting from the completion of the merger of J.P Morgan AG, J.P. Morgan Bank Luxembourg and J. P. Morgan Bank (Ireland) plc into a single pan-European entity, J.P. Morgan SE in January 2022 as well as retained earnings from 2021, and € 2.5 billion Tier 2 (T2) issuance in December 2022. Tier 1 capital as of December 31, 2022 amounted to € 21.3 billion, consisting entirely of Common Equity Tier 1 (CET1) capital.

Tier 1 capital ratio increased to 19.7 % from 17.2 % in the prior year primarily driven by the increase in CET1 capital resources as mentioned above.

Leverage Ratio decreased to 6.0 % from 7.5 % in the prior year primarily driven by the expiration of the COVID-19 relief measure in Q1 2022 whereby cash placed with central banks was exempted from the leverage exposure calculation, resulting in an increase in leverage exposure.

Throughout the year 2022, regulatory capital ratios and leverage ratio were comfortably above minimum requirements and internal targets. The following table shows the RWAs and capital ratio development from 2021 to 2022. Total Risk Weighted Assets increased by € 18.0 billion YoY driven by the merger and the increased market volatility in 2022.

During 2022, J.P. Morgan SE was mostly constrained by the MREL-RWA ratio, its most binding constraint, but remained above the minimum regulatory requirements. To enhance MREL capacity, J.P. Morgan SE's management took a number of actions including risk shifts, short- and long-term RWA optimization actions, as well as the aforementioned € 2.5 billion T2 issuance in December 2022.

Overall, the RWA-based MREL regulatory requirements increased by € 13.5 billion YoY driven by higher RWAs and the BRRD II requirements that came into effect in January 2022 which are more punitive than the corresponding requirements under CRR 2. The leverage-based MREL regulatory requirements also increased by € 10.4 billion YoY on increased leverage exposure resulting from the aforementioned expiration of the COVID-19 relief measures in Q1 2022. Despite these increases in the MREL requirements, J.P. Morgan SE has maintained a surplus on MREL given the increase in MREL eligible resources attributed to the merger and the T2 issuance.

6.5.8. Business Risk

J.P. Morgan SE defines business risk as the risk associated with J.P. Morgan SE's current and future business plans and objectives. Business risk includes the risk to current or anticipated earnings, capital, liquidity, enterprise value, or J.P. Morgan SE's reputation arising from adverse business decisions, poor implementation of business decisions, or lack of responsiveness to changes in the industry or external environment.

€M	31/12/2022	31/12/2021
		Actuals
Credit Risk (incl. Counterparty Credit Risk)[1]	59,657	47,829
CVA	4,368	5,259
Market Risk	36,010	32,244
Operational Risk	7,805	4,513
Total Risk Weighted Assets	**107,840**	**89,845**
Total Pillar 1 Requirement	8,627	7,188
P2R and Combined Buffer Requirements	6,742	5,009
Total Own Funds Requirement	**15,370**	**12,197**
Total CET1/Tier 1	**21,280**	**15,425**
Total Tier 2	**15,171**	**9,540**
Total Capital Resources	**36,451**	**24,965**
CET1/Tier 1 Capital Ratio	19.7 %	17.2 %
Total Capital Ratio	33.8 %	27.8 %
Leverage Ratio	6.0 %	7.5 %

[1] Includes securitizations, settlement risk and Other risk exposure amounts.

€M	31/12/2022	31/12/2021
		Actuals
MREL eligible resources	36,451	24,965
Regulatory MREL requirements (RWA-based)	28,990	15,476
Regulatory MREL requirements (LRE-based)	21,539	11,096
MREL surplus (+)/shortage (–) with respect to most binding requirement	**7,637**	**9,489**
Regulatory MREL requirements (RWA-based) in %	26.88 %	17.23 %
Regulatory MREL requirements (LRE-based) in %	6.08 %	5.40 %

The risk is driven by a combination of factors (internal and external) where unexpected changes could adversely impact the ability of the LOBs to successfully implement their business strategies and meet their targets. A regular comparison of the actuals with the plan, which might result in adjustments if necessary, should minimize such deviations.

The business risk quantification process determines an adverse view on the planned P&L by estimating adverse effects on P&L items. The methodology uses historically observed absolute (weighted) deviations between planned and actual P&L figures and computes business risk factors by determining the 99.9th quantile from the empirical distribution. The business risk factors include a 5 % add-on and are applied to the current P&L plan to obtain an estimate of the economic capital requirement for business risk over a 1-year horizon. This economic capital requirement for business risk results together with the other economic risk categories in the total economic capital requirement of J.P. Morgan SE.

The Risk Strategy of J.P. Morgan SE aims to minimize business risks through oversight and control processes. This is reflected in the J.P. Morgan SE Business Strategy 2023–2025. This strategy for managing Business Risk in J.P. Morgan SE takes account of the range of uncertainties that can impact on key planning assumptions and can lead to deviations between planned and actual results. It is the role of the J.P. Morgan SE Management Board to review business results and address any material deviations from the Business Plan and anticipated changes to the business profile that may require an update to the underlying assumptions.

6.5.9. Pension Risk

J.P. Morgan SE defines pension risk as the risk caused by contractual or other liabilities to, or with respect to, a pension scheme (whether established for its employees or those of a related company or otherwise). Pension risk is driven by market and demographic risk where the pension scheme may be unable to meet future expected benefit payments. Pension risk therefore represents the potential necessity for increased pension risk provisions.

J.P. Morgan SE manages pension risk with a dedicated pension governance framework. This includes regular reporting, a pension committee and a corresponding investment committee.

J.P. Morgan SE's pension schemes are exposed to significant falls in equity and/or other risky asset markets, decreases in real and/or nominal interest rates, and increases in inflation expectations and life expectancy, each of which, or in combination, could lead to a pension capital shortfall and consequent impact to J.P. Morgan SE's Profit and Loss.

Pension risk is quantified on the basis of a VaR model with a 99.9 % confidence level and a 1-year holding period, semi-annually evaluated by J.P. Morgan SE's pension administrator, and taken into account in a separate quantification. Should this VaR exceed the asset surplus of the pension fund, this amount will be deducted from the risk-bearing capacity.

6.6. RISKS MANIFESTING ACROSS VARIOUS RISK TYPES

6.6.1. Country Risk

J.P. Morgan SE, through its LOBs and Corporate functions, may be exposed to country risk resulting from financial, economic, political or other significant developments which adversely affect the value of the entity's exposures related to a particular country or set of countries.

J.P. Morgan SE's approach to country risk management mirrors the Firmwide approach and is complemented by country-specific guidelines for exposure and stress. Entity specific thresholds for country risk are monitored monthly and reported to the Risk Oversight Committee and the Management Board.

Organization and Management

Country Risk Management is an independent risk management function that assesses, manages and monitors country risk and reports to the Firm's CRO. For J.P. Morgan SE, this group actively monitors the portfolio of the entity with the following activities:

- Maintaining policies, procedures and standards consistent with a comprehensive country risk framework;
- Assigning sovereign ratings, assessing country risks and establishing risk tolerance relative to a country;
- Measuring and monitoring country risk exposure and stress across the entity;
- Managing and approving country limits and reporting trends and limit breaches to the Management Board;
- Developing surveillance tools, such as signalling models and ratings indicators, for early identification of potential country risk concerns; and
- Providing country risk scenario analysis.

Sources and measurement

Country exposure includes activity with both government and private-sector entities in a country. Under the internal country risk management approach, attribution of exposure to a specific country is based on the country where the largest proportion of the assets of the counterparty, issuer, obligor or guarantor are located or where the largest proportion of its revenue is derived. This may be different from the domicile (i.e., legal residence) or country of incorporation of the counterparty, issuer, obligor or guarantor. Country exposures are generally measured by considering the risk to an immediate default of the counterparty, issuer, obligor or guarantor, with zero recovery. Assumptions are sometimes required in determining the measurement and allocation of country exposure, particularly in the case of certain non-linear or index exposures. The use of different measurement approaches or assumptions could affect the amount of reported country exposure.

Under the internal country risk measurement framework:

- Deposits with banks are measured as the cash balances placed with central banks, commercial banks, and other financial institutions;
- Lending exposures are measured at the total committed amount (funded and unfunded), net of the allowance for credit losses and eligible cash and marketable securities collateral received;
- Securities financing exposures are measured at their receivable balance, net of eligible collateral received;
- Debt and equity securities are measured at the fair value of all positions, including both long and short positions;
- Counterparty exposure on derivative receivables is measured at the derivative's fair value, net of the fair value of the eligible collateral received; and
- Credit derivatives exposure is measured at the net notional amount of protection purchased or sold, for the same underlying reference entity, inclusive of the fair value of the derivative receivable or payable reflecting the manner in which the Firm manages these exposures.

Some activities may create contingent or indirect exposure related to a country (for example, providing clearing services or secondary exposure to collateral on securities financing receivables). These exposures are managed in the normal course of business through the credit, market, and operational risk governance.

Stress testing
Stress testing is an important component of the country risk management framework, which aims to estimate and limit losses arising from a country crisis by measuring the impact of adverse asset price movements to a country based on market shocks combined with counterparty-specific assumptions.

Country Risk Management periodically designs and runs tailored stress scenarios to test vulnerabilities to individual countries or sets of countries in response to specific or potential market events, sector performance concerns, sovereign actions and geopolitical risks. These stress results are used to inform potential risk reduction, as necessary.

Risk reporting
To enable effective risk management of country risk to the Firm, country exposure and stress are measured and reported weekly, and used by Country Risk Management to identify trends, and monitor high usages and breaches against limits.

6.6.2. Reputation Risk

Reputation risk is the risk that an action or inaction may negatively impact perception of the Firm's integrity and reduce confidence in the Firm's competence by various constituents, including clients, counterparties, customers, investors, regulators, employees, communities or the broader public.

Organization and management
Reputation Risk Management establishes the governance framework for managing reputation risk across the Firm's LOBs and Corporate. Reputation risk is inherently challenging to identify, manage and quantify.

The Firm's reputation risk management function includes the following activities:

– Maintaining a Firmwide Reputation Risk Governance policy and a standard consistent with the reputation risk framework;
– Overseeing the governance execution through processes and infrastructure that support consistent identification, escalation, management and monitoring of reputation risk issues Firmwide.

The types of events that result in reputation risk are wide-ranging and may be introduced by the Firm's employees and the clients, customers, and counterparties with which the Firm does business. These events could result in financial losses, litigation, regulatory enforcement actions, fines, penalties and other sanctions as well as other harm to the Firm.

Governance and oversight
The Reputation Risk Governance policy establishes the principles for managing reputation risk for the Firm. J.P. Morgan SE has adopted the Firmwide Reputation Risk governance framework for the management of reputation risk within the entity. It is the responsibility of employees in each LOB and Corporate function to consider the reputation of the Firm when deciding whether to offer a new product, engage in a transaction or client relationship, enter a new jurisdiction, initiate a business process or consider any other activity. Environmental impacts and social concerns are increasingly important considerations in assessing the Firm's reputation risk, and are a component of the Firm's reputation risk governance.

6.6.3. Climate Risk

Climate risk is the risk associated with the impacts of climate change on the Firm's and J.P. Morgan SE's clients, customers, operations and business strategy. Climate change is viewed as a driver of risk that may impact existing types of risks managed by the Firm and J.P. Morgan SE. Climate risk is categorized into physical risk and transition risk.

Physical risk refers to economic costs and financial loss associated with a changing climate. Acute physical risk drivers include the increased frequency or severity of climate and weather events, such as floods, wildfires and tropical storms. Chronic physical risk drivers include more gradual shifts in the climate, such as rising sea levels, persistent changes in precipitation levels and increases in average ambient temperatures.

Transition risk refers to the financial and economic implications associated with a societal adjustment to a low-carbon economy. Transition risk drivers include possible changes in public policy, adoption of new technologies and shifts in consumer preferences. Transition risks may also be influenced by changes in the physical climate.

Organization and management

J.P. Morgan SE's approach to climate risk management is driven by the Firmwide Climate Risk Management Framework which sets the principles for climate risk management. For more information on the Firmwide Climate Risk Management Framework, please refer to the 2022 Climate Report[1].

The Firm has a Climate Risk Management function that is responsible for establishing the Firmwide framework and strategy for managing climate risk. The Climate Risk Management function engages across the Firm to help integrate climate risk considerations into existing risk management frameworks, as appropriate.

Climate Risk also includes the Global Environmental and Social Risk Management (GESRM) team, which is responsible for establishing the Firm's environmental and social ("E&S") risk standards that outline the approach for identification, escalation and management of transactions and activities that may present an increased E&S risk.

The LOBs and Corporate are responsible for the identification, assessment and management of climate risks present in their business activities and for adherence to applicable climate-related laws, rules and regulations.

J.P. Morgan SE Risk Management has established a dedicated setup for Climate and Environmental Risk management which reflects the principle that climate risk is a risk driver that is being integrated into existing risk types and is not being treated as a standalone risk type. Within the Chief Risk Office team (CRO team), a C&E Risk lead has been appointed with the task to manage the overall Climate and Environmental Risk delivery of the J.P. Morgan SE Risk function and to ensure the linkage to the Firmwide Climate and Environmental Risk teams. C&E Risk leads have been appointed across all risk stripes.

Governance and oversight

J.P. Morgan SE's approach to managing climate risk is consistent with the Legal Entities' risk governance structure. The LOBs and Corporate are responsible for integrating climate risk management into existing governance frameworks, or creating new governance frameworks, as appropriate. J.P. Morgan SE Risk Management is integrated into the legal entity governance structure. The C&E Risk lead or the head of the CRO team represent J.P. Morgan SE in all relevant Climate and Environmental Risk fora and committees within J.P. Morgan SE and in the Firm.

J.P. Morgan SE Risk Management has established a dedicated program for its Climate and Environmental Risk related deliverables ("C&E Risk Program") throughout 2022 and 2023 to align to the requirements of the ECB Guide on Climate and Environmental Risks. Program updates are reported within the program as well as through the wider J.P. Morgan SE governance. ROC, Management Board as well as the Supervisory Board are regularly updated on project progress as well as key deliverables.

[1] https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/documents/Climate-Report-2022.pdf

Risk Identification

J.P. Morgan SE is in the process to systematically integrate climate and environmental risks into its risk identification process, leveraging the Firmwide Risk Identification framework.

Scenario analysis and stress testing

J.P. Morgan SE uses internationally recognized scenarios from the Network for Greening the Financial System ("NGFS") and the Intergovernmental Panel on Climate Change ("IPCC") to inform scenario analysis and stress testing exercises that are designed to assess the range of potential climate-related financial and economic impacts to the legal entity.

The NGFS Divergent Net Zero ("DNZE") scenario represents the most severe transition risk scenario and the IPCC Representative Concentration Pathway ("RCP") 8.5 scenario represents the worst-case, highest emissions scenario.

As a significant institution, J.P. Morgan SE participated in the 2022 ECB Climate Stress Test.

Reporting

J.P. Morgan SE is integrating climate risk into its existing risk reporting capabilities. Reports include credit and market exposures that are susceptible to climate risks, as well as outcomes from climate-related scenario analysis and stress testing exercises.

6.6.4. Fiduciary and Investment Risks

J.P. Morgan SE provides custody and investment services which requires the Bank to operate with a duty of care and loyalty towards its clients. As an Investment Manager for clients' discretionary portfolios, the Bank has a fiduciary obligation to ensure clients' assets are managed in line with the agreed upon mandate with due skill, care, and diligence. In addition, J.P. Morgan SE must ensure that the best interest of the client is put before its own, its employees' or other clients' interests by identifying and managing conflicts or appearance of conflicts and that fair treatment of clients is at the heart of its business model. Further, Private Bank oversees Investment Risk on investment strategies for which J.P. Morgan SE exercises investment discretion, not meeting the stated objective and expectations set at the onboarding.

6.7 RISK SUMMARY

In our view, a conservative risk policy and solid capital resources ensure the comfortable risk position of J.P. Morgan SE going forward. The quantification of the capital demands for the occurring risks takes place as part of J.P. Morgan SE's ICAAP on a quarterly basis. Timely, independent and risk-based reporting for all material risks is provided to the Management Board on a regular basis.

The following key performance and risk indicators essentially represent the risk profile of J.P. Morgan SE as of year-end 2022.

€M	2022	2021	2020
RWA Overall	**107,840**	**89,845**	**41,492**
Total Capital	36,451	24,965	13,668
Tier 1 Capital ratio	19.7 %	17.2 %	30.5 %
Total Capital ratio	33.8 %	27.8 %	32.9 %
Leverage Ratio	6 %	7.5 %	10.1 %
Liquidity Coverage Ratio	157 %	341 %	147 %
Risk capital demand Economic Perspective	7,902	5,997	3,757
Risk capital Economic Perspective	23,383	16,973	12,917

7. Responsibility Statement by the Management Board

To the best of our knowledge, and in accordance with the applicable reporting principles, the financial statements give a true and fair view of the net assets, financial position and results of the operations of J.P. Morgan SE, and the management report provides a true and fair review of the development and performance of the business and the position of J.P Morgan SE, together with a description of the principle opportunities and risks associated with the expected development of J.P. Morgan SE.

Frankfurt am Main, April 21, 2023

The Management Board of J.P. Morgan SE

STEFAN BEHR
Chief Executive Officer

MATTHIEU WILTZ
Markets

PABLO GARNICA
Private Bank

NICHOLAS CONRON
Chief Risk Officer

BURKHARD KÜBEL-SORGER
Chief Financial Officer

Stand-alone Financial Statements of J.P. Morgan SE in Accordance with the International Financial Reporting Standards for the Year ended December 31, 2022

J.P. MORGAN SE INCOME STATEMENT AND OTHER COMPREHENSIVE INCOME

€T	Note	2022	2021
Income statement			
Interest income calculated using the effective interest method	6	1,447,503	476,022
Other interest income	6	979,258	1,644,138
Interest expense	6	1,891,769	2,162,010
Net interest income (+)/(expense) (–)		**534,992**	**−41,850**
Fee and commission income	7	3,283,788	2,515,204
Fee and commission expense	7	667,445	572,912
Net fee and commission income		**2,616,342**	**1,942,292**
Net income from financial assets and liabilities measured at fair value through profit and loss	8	1,665,367	442,508
Other revenue		233	1,070
Total operating income		**4,816,934**	**2,344,020**
Loan loss provision	35	66,836	−40,863
Administrative expenses	9	2,960,909	1,206,024
Depreciation and amortization	17, 18	45,863	10,817
Total operating expenses		**3,073,608**	**1,175,978**
Profit or loss before tax		**1,743,326**	**1,168,042**
Income tax expense	10	505,488	393,999
Profit for the year		**1,237,838**	**774,043**
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Remeasurement gains (+)/losses (–) on defined benefit plans		−32,298	6,673
Net credit risk-related gains (+)/losses (–) on financial liabilities designated at FVPL		–	–
Related tax	10	7,354	−2,143
Items that are or may be reclassified subsequently to profit or loss			
Change in fair value of financial assets (FVOCI)			
Unrealized gains (+)/losses (–) recognized in the reporting period		−25,594	6,778
Realized gains (–)/losses (+) reclassified to profit or loss in the reporting period		−7,252	−11,818
Related tax	10	10,488	1,609
Total other comprehensive income		**−47,302**	**1,099**
Total comprehensive income for the year		**1,190,536**	**775,142**

Rounding differences may occur in the tables (€, %, etc.).

J.P. MORGAN SE BALANCE SHEET

€T	Note	December 31, 2022	December 31, 2021
Assets			
Cash and central bank balances	12	75,340,930	38,234,989
Loans and advances to banks	13	9,763,075	8,473,322
Loans and advances to customers	14	19,746,821	4,533,917
Securities purchased under agreements to resell or borrowed	15	66,243,630	44,770,067
Trading assets	16	220,383,968	145,303,607
Property and equipment	17	339,209	165,748
Intangible assets	18	29,376	–
Deferred tax assets	10	163,668	51,685
Current tax asset	10	118,456	47,788
Other assets	19	43,700,342	39,834,131
Total assets		**435,829,475**	**281,415,254**
Liabilities			
Deposits from banks	22	43,096,896	48,552,533
Deposits from customers	23	94,779,794	18,480,965
Securities sold under repurchase agreements or loaned	15	27,850,933	24,632,228
Trading liabilities	16	194,540,937	144,453,679
Financial liabilities designated at fair value through profit or loss	25	2,991,502	1,229,928
Provisions	24	86,943	77,971
Tax liabilities	10	319,200	40,709
Other liabilities	26	33,291,818	17,449,663
Subordinated liabilities	27	15,171,455	9,540,000
Total liabilities		**412,129,478**	**264,457,676**
Equity			
Subscribed capital	28	1,867,202	1,867,200
Share premium	28	5,403,704	–
Other capital reserves	28	14,068,733	13,918,734
Retained earnings	28	2,324,533	1,088,517
Other reserves	28	35,825	83,127
Total equity		**23,699,997**	**16,957,578**
Total liabilities and equity		**435,829,475**	**281,415,254**

Rounding differences may occur in the tables (€, %, etc.).

J.P. MORGAN SE
STATEMENT OF CHANGES IN EQUITY

€T	Note	Subscribed Capital	Share Premium	Other Capital Reserves	Retained Earnings	Other Reserves	Total
Balance as of January 1, 2021		**1,867,200**	**–**	**10,748,588**	**314,474**	**82,028**	**13,012,290**
Profit for the year		–	–	–	774,043	–	774,043
Other comprehensive income for the year		–	–	–	–	–	–
Actuarial gain on pension schemes		–	–	–	–	4,530	4,530
FV-changes of loans FVOCI		–	–	–	–	−3,431	−3,431
Total comprehensive income for the year		**–**	**–**	**–**	**774,043**	**1,099**	**775,142**
Capital injections	28	–	–	3,197,809	–	–	3,197,809
Capital increase from conversion of subordinated debt	27	–	–	–	–	–	–
Transfer of businesses and employees from JPMC-entities		–	–	−27,663	–	–	−27,663
Other changes		–	–	–	–	–	–
Balance as of December 31, 2021		**1,867,200**	**–**	**13,918,734**	**1,088,517**	**83,127**	**16,957,578**
Effects from the JPMSE merger		2	5,403,704	–	−1,822	–	5,401,883
Balance as of January 1, 2022		**1,867,202**	**5,403,704**	**13,918,734**	**1,086,695**	**83,127**	**22,359,461**
Profit for the year		–	–	–	1,237,838	–	1,237,838
Other comprehensive income for the year		–	–	–	–	–	–
Actuarial gain on pension schemes		–	–	–	–	−24,944	−24,944
FV-changes of loans FVOCI		–	–	–	–	−22,358	−22,358
Total comprehensive income for the year		**–**	**–**	**–**	**1,237,838**	**−47,302**	**1,190,536**
Capital injections	28	–	–	–	–	–	–
Capital increase from conversion of subordinated debt	27	–	–	150,000	–	–	150,000
Transfer of businesses and employees from JPMC-entities		–	–	–	–	–	–
Other changes		–	–	–	–	–	–
Balance as of December 31, 2022		**1,867,202**	**5,403,704**	**14,068,733**	**2,324,533**	**35,825**	**23,699,997**

Rounding differences may occur in the tables (€, %, etc.).

J.P. MORGAN SE
CASH FLOW STATEMENT

€T	Note	2022	2021
Profit before tax		**1,743,327**	**1,168,042**
Non-cash movements	29	596,896	240,000
Changes in operating assets	29	−117,317,287	−80,071,706
Changes in operating liabilities	29	141,163,789	24,497,766
Cash flows from operating activities		**26,186,725**	**−54,165,898**
Income taxes paid		−503,623	−387,058
Net cash generated from operating activities		**25,683,102**	**−54,552,956**
Cash flow from investing activities			
Disposals and purchases of tangible fixed assets	17	−219,325	−17,493
Disposals and purchases of intangible assets	18	−29,376	–
Other investing activities		–	–
Net cash used in investing activities		**−248,701**	**−17,493**
Cash flow from financing activities			
Increase of share capital (Contributions to capital reserves)	28	150,001	3,170,146
Increase of share premium	28	5,403,704	–
Change in amounts owed to JPMorgan Chase undertakings	26	460,583	−7,292
Change in subordinated liabilities with JPMorgan Chase undertakings	27	5,631,455	8,514,210
Lease liabilities	26	25,796	−2,785
Net cash generated from financing activities		**11,671,540**	**11,674,279**
Net increase (+)/decrease (–) in cash and cash equivalents		**37,105,941**	**−42,896,170**
Cash and cash equivalents at the beginning of the year	12	38,234,989	81,131,159
Cash and cash equivalents at the end of the year		**75,340,930**	**38,234,989**
Cash and balances at central banks	12	75,340,930	38,234,989
Cash and cash equivalents		**75,340,930**	**38,234,989**

Rounding differences may occur in the tables (€, %, etc.).

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1. General information

J.P. Morgan SE (hereafter – the "Bank", "we", or the "Company"), with registered office in Frankfurt am Main, is a European stock company (SE) under German Law registered in the Trade Register of the Frankfurt District Court under number HRB 126056, which is active in the European Economic Area (EEA) in the main business segments of Banking (consisting of Investment & Corporate Banking, Payments and Lending), Markets, Securities Services, Commercial Banking and Private Bank. The 2022 financial year was characterized by the creation of J.P. Morgan SE in January 2022 as a result of the cross-border merger of J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank (Ireland) plc into J.P. Morgan AG with a change in the legal form from a German corporation to a European corporation at the same time.

J.P. Morgan SE is an intermediate 100 % subsidiary of JPMorgan Chase & Co. with registered office in Wilmington / Delaware, in the United States of America. The Bank has a full bank license according to § 1 Para. 1 German Banking Act and pursues the banking business with institutional and wealth management clients, banks, corporate clients and public authorities. The shares of J.P. Morgan SE are in full ownership of J.P. Morgan International Finance Limited with registered office in Newark / Delaware, in the United States of America.

2. Basis of preparation

The stand-alone financial statements for the year ended December 31, 2022, have been prepared in accordance with the International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board (the IASB) and as applicable under the regulations in the EU.

The Standards have been applied in preparing the financial statements for the year ended December 31, 2022, the comparative information presented in these financial statements for the year ended December 31, 2021.

The legally required financial statements of the Bank are further prepared on the basis of the German Commercial Code (HGB). For the disclosure, the voluntarily prepared stand-alone IFRS financial statements according to § 325 Para. 2a HGB are utilized.

In order to apply the option according to § 325 Para. 2a sentence 1 HGB to disclose financial statements set up according to the International Financial Reporting Standards as denominated in § 315e Para. 1 HGB, in place of financial statements according to HGB, the additional German commercial law regulations according to § 325 Para. 2a sentence 3 HGB in connection with § 340i Para. 4 HGB have been followed.

The stand-alone financial statements have been prepared on a going concern basis under the historical cost convention as modified by the revaluation of certain financial assets and financial liabilities measured at fair value through profit or loss (FVPL) or measured at fair value through other comprehensive income (FVOCI).

The credit risk is described in note 35 Information on the market risk, the liquidity risk and the operational risk are included in the risk report as part of the Management Report (section "6.5 Risk Categories").

3. Accounting and reporting developments

STANDARDS AND CHANGES TO STANDARDS ADOPTED DURING THE YEAR ENDED DECEMBER 31, 2022

On January 1, 2022, the Bank adopted amendments Onerous Contracts: Cost of fulfilling a contract (Amendments to IAS 37), Property, Plant and Equipment: Proceeds before intended use (Amendments to IAS 16), Reference to the Conceptual Framework (Amendments to IFRS 3) and Annual Improvements to IFRS Standards 2018–2020.

The Bank also elected to adopt the following amendments early: IAS 1 and IFRS Practice Statement 2: Disclosure of Accounting Policies and IAS 8: Definition of Accounting Estimates.

The amendments listed above did not have any significant impact on the amounts recognized in prior periods and are not expected to significantly affect the current or future periods.

FUTURE STANDARDS AND CHANGES TO STANDARDS NOT YET IMPLEMENTED DURING THE YEAR ENDED DECEMBER 31, 2022

The forthcoming IFRS amendments have been issued however are not yet effective or adopted as of December 31, 2022. The future application of these standards is not expected to result in any material effects.

			EU adoption	
Future Standards/Amendments	Application in periods beginning on or after	Effective date	Regulation as of	Published on
Classification of Liabilities as Current or Non-current (Amendments to IAS 1)	1/1/2024	1/1/2024	open	open
IFRS 17 Insurance Contracts and amendments to IFRS 17 Insurance Contracts	1/1/2023	1/1/2023	19/11/2021	23/11/2021
Deferred Tax related to Assets and Liabilities arising from a Single Transaction – Amendments to IAS 12	1/1/2023	1/1/2023	11/8/2022	12/8/2022

4. Material accounting estimates and judgments

In the process of applying the Company's accounting policies, management makes judgments, estimates and assumptions for certain categories of assets and liabilities. These judgments, estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the balance sheet date, and the reported amounts of revenue and expenses during the reporting period. Making judgments, estimates and assumptions can involve levels of uncertainty and subjectivity and therefore actual results could differ from the reported amounts. The Company's significant accounting policies are described in note 5.

Some of the judgments, estimates and assumptions management makes when preparing the Company's financial statements involve high levels of subjectivity and assessments about the future and other sources of uncertainty. Those that may have a material impact on the Company's financial condition, changes in financial condition or results of operations are described below.

FAIR VALUE MEASUREMENT

The Bank carries a significant portion of its assets and liabilities at fair value on a recurring basis. Certain financial instruments are classified on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them, the measurement of fair value is more judgmental.

- Judgments – In classifying a financial instrument in the valuation hierarchy judgment is applied in determining whether one or more inputs are observable and significant to the fair value measurement. A financial instrument's categorization within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement. For instruments classified in levels 2 and 3, management judgment must be applied to assess the appropriate models and level of valuation adjustments. Refer to note 30 for further information.
- Estimates – Details on the Bank's level 3 financial instruments and the sensitivity of their valuation to the effect of applying reasonable possible alternative assumptions in determining their fair value as well as the difference between the transaction price and the model value, commonly referred to as "day one profit and loss", not recognized immediately in the income statement are set out in note 30.

MEASUREMENT OF THE EXPECTED CREDIT LOSS ALLOWANCE

An expected credit loss allowance (ECL) is required for financial assets measured at amortized cost and fair value through other comprehensive income ("FVOCI") as well as for lending-related commitments such as loan commitments and financial guarantees. The measurement of ECL requires the use of complex models and assumptions about future economic conditions and credit behaviors. Explanation of the inputs, assumptions and estimation techniques used in measuring ECL is further detailed in note 35, which also sets out key sensitivities of the ECL to changes in these inputs.

A number of judgments are also required in measuring ECL, such as:

- Determining the criteria for identifying when financial instruments have experienced a significant increase in credit risk;
- Choosing the appropriate forecasts and assumptions for the measurement of ECL;
- Determining the number and relative weightings of forward-looking scenarios for each type of financial instrument/market and the associated ECL; and
- Establishing groups of similar financial assets for the purposes of measuring ECL.

5. Significant accounting policies

The following are the significant accounting policies applied in the preparation of the financial statements. These policies have been applied consistently in each of the years presented, unless stated otherwise.

5.1. CONSOLIDATION

The sole shareholder of the Company is J.P. Morgan International Finance Limited, Newark/Delaware, and its ultimate parent company is JPMorgan Chase & Co., Wilmington/Delaware, both incorporated in the United States of America. The Company is included in the consolidated financial statements of JPMorgan Chase & Co., which are publicly available.

According to § 290 in relation to § 296 Para. 2 HGB, the Company is not required to prepare group financial statements.

5.2. FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated in Euro at the exchange rate on the balance sheet date. Income and expense items denominated in foreign currencies are translated in Euro at the exchange rate prevailing at the date of the transaction. Any gains or losses arising on translation are recognized directly in the income statement.

Non-monetary items that are measured based on historical cost in a foreign currency are translated in Euro at the exchange rate at the date of the transaction.

Non-monetary items denominated in foreign currencies that are stated at fair value, are translated in Euro at the foreign exchange rate when the fair value was determined. Translation differences arising from non-monetary items measured at fair value are recognized in the income statement, except for differences arising on FVOCI non-monetary financial assets, which are included in the financial assets OCI reserve, respectively.

5.3. FUNCTIONAL AND PRESENTATION CURRENCY

Items included in the financial statements of the Company are measured using the currency of the primary economic environment in which the entity and the foreign business operations operate (the "functional currency"). Euro is considered as the functional currency for all branches and used as the presentation currency of the Company.

5.4. FINANCIAL INSTRUMENTS

5.4.1. Financial assets and financial liabilities

I. Recognition of financial assets and financial liabilities

The Company recognizes financial assets and financial liabilities when it becomes a party to the contractual provisions of the instrument. Regular way purchases and sales of securities are recognized on the trade-date, which is the date on which the Company commits to purchase or sell an asset. Certain margins from clients or margins to central counterparties in the Futures and Derivatives Clearing business which are related to the clearing of trades (on behalf of the clients) at exchanges aren't recorded on balance sheet, because they aren't deemed assets or liabilities of the Company.

II. Classification and measurement of financial assets and financial liabilities

On initial recognition, financial assets are classified as measured at amortized cost, fair value through other comprehensive income ("FVOCI") or fair value through profit or loss ("FVPL"). Derivatives are measured at fair value through profit or loss. The classification is based on both the business model for managing the financial assets and their contractual cash flow characteristics. Factors considered by the Company in determining the business model for a group of assets include past experience on how the cash flows for these assets were collected, how the assets' performance is evaluated and reported to the board of directors, how risks are assessed and managed, and how senior managers are compensated. This assessment results in a financial asset being classified in either a "hold to collect", "hold to collect and sell", or "other" business model.

On initial recognition, financial liabilities are measured at fair value. They are subsequently measured at amortized cost unless they are held for trading, the fair value option is applied, or they are derivatives. In all other cases, financial liabilities are measured at fair value through profit or loss.

Financial assets and financial liabilities measured at amortized cost

Financial assets are measured at amortized cost if they are held under a business model with the objective to collect contractual cash flows ("Hold to Collect") and they have contractual terms under which cash flows are solely payments of principal and interest ("SPPI"). In making the SPPI assessment, the Company considers whether the contractual cash flows are consistent with a basic lending arrangement (i.e., interest includes only consideration for the time value of money, credit risk, other basic lending risks and a profit margin that is consistent with a basic lending arrangement). Where the contractual terms introduce exposure to risk or volatility that

are inconsistent with a basic lending arrangement, the related financial asset is classified and measured at fair value through profit or loss.

Financial assets measured at amortized cost include cash and balances at central banks, loans and advances to banks, certain loans and advances to customers and certain securities purchased under agreements to resell, debtors and accrued income that are in the Hold to Collect business model.

Financial liabilities are measured at amortized cost unless they are held for trading or are designated as measured at fair value through profit or loss. Financial liabilities measured at amortized cost include trade payables, amounts owed to JP Morgan Chase undertakings and certain other liabilities.

Financial assets and financial liabilities measured at amortized cost are initially recognized at fair value including transaction costs (which are explained below). The initial amount recognized is subsequently reduced for principal repayments and adjusted for accrued interest using the effective interest method. In addition, the carrying amount of financial assets is adjusted by recognizing an expected credit loss allowance through profit or loss.

The effective interest method is used to allocate interest income or interest expense over the relevant period. The effective interest rate is the rate that discounts estimated future cash payments or receipts through the expected life of the financial asset or financial liability or a shorter period when appropriate, to the net carrying amount of the financial asset or financial liability. The effective interest rate is established on initial recognition of the financial asset or financial liability. The calculation of the effective interest rate includes all fees and commissions paid or received, that are an integral part of the effective interest rate, transaction costs, and discounts or premiums. Transaction costs are incremental costs that are directly attributable to the acquisition, issuance or disposal of a financial asset or financial liability.

Financial assets measured at fair value through other comprehensive income ("FVOCI")
Financial assets are measured at FVOCI if they are held under a business model with the objective of both collecting contractual cash flows and selling the financial assets ("Hold to Collect and Sell"), and they have contractual terms under which cash flows are SPPI. Financial assets measured at FVOCI include loans and advances that are held within the Company's Retained Lending business which are managed with the objective of both collecting contractual cash flows and realizing cash flows from sales and have contractual terms that meet the SPPI criteria.

Financial assets measured at FVOCI are initially recognized at fair value, which includes direct transaction costs. The financial assets are subsequently remeasured at fair value with any changes presented in other comprehensive income ("OCI") except for changes attributable to impairment, interest income and foreign currency exchange gains and losses. Impairment losses and interest

income are measured and presented in profit or loss on the same basis as financial assets measured at amortized cost.

For debt instruments, on derecognition of financial assets measured at FVOCI, the cumulative gains or losses in OCI are reclassified from equity, and recognized in the income statement (“recycling”).

Financial assets and financial liabilities measured at fair value through profit or loss (mandatory)
Financial assets and financial liabilities are measured at (FVPL), unless they are measured at amortized cost or FVOCI. Under IFRS 9, a financial asset or a financial liability is defined as “held-for-trading” if it is acquired or incurred principally for the purpose of selling or repurchasing it in the near term, or forms part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking or it is a derivative. However, such financial instruments are used by the Company predominantly in connection with its “client-driven” market-making and/or for hedging certain assets, liabilities, positions, cash flows or anticipated transactions (i.e. risk management activities).

Financial assets and financial liabilities measured at FVPL at J.P. Morgan SE consist mainly of instruments which are held for trading. These held for trading instruments comprise both debt and equity securities, loans held for trading and derivatives.

In addition, certain financial assets that are not held for trading are measured at FVPL if they do not meet the criteria to be measured at amortized cost or FVOCI for example, if the financial assets are managed on a fair value basis or have contractual cash flows that are not SPPI. The Company has determined that securities purchased under agreement to resell within the CIB portfolios are managed on a fair value basis, these financial assets are therefore measured at FVPL.

Financial instruments measured at FVPL are initially recognized at fair value in the balance sheet. Transaction costs and any subsequent fair value gains or losses are recognized in profit or loss as they arise. Please refer to note 5.8 on the Company’s accounting policy for the recognition of trade date profit.

The Company manages cash instruments, in the form of debt and equity securities, and derivatives on a unified basis, including hedging relationships between cash securities and derivatives. Accordingly, the Company reports the gains and losses on the debt and equity securities and the gains and losses on the derivatives on a net basis in trading profit.

Financial assets and financial liabilities designated at fair value through profit or loss
Subject to specific criteria, the Company can designate financial assets and financial liabilities to be measured at fair value through profit or loss. Designation is only possible when the financial instrument is initially recognized and cannot be subsequently reclassified. Financial assets can

be designated as measured at fair value through profit or loss only if such designation eliminates or significantly reduces a measurement or recognition inconsistency (accounting mismatch). Financial liabilities can be designated as measured at fair value through profit or loss only if such designation (a) eliminates or significantly reduces a measurement or recognition inconsistency; or (b) applies to a group of financial assets, financial liabilities or both that the Company manages and evaluates on a fair value basis; or (c) relates to an instrument that contains an embedded derivative unless the embedded derivative does not significantly modify the cash flows required by the contract or when a similar hybrid instrument is considered that separation of the embedded derivative is prohibited.

Financial assets and financial liabilities that the Company designates as measured at fair value through profit or loss are recognized at fair value at initial recognition, with transaction costs being recognized in profit or loss and subsequently measured at fair value. Gains and losses on financial assets and financial liabilities designated at fair value through profit or loss are recognized in profit or loss as they arise.

Changes in the fair value of financial assets designated as measured at FVPL are recognized immediately in profit or loss.

Changes in the fair value of financial liabilities designated as measured at FVPL are recognized in profit or loss except for gains/losses attributable to changes in the Company's own credit risk. These gains/losses are recognized in OCI unless doing so results in an accounting mismatch with directly offsetting financial assets measured at fair value through profit or loss.

The Company has designated certificates of indebtedness (Schuldscheindarlehen) to be measured at FVPL to significantly reduce measurement and recognition inconsistency (i.e. an accounting mismatch), as these financial liabilities are managed together with either back-to-back reverse repos or derivatives, which are measured at FVPL.

The Company has managed repo liabilities and reverse repo receivables together in the CIB business line. The receivables are managed on a fair value basis and therefore measured at FVPL. For the repo liabilities, the Bank applies the fair value option in order to apply the same valuation method to assets and liabilities, thus avoiding an accounting mismatch.

5.4.2. Interest income and expense

Unless a financial asset is credit-impaired, interest income is recognized by applying the effective interest method to the gross carrying amount of a financial asset. If a financial asset is credit-impaired, interest income is recognized by applying the effective interest rate to the net carrying amount of the financial asset (i.e. after adjusting for any allowance for expected credit losses).

Interest expense on financial liabilities is recognized by applying the effective interest method to the amortized cost of financial liabilities.

The effective interest rate is the rate that discounts estimated future cash payments or receipts through the expected life of the financial asset or financial liability or a shorter period when appropriate, to the net carrying amount of the financial asset or financial liability. The calculation includes all fees paid or received between parties to the contract that are an integral part of the effective interest rate transaction costs, and all other premiums or discounts. The effective interest rate is established on initial recognition of the financial asset or financial liability. While the effective interest rate of financial instruments with a contractually fixed interest rate remains constant over the period of the fixed interest rate, the effective interest rate of floating-rate financial assets and liabilities is periodically adjusted to the current contractually agreed interest rate.

Interest income on financial assets and financial liabilities measured at amortized cost and FVOCI are presented separately in the income statement under the line item "Interest income calculated using the effective interest method".

The Bank reports negative interest paid on interest-bearing assets as interest expense and negative interest received on interest-bearing liabilities as interest income.

5.4.3. Trading profit

Profits and losses resulting from the purchase and sale of securities and the revaluation of financial instruments are recognized as trading profit on a trade-date basis, including related transaction costs. Please refer to note 5.8 on the Company's accounting policy for the recognition of trade date profit.

The changes in FVOCI are recognized in the revaluation reserve without effect on income, except for impairments, which are recognized in the income statement.

5.4.4. Impairment of financial assets and lending-related commitments

Instruments in scope of Traditional Credit Products (TCP) include loans, lending-related commitments (including financial guarantees), and other lending products stemming from extensions of credit to borrowers. The Bank establishes an ECL for these instruments to ensure they are reflected in the financial statements at the Company's best estimate of the net amount expected to be collected. The ECL is determined on in-scope financial instruments measured at amortized cost or FVOCI. ECL are measured via a portfolio-based (modeled) approach for Stage 1 and 2 assets but are generally measured individually for Stage 3 assets. ECL is measured over the 12-month period (Stage 1) or the expected remaining maturity (lifetime) of the financial instruments (Stage 2 or 3), where the forecast horizon includes the reasonable and supportable (R&S) forecast period, the reversion period and the residual term of the financial instruments. Furthermore, the time value of money is taken into account in the ECL measurement. In determining the ECL measurement

and staging for a financial instrument, the Bank applies the definition of default in accordance with the Basel definition of default to ensure consistency of definition across the organization. Refer to note 35 for non-TCP financial assets.

Determining the appropriateness of the ECL allowance is complex and requires judgment by the management about the effects of circumstances that are inherently uncertain. Further, estimating the ECL allowance involves consideration of a range of possible outcomes, which senior management evaluates to determine its best estimate. Subsequent evaluations of the TCP portfolio, in light of the circumstances then prevailing, may result in significant changes in the ECL in future periods.

The Company must consider the appropriateness of decisions and judgments regarding methodology and inputs utilized in developing estimates of ECL each reporting period and document them appropriately.

Note 35 provides more detail on how the expected credit loss allowance is measured.

5.4.5. Write-offs

Wholesale loans recognized as loans and advances on the balance sheet are charged off when, on the basis of a reasonable assessment, it is deemed highly certain that a loss has been realized in full or in part. Write-offs may relate to a financial asset in its entirety or to a portion of it. The determination of whether to recognize a write-off includes many factors, including the prioritization of the Company's claim in bankruptcy, expectations regarding the workout/restructuring of the loan and valuation of the borrower's equity or the loan collateral.

All other financial assets are written off when there is no reasonable expectation of recovery and the amount of loss can be reasonably estimated or when the asset is past due for a specified period.

5.4.6. Modification of financial instruments

The Company may modify contractual terms (modifications) with borrowers that are not experiencing financial difficulties. In these instances, the Company will make a determination of whether the modification results in a new financial asset. If the modification is substantial, the existing loan is derecognized and a new financial asset is recognized. If the modification does not result in a new financial asset, any modification gain or loss is immediately recognized in profit or loss. Modification gain or loss is determined by recalculating the gross carrying amount of the loan by discounting the new contractual cash flows using the original effective interest rate.

The Company seeks to modify certain loans in conjunction with its loss-mitigation activities. A modification may result in the Company granting one or more concessions to a borrower who is experiencing financial difficulties in order to minimize the Company's economic loss, avoid

foreclosure or repossession of the collateral, and to ultimately maximize cash flows received by the Company from the borrower. Concessions granted vary by borrower, and may include interest rate reductions, term extensions, payment deferrals, debt forgiveness, or the acceptance of equity or other assets in lieu of cash. Such loan modifications are included in Stage 3, and the loans are considered to be credit-impaired until they mature, are repaid, or are otherwise liquidated, regardless of whether the borrowers perform under the modified terms. ECL are generally measured individually for Stage 3 assets.

For IBOR-related modification of loans that are measured at amortized cost or FVOCI, the Company applied the practical expedient from January 1, 2021, and reflects the changes to the basis for determining the contractual cash flows by adjusting their effective interest rate. No immediate gain or loss is recognized. Refer to note 35 for more details.

5.4.7. Derecognition of financial assets and financial liabilities

Financial assets are derecognized when the contractual right to receive cash flows from the asset has expired, or has been transferred with either of the following conditions met:

- The Company has transferred substantially all the risks and rewards of the ownership of the asset; or
- The Company has neither retained nor transferred substantially all of the risks and rewards but has relinquished control of the asset.

Financial liabilities are derecognized when they are extinguished, that is when the obligation is discharged, canceled or expires.

The Company enters from time to time also into certain “pass-through” arrangements whereby contractual cash flows on a financial asset are passed to a third party. Such financial assets are derecognized from the balance sheet if the terms of the arrangement oblige the Company to only pass on contractual cash flows to the third party that are actually received without material delay, and where the terms of the arrangement also prohibit the Company from selling or pledging the underlying financial asset.

5.5. FEE AND COMMISSION INCOME AND EXPENSE

The Bank earns fees and commissions from providing investment banking, asset management and administration services, lending- and deposit-related services and other commissions.

Investment banking fees

Investment banking revenue includes debt and equity underwriting and advisory fees. Underwriting fees are recognized as revenue typically upon execution of the client’s transaction. Debt underwriting fees also include credit arrangement and syndication fees which are recorded as

revenue after satisfying certain retention, timing and yield criteria. Advisory fees are recognized as revenue typically upon execution of the client's transaction.

Asset management fees, administration fees and commissions
This revenue category includes fees from investment management and related services, custody, brokerage services and other products.

Investment management fees are typically based on the value of assets under management and are collected and recognized at the end of each period over which the management services are provided, and the value of the managed assets is known. The Bank also receives performance-based management fees, which are earned based on exceeding certain benchmarks or other performance targets and are accrued and recognized when the probability of reversal is remote, typically at the end of the related billing period. The Bank has contractual arrangements with third parties to provide distribution and other services in connection with its asset management activities. Amounts paid to third-party service providers are recorded in commission expense.

The Bank receives other asset management fees for services that are ancillary to investment management services, including commissions earned on sales or distribution of mutual funds to clients. These fees are recorded as revenue at the time the service is rendered or, in the case of certain distribution fees based on the underlying fund's asset value / or investor redemption, recorded over time as the investor remains in the fund or upon investor redemption.

The Bank receives administrative fees predominantly from custody and fund services fees. These fees are recorded as revenue over the period in which the related service is provided.

Lending- and deposit-related fees
Lending-related fees include fees earned from loan commitments, standby letters of credit, financial guarantees, and other loan-servicing activities. Deposit-related fees include fees earned in lieu of compensating balances, and fees earned from performing cash management activities and other deposit account services. Lending- and deposit-related fees in this revenue category are recognized proportionately over the period in which the related service is provided.

Other commissions
The Bank acts as a broker, facilitating its clients' purchase and sale of securities and other financial instruments. It collects and recognizes brokerage commissions as revenue upon occurrence of the client transaction. The Company reports certain costs paid to third-party clearing houses and exchanges net against commission revenue.

Fees and commissions obtained through the Bank's attribution agreements are recognized when the underlying contract becomes legally binding or at the agreed due date.

5.6. LEASES

The Company recognizes lease right-of-use ("ROU") assets and lease liabilities at the lease commencement date. Lease ROU assets are included in property and equipment, and lease liabilities are included in other liabilities for leases in the Company's balance sheet. The ROU asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the lease commencement date plus any initial direct costs incurred and estimated costs for dismantling, removing and restoring as stated and required by the leasing agreement, less any lease incentives received. The ROU asset is subsequently amortized on a straight-line basis of the earliest of the two periods of the end of the useful life of the ROU asset or the lease term. The estimated useful life of the ROU asset is determined on the same basis as those of the property and equipment. In addition, the ROU asset may be reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Company's incremental borrowing rate. The lease liability is measured at amortized cost using a constant periodic rate of interest. It is re-measured when there is a change in leasing rates as a result of a change in a consumer price index or reference rate, or if the Company changes its assessment of whether it will exercise an extension or termination option. When the lease liability is re-measured in this way, a corresponding adjustment is made to the carrying amount of the ROU asset, or is recorded in earnings if the carrying amount of the ROU asset has been reduced to zero.

Short-term leases and leases of low-value assets

The Company has elected to not recognize ROU assets and lease liabilities for leases of low-value assets and short-term leases of real estate, including equipment, that have a lease term of 12 months or less. The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

5.7. FAIR VALUE

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.

Fair values are determined by reference to observable market prices where available and reliable. Fair values of financial assets and financial liabilities are based on quoted market prices or dealer price quotations for financial instruments traded in active markets. Where market prices are unavailable, fair value is based on valuation models that consider to the largest possible extent relevant transaction characteristics. As inputs are used observable or unobservable market parameters, including but not limited to yield curves, interest rates, volatilities, equity prices, foreign exchange rates and credit curves. Valuation adjustments such as CVA (Credit Valuation Adjustment) and FVA (Funding Valuation Adjustment) may be done to ensure that financial instruments are recorded at fair value.

For financial assets and liabilities held at fair value, most market parameters in the valuation model are directly observable. When input values do not directly correspond to the actively traded market parameters, the model may perform numerical procedures in the pricing such as interpolation.

The Company classifies its assets and liabilities measured at fair value according to a hierarchy that has been established under IFRS. The fair value hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. The fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (level 1) and the lowest priority to unobservable inputs (level 3 inputs).

A financial instrument's categorization within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

Further details on fair value measurements are provided in note 30 to the financial statements.

5.8. RECOGNITION OF DEFERRED DAY ONE PROFIT AND LOSS

The Company enters into transactions where fair value is determined using valuation models that use significant unobservable inputs. Such a financial instrument is initially recognized at the transaction price, although the value obtained from the relevant valuation model may differ. The difference between the transaction price and the model value, commonly referred to as ''day one profit and loss'', is not recognized immediately in the income statement.

The timing of recognition of the deferred day one profit and loss is determined for each class of financial asset and liability. It is either amortized over the life of the transaction, deferred until the instrument's fair value can be determined using market observable inputs, or realized through settlement. The financial instrument is subsequently measured at fair value, adjusted for the deferred day one profit and loss.

5.9. IMPAIRMENT OF NON-FINANCIAL ASSETS

Non-financial assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are largely independent cash inflows. Prior impairments of non-financial assets (other than goodwill) are reviewed for possible reversal at each reporting date.

5.10. SECURITIES PURCHASED UNDER AGREEMENT TO RESELL AND SECURITIES SOLD UNDER AGREEMENT TO REPURCHASE

Securities purchased under agreements to resell, and securities sold under agreements to repurchase, are treated as collateralized lending and borrowing transactions respectively. They are predominantly measured at FVPL with those held within the treasury portfolio being measured at amortized cost. The consideration for the transaction can be in the form of cash or securities. If the consideration for the purchase or sale of securities is given in cash, the transaction is recorded on the balance sheet within securities purchased/sold under agreement to resell/repurchase. In a repo transaction, the Bank retains the risks and rewards of the securities sold under repurchase agreement, these securities are not derecognized from the balance sheet. In a reverse repo transaction, securities purchased under agreement to resell are not recognized on the balance sheet. The difference between the sales and repurchase price is treated as interest and accrued over the life of the agreements.

5.11. SECURITIES BORROWING AND SECURITIES LENDING TRANSACTIONS

Securities borrowing and securities lending transactions require the borrower to deposit cash or other collateral with the lender. Securities borrowing and securities lending are recorded at the amount of cash collateral advanced or received. If the consideration is received or given in the form of securities, the transaction is recorded off balance sheet. Fees received or paid in connection with securities borrowing and lending are treated as interest income or interest expense and accrued over the life of the transaction using the effective interest rate method.

5.12. OFFSETTING FINANCIAL ASSETS AND LIABILITIES

Financial assets and financial liabilities are offset and the net amount reported in the balance sheet when there is currently a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or to realize the asset and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Company or the counterparty.

The Bank uses master netting agreements to mitigate counterparty credit risk in certain transactions, including derivative and securities financing transactions. A master netting agreement is a single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated and settled through a single payment in a single currency in the normal course of the business and in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

Further details on offsetting of financial assets and liabilities are provided in note 31 to the financial statements.

5.13. BUSINESS COMBINATIONS UNDER COMMON CONTROL

Predecessor accounting is applied to transfers of businesses between entities under common control, where all combining entities are controlled by the same entity before and after the business acquisition. Assets and liabilities are recognized at their predecessor carrying amounts (i. e. the carrying amounts of assets and liabilities in the books and records of the transferor prior to the transfer) with no fair value adjustments. Any difference between the cost of acquisition and aggregate book value of the assets and liabilities on the date of transfer of the business is recognized as an adjustment to equity. As a result, no goodwill is recognized from the business combination.

5.14. CASH AND CASH EQUIVALENTS

Cash and cash equivalents include cash and balances at central banks.

5.15. CURRENT AND DEFERRED INCOME TAX

Current income tax payable is recognized as an expense in the period in which the profits arise. Income tax recoverable on tax allowable losses is recognized as a current tax asset only to the extent that it is regarded as recoverable by offset against taxable profits arising in the current or prior periods. Current tax is measured using tax rates and tax laws that have been enacted or substantively enacted at the balance sheet date.

Deferred tax is recorded, using the liability method, on temporary differences arising from the differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements when recognition requirements are met. Deferred tax is determined using tax rates and legislation enacted or substantively enacted by the balance sheet date, which are expected to apply when the deferred tax asset is realized or the deferred tax liability is settled. Deferred tax assets and liabilities are only offset when there is both a legal right and an intention to settle on a net basis. Current tax and deferred tax are recognized directly in equity if the tax relates to items that are recognized in the same or a different period in equity. Deferred taxes on unused carried forward losses are not recognized since there are no tax losses carried forward.

5.16. INVENTORIES

The Bank holds inventories which are comprised of commodity positions that are measured at fair value less cost to sell. The Bank considers itself to be a commodity broker-trader because it buys and sells commodities on behalf of other parties and on its own account. These positions were added to the balance sheet as part of the J.P. Morgan SE merger.

5.17. PROVISIONS AND CONTINGENT LIABILITIES

Provisions are recognized when the Company has a present legal or objective obligation as a result of past events, it is probable that an outflow of economic benefits will be required to settle the obligation, and a reliable estimate of the amount of the obligation can be made.

A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Company, or a present obligation that arises from past events but is not recognized because either an outflow of economic benefits is not probable or the amount of the obligation cannot be reliably measured. Contingent liabilities are not recognized in the financial statements; however disclosure is made unless the probability of settlement is remote.

5.18. PENSIONS AND OTHER POST-RETIREMENT BENEFITS

The Bank operates both defined benefit and defined contribution schemes for its employees.

I. Defined contribution scheme

A defined contribution plan is a retirement plan in which the Company pays fixed contributions to a separate company. The Company is not legally or de facto obliged to pay further contributions if the fund does not have sufficient assets to pay all employees the benefits in connection with the employee service in the current and in previous periods. Obligations for contributions to defined contribution pension plans are recognized as an expense and charged to the income statement on an accrual basis.

II. Defined benefit scheme

For defined benefit pension plans, the service cost for providing retirement benefits to employees during the year is recognized in the income statement in accordance with IAS 19 "Employee Benefits". The pension-related expenses and income are recorded on the basis of expert opinions. The appraisals are prepared by qualified and independent actuaries. This ensures that the full costs of covering the pension obligations of current and former employees are correctly recorded.

The liabilities of the defined benefit systems are valued on an actuarial basis. Assets are valued separately for each plan at their market value, provided that plan assets exist to cover plan liabilities. Any surplus or deficit of scheme assets over liabilities are recognized on the balance sheet as an asset (surplus) or liability (deficit). Current service cost and any past service cost, along with the expected rate of return on the plan's assets, less the release of the discounting of the plan's liabilities, is charged to the income statement. Actuarial gains and losses are recognized in full in other comprehensive income in the reporting period in which they occur and shown in equity in the reporting period in which they occur.

5.19. SHARE-BASED PAYMENT AWARDS

Share-based payment awards may be made to employees of the Company under the Bank's incentive awards schemes. The fair value of such shares, rights to shares or stock options is measured during the conditional allocation. This value is recorded as compensation expense for the Company over the period of time that the performance criteria are related to along with employer's social security expenses or other payroll taxes. All of the granted awards are equity-settled. The Company estimates the level of forfeitures and applies this forfeiture rate at the granting date.

Additionally, the Bank takes into account the conditions that must be met before an employee is eligible for equity instruments under the Bank's incentive programs. Amortization is accelerated for employees who retire so that the premium is recognized in full as an expense when the pension entitlement takes effect.

5.20. PROPERTY AND EQUIPMENT

Property and equipment are measured at cost less accumulated depreciation and any accumulated impairment losses. The Bank calculates the depreciation using the straight-line method over the estimated useful life of an asset. The two outstanding buildings are depreciated on a straight-line basis, respectively for 27 and 50 years. Land is not depreciated. For leasehold improvements, the Bank uses the straight-line method computed over the lesser of the remaining term of the leased facility or the estimated useful life of the leased asset. For IT equipment and furniture, the useful life is directed by the official depreciation tables of the financial administration. See accounting policy in note 5.6 in respect of right-of-use assets and 5.9 on the impairment of non-financial assets.

5.21. INTANGIBLE ASSETS

The Bank capitalizes certain costs associated with the acquisition or development of internal-use software. Once the software is ready for its intended use, these costs are amortized on a straight-line basis over the software's expected useful life and reviewed for impairment on an ongoing basis. Intangible assets include purchased and self-developed software and are amortized on a straight-line basis with finite useful life. Software applications are amortized up to 3 years. As of the reporting date, purchased software was already fully amortized. See accounting policy in note 5.9 on the impairment of non-financial assets.

5.22. ADJUSTMENT OF PRIOR YEAR-FIGURES

In the reporting period, it was identified that the presentation of the valuation reserves presenting the changes in level 3 recurring fair value measurements in note 30 were incorrectly reflected in the table as of December 31, 2021. The Bank has corrected retrospectively the allocation of the reserves in the derivatives receivables line item in the table. This led to a presentation reclassification between settlement and unrealized gains in the derivative receivables line item of € 31.6 million, with no impact on the closing balance, as of December 31, 2021.

Furthermore, the Bank adjusted the presentation of the items in the table under "Recognition of Day one Profit and Loss" in note 30. This led to a reclassification between "New transactions" and "Amounts recognized in the consolidated income statement" of € 24.2 million. There was no impact on the closing balance for 2021.

The Bank adjusted retrospectively the estimated fair value of subordinated liabilities to € 9,487 million for the year 2021 in the table under "Fair value of financial instruments not carried on balance sheet at fair value" in note 30.

The Bank has reported trading securities netting in note 31 “Offsetting financial assets and financial liabilities” which presents balance sheet assets and liabilities offset, where the offsetting criteria under IAS 32 have been met. Trading securities netting is performed for securities received (trading assets) that are netted against short positions (trading liabilities) in the same identification number (ISIN) for IFRS reporting purposes. As a result, the presentation changed, with a correction to the gross amounts and offset amounts of financial assets and liabilities, which increased by € 26.6 million as of December 31, 2021. There is no impact on the Net amounts reported on balance sheet.

The Bank corrected some of the prior year comparison amounts in note 29. In addition, € 29 million that are related to valuation effects of trading-related balances were reclassified from the line Loan loss provisions to Other non-cash movements for the comparative period in order to align the presentation to that of the reporting period.

Finally, in the reporting period it was identified that the presentation of trading assets pledged in note 34 was understated. As a result, the pledged trading assets balance as of December 31, 2021 was restated by € 72.4 million.

6. Interest income and expense and similar income and expense

Details of interest income and interest expense were as follows, including similar income and expenses:

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Interest and similar income		
Loans and advances to banks	549,875	8,088
Loans and advances to customers	376,936	48,341
Securities purchased under agreements to resell	179,197	0
Positive interest from financial liabilities	222,798	407,446
Other	118,696	12,146
Total interest income calculated using the effective interest method	**1,447,503**	**476,022**
Loans and advances to banks	71,661	5,267
Loans and advances to customers	75,134	12,721
Securities purchased under agreements to resell	182,965	487,031
Trading assets	535,032	272,989
Investment securities	0	469
Securities borrowed	21,196	63,964
Positive interest from financial liabilities	93,269	801,699
Total interest and similar income	**2,426,761**	**2,120,160**
Interest expense and similar charges		
Deposits from banks	103,212	366
Deposits from customers	542,282	1,396
Securities sold under repurchase agreements	184,914	481,279
Securities loaned	39,915	23,035
Trading liabilities	485,132	297,385
Subordinated liabilities & LTD	196,853	16,616
Negative interest on financial assets	243,673	1,338,285
Other interest expense	95,789	3,649
Total interest expense and similar charges	**1,891,769**	**2,162,010**
Net interest income/(expense)	**534,992**	**−41,850**

The amounts reported above include interest income and expense, calculated using the effective interest method. This related to the following financial assets and financial liabilities:

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Interest income from Financial assets measured at amortized cost	1,384,667	446,634
Interest income from Financial assets measured at FVOCI	62,836	29,387
Interest expense from Financial liabilities measured at amortized cost	−834,903	−53,640

Total interest income has increased by € 307 million over the comparison period. The increase is primarily driven by Interest income – Financial assets held for trading amounting to € 257 million from Markets as well as increase in interest income on loans and deposits specifically from Corporate by € 494 million, Markets by € 118 million and Private Bank by € 298 million following the J.P. Morgan SE merger. This was partially offset by lower positive interest on financial liabilities in Markets by € 770 million and Corporate by € 268 million.

Total interest expense has decreased by € 270 million over the comparison period. This decrease was mostly driven by lower negative interest on financial assets amounting to € 844 million from Markets and € 268 million from Corporate partially offset by higher interest paid on deposits from banks and customers in Banking by € 184 million, Securities Services by € 144 million and Private Bank by € 124 million. This was primarily related to the increase in deposits following the J.P. Morgan SE merger and the rising interest rate environment.

7. Net fee and commission income

Fee and commission income consists of investment banking fees, lending and deposit related fees and commissions and other income (see also note 5.5).

In the following table, fee and commission income from contracts with customers in the scope of IFRS 15 is disaggregated by major type of services:

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Investment banking fee	396,044	789,782
Lending- and deposit-related	141,037	86,483
Asset management fee, administration fees and commissions	1,485,874	350,404
Commissions & other fees	1,260,833	1,288,535
Total fee and commission income	**3,283,788**	**2,515,204**
Fee and commission expense	667,445	572,912
Net fee and commission income	**2,616,342**	**1,942,292**

Net fee and commission income increased by € 674 million (35 %) in comparison to the previous year driven by Securities Services and Private Bank, as a result of the J.P. Morgan SE merger.

The asset management fee, administration fees and commissions have increased by € 1,135 million in comparison with the prior year. This revenue category includes fees from investment management & related services as well as custody and fund services fees. It is primarily driven by Private Bank in amount of € 470 million and increase in Securities Services segment in amount of € 567 million following the J.P. Morgan SE merger.

8. Net income from financial assets and liabilities measured at fair value through profit and loss

The position contains the net gains or losses from financial instruments in the held-for-trading category, the net gains or losses from financial instruments in the mandatorily fair value P&L category, and the net gains or losses from financial instruments designated at fair value through profit or loss category.

The net gains or losses from financial instruments in the held-for-trading category is the net trading profit (see also note 5.4.3).

The net gains or losses from financial instruments in the mandatorily fair value P&L category and the net gains or losses from financial instruments designated at fair value through profit or loss category contains only net remeasurement gains or losses and realized profit or loss.

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Profit or loss from financial instruments – held for trading	1,673,759	784,210
Profit or loss from financial instruments – mandatorily Fair Value P&L	7,253	11,477
Profit or loss from financial assets designated at FVPL	0	−105
Profit or loss from financial liabilities designated at FVPL	−15,645	−353,074
Total	**1,665,367**	**442,508**

The Profit from financial instruments – held for trading increased mainly in the Markets segment and was driven mainly by the market volatility throughout the year. The decrease in loss from financial liabilities designated at FVPL relates mainly to decrease in long-term debt in Markets.

9. Administrative expenses

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Administrative expenses		
Wages and salaries	859,746	368,466
Social security costs	168,529	85,166
Other pension and benefits costs	56,059	26,506
Share-based awards	143,701	134,926
Other administrative costs	1,732,874	590,959
Total administrative expenses	**2,960,909**	**1,206,024**

Total administrative expenses increased by € 1,755 million during the year to € 2,961 million. This was mostly driven by other administrative costs as intercompany recharges increased by € 711 million due to the expansion of business activities across Markets and Securities Services. Wages and salaries increased by € 491 million primarily as a result of the increase in headcount due to the J.P. Morgan SE merger.

10. Income taxes

Current and deferred income taxes
Income taxes on taxable income (current taxes) are recognized as an expense in the period in which the income arises.

Current tax claims and liabilities are measured at the amount at which a refund from tax authorities or a payment to tax authorities are expected. For the measurement of these amounts, tax rates and tax laws are applied, which are in place as of the balance sheet date or will become applicable shortly in the countries where the Bank operates and made taxable income. Current tax claims and liabilities are only netted if certain requirements are met.

Deferred taxes are calculated on temporary differences from the difference between the business and tax balance sheets. Deferred taxes are valued at the tax rate valid on the balance sheet date and the tax laws for the date of the expected realization. If there is a legally enforceable right to offset current taxes and the taxes are levied by the same tax authority and are payable by the same taxable entity, deferred taxes are netted. To the extent that the taxes relate to matters that were recognized directly in equity, current and deferred taxes are also recognized in equity. As of the balance sheet date there were no taxable loss carryforwards.

10.1. AMOUNTS RECOGNIZED IN THE INCOME STATEMENT

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Current tax expense for the year	**583,569**	**416,961**
Current year	646,230	413,710
Adjustments in respect of previous years	−62,661	3,251
Deferred tax credit for the year	**−78,081**	**−22,962**
Origination and reversal of temporary differences	−74,268	−22,492
Effect of changes in tax law and/or tax rate	0	−545
Adjustments in respect of previous years	−3,813	0
Other	0	75
Total income tax expense	**505,488**	**393,999**

As at December 31, 2022, the tax rate for Germany was 31.9 % (in 2021: 31.9 %). For the foreign branches the applicable statutory tax rates were applied, ranging from 12.5 % to 33.07 %.

10.2. AMOUNTS RECOGNIZED IN OCI

The table below shows current and deferred taxes:

			2022			2021
€T	Before tax	Tax	Net of tax	Before tax	Tax	Net of tax
Items that will not be reclassified to income statement	**−32,298**	**7,354**	**−24,944**	**6,673**	**−2,143**	**4,530**
Remeasurement gains (+)/ losses (−) on defined benefit plans	−32,298	7,354	−24,944	6,673	−2,143	4,530
Net credit risk-related gains (+)/ losses (−) on financial liabilities designated at FVPL, before tax	0	0	0	0	0	0
Items that are or may be reclassified subsequently to income statement						
Change in fair value of financial assets at FVOCI	−32,846	10,488	−22,358	−5,040	1,609	−3,431
Unrealized gains (+)/losses (−) recognized in the reporting period, before tax	−25,594	8,173	−17,422	6,778	−2,164	4,614
Realized gains (−)/losses (+) reclassified to profit or loss in the reporting period, before tax	−7,252	2,315	−4,936	−11,818	3,773	−8,045
Total	**−65,144**	**17,842**	**−47,302**	**1,633**	**−534**	**1,099**

10.3. RECONCILIATION OF EFFECTIVE TAX RATE

€T	2022	2021
Profit before tax	**1,743,327**	**1,168,042**
Tax using tax rate of 31.9 %	556,613	372,956
Effect of non-tax-deductible expenses	51,710	51,676
Recognition of taxes from prior periods	−16,059	−2,843
Effect of tax rates in foreign branches	−100,586	−32,652
Other	13,810	4,862
Total income tax expense	**505,488**	**393,999**

10.4. MOVEMENT IN DEFERRED TAX BALANCES

In the reporting period and the comparative period, all deferred tax liabilities and assets were recorded and are split as follows:

2022					Balance at December 31		
€T	Net balance at January 1	Recognized in profit or loss	Recognized in OCI	Recognized in Capital Reserves	Net	Deferred tax assets	Deferred tax liabilities
Intangible assets	14,400	0	0	−1,678	12,722	12,722	0
Lease liabilities	749	491	0	0	1,240	14,426	−13,186
Financial assets valued at FVOCI	−13,539	−9,021	10,488	0	−12,072	5,972	−18,044
Special and mutual funds related to pension assets	20,030	612		0	20,642	20,642	0
Trading assets/liabilities	−2,654	4,085	0	0	1,431	75,939	−74,508
Allowance for expected credit losses	23,859	38,472	0	0	62,331	62,331	0
Defined benefit plans	−24,735	1,752	7,354	0	−15,627	9,841	−25,468
Other	33,575	41,690	0	17,142	92,407	101,313	−8,906
Total assets (+)/liabilities (–), before set off	**51,685**	**78,081**	**17,842**	**15,464**	**163,074**	**303,186**	**−140,112**
Set off of tax						−139,519	139,519
Net tax assets (+)/liabilities (–)						**163,668**	**−593**

2021					Balance at December 31		
€T	Net balance at January 1	Recognized in profit or loss	Recognized in OCI	Recognized in Capital Reserves	Net	Deferred tax assets	Deferred tax liabilities
Intangible assets	14,337	0	0	63	14,400	14,400	0
Lease liabilities	849	−100	0	0	749	6,190	−5,441
Financial assets valued at FVOCI	−22,129	6,981	1,609	0	−13,539	0	−13,539
Special and mutual funds related to pension assets	9,497	10,533	0	0	20,030	49,995	−29,965
Trading assets/liabilities	−19,665	17,011	0	0	−2,654	48,502	−51,156
Allowance for expected credit losses	26,238	−2,379	0	0	23,859	23,859	0
Defined benefit plans	−12,570	−10,022	−2,143	0	−24,735	26,764	−51,499
Other	32,636	939	0	0	33,575	36,508	−2,933
Total assets (+)/liabilities (–), before set off	**29,194**	**22,962**	**−534**	**63**	**51,685**	**206,218**	**−154,533**
Set off of tax						−154,533	154,533
Net tax assets (+)/liabilities (–)						**51,685**	**0**

11. Classification of financial assets and financial liabilities

The following table provides a reconciliation between line items in the balance sheet and categories of financial instruments.

December 31, 2022 €T	Note	Mandatorily at FVPL	Designated as at FVPL	FVOCI	Amortized cost	Total carrying amount
Cash and central bank balances	12	0	0	0	75,340,930	75,340,930
Loans and advances to banks	13	0	0	150,919	9,612,156	9,763,075
Loans and advances to customers	14	1,525,091	0	2,360,331	15,861,399	19,746,821
Securities purchased under agreements to resell or borrowed	15	46,474,590	0	0	19,769,040	66,243,630
Trading assets	16	220,383,968	0	0	0	220,383,968
Other assets excluding the net defined benefit plan assets and assets related to early retirement	19	89,627	0	0	43,521,507	43,611,134
Total financial assets		**268,473,276**	**0**	**2,511,250**	**164,105,032**	**435,089,558**
Deposits from banks	22	0	0	0	43,096,896	43,096,896
Deposits from customers	23	0	0	0	94,779,794	94,779,794
Securities sold under repurchase agreements or loaned	15	0	27,850,933	0	0	27,850,933
Trading liabilities	16	194,540,937	0	0	0	194,540,937
Financial liabilities designated at fair value through profit or loss	25	0	2,991,502	0	0	2,991,502
Other liabilities excluding deferred income	26	0	0	0	33,277,383	33,277,383
Subordinated liabilities	27	0	0	0	15,171,455	15,171,455
Total financial liabilities		**194,540,937**	**30,842,435**	**0**	**186,325,528**	**411,708,900**

December 31, 2021 €T	Note	Mandatorily at FVPL	Designated as at FVPL	FVOCI	Amortized cost	Total carrying amount
Cash and central bank balances	12	0	0	0	38,234,989	38,234,989
Loans and advances to banks	13	29,468	0	42,902	8,400,952	8,473,322
Loans and advances to customers	14	1,079,494	0	1,685,381	1,769,042	4,533,917
Securities purchased under agreements to resell or borrowed	15	43,388,551	0	0	1,381,516	44,770,067
Trading assets	16	145,303,607	0	0	0	145,303,607
Other assets excluding the net defined benefit plan assets and assets related to early retirement	19	0	0	0	39,720,271	39,720,271
Total financial assets		**189,801,118**	**0**	**1,728,283**	**89,506,770**	**281,036,173**
Deposits from banks	22	0	0	0	48,552,533	48,552,533
Deposits from customers	23	0	0	0	18,480,965	18,480,965
Securities sold under repurchase agreements or loaned	15	0	24,632,228	0	0	24,632,228
Trading liabilities	16	144,453,679	0	0	0	144,453,679
Financial liabilities designated at fair value through profit or loss	25	0	1,229,928	0	0	1,229,928
Other liabilities excluding deferred income	26	0	0	0	17,438,371	17,438,371
Subordinated liabilities	27	0	0	0	9,540,000	9,540,000
Total financial liabilities		**144,453,679**	**25,862,156**	**0**	**94,011,869**	**264,327,704**

12. Cash and central bank balances

See accounting policy in note 5.14.

€T	31/12/2022	31/12/2021
Central bank balances	75,340,930	38,234,989

The cash balance with the Central banks has increased by € 37,106 million to € 75,341 million, which was mainly driven by an increase in cash placement in Corporate Treasury, as a result of higher inflows and the J.P. Morgan SE merger.

13. Loans and advances to banks

See accounting policy in note 5.4 and note 35.

€T	31/12/2022	31/12/2021
Loans and advances to banks at FVOCI	150,919	42,902
Loans and advances to banks at amortized cost	9,612,487	8,400,974
Less allowance for credit losses	−330	−22
Loans and advances to banks at FVPL	0	29,468
Total loans and advances to banks	**9,763,075**	**8,473,322**

The size of the loan portfolio increased by € 1,290 million to € 9,763 million, mainly attributed to intercompany interest-bearing balances due from other commercial banks and depository.

Allowance for credit losses has increased by € 0.3 million compared to the previous year.

14. Loans and advances to customers

The Bank's main loan portfolio is in the segments: Private Bank and Banking. Loans to customers include loans made to a variety of customers, such as private bank clients, large corporate and institutional clients.

The loan portfolio has increased significantly by € 15,213 million to € 19,747 million during the year 2022 with main segments: Private Bank € 14,120 million and Banking – specifically in the line of business Retained Lending – by € 894 million. The Private Bank segment impact is a result of the J.P. Morgan SE merger.

€T	31/12/2022	31/12/2021
Loans and advances to customers at FVOCI	2,360,331	1,685,381
Loans and advances to customers at amortized cost	16,001,234	1,777,364
Less allowance for credit losses	−139,834	−8,322
Loans and advances to customers at FVPL	1,525,091	1,079,494
Total loans and advances to customers	**19,746,821**	**4,533,917**

The credit quality and analysis of concentration of loans and advances to customers is managed within the Bank's Credit Risk Management function, reference to the risk report and note 35.

15. Securities financing agreements

€T	31/12/2022	31/12/2021
Securities purchased under agreements to resell	65,381,449	43,900,617
Securities borrowed	862,181	869,450
Securities purchased under agreements to resell or borrowed	**66,243,630**	**44,770,067**
Securities sold under agreements to repurchase	24,777,650	24,062,738
Securities loaned	3,073,283	569,490
Securities sold under repurchase agreements or loaned	**27,850,933**	**24,632,228**

J.P. Morgan SE enters into resale agreements, repurchase agreements, securities borrowing and securities lending transactions (collectively, "securities financing agreements") primarily to facilitate customers' funding requirements, to finance the Bank's inventory positions, acquire securities to cover short positions and settle other securities obligations.

Securities purchased and securities sold under agreements to resell/repurchase and securities borrowing and securities lending transactions are generally carried at the amount of the cash collateral advanced or received.

In resale agreements and securities borrowed transactions, the Bank is exposed to credit risk to the extent that the value of the securities received is less than initial cash principal advanced and any collateral amounts exchanged. In repurchase agreements and securities loaned transactions, credit risk exposure arises to the extent that the value of underlying securities exceeds the value of the initial cash principal advanced, and any collateral amounts exchanged.

It is also the Bank's policy to take possession, where possible, of the securities underlying resale agreements and securities borrowed transactions. Refer to note 31 for additional information on netting arrangements.

At year-end 2022, there was a significant increase in securities purchased under agreements to resell by € 21,474 million attributed primarily to Corporate segment – Treasury by € 18,388 million and market making activities in the Markets segment: Fixed Income Financing € 5,779 million offset by a decrease in Credit Portfolio Group by € 1,653 million and Currencies and Emerging Markets by € 1,101 million. Additionally, there was an increase in the securities sold under repurchase agreements or loaned at the amount of € 3,219 million out of which € 2,504 million related to securities loaned, which is coming from the Markets segment – Global Equities of the amount of € 2,560 million partly offset by a reduction in Fixed Income Financing in the amount of € 55 million.

16. Trading assets and liabilities

SUMMARY

	Trading assets		Trading liabilities	
€T	31/12/2022	31/12/2021	31/12/2022	31/12/2021
Non-derivatives	28,254,847	22,322,253	21,970,926	14,207,522
Derivatives	192,129,122	122,981,354	172,570,012	130,246,157
Total	**220,383,968**	**145,303,607**	**194,540,937**	**144,453,679**

TRADING ASSETS

€T	31/12/2022	31/21/2021
Equity instruments	4,238,210	3,566,688
Debt instruments	21,506,255	17,687,733
Derivatives	192,129,122	122,981,354
Others	2,510,382	1,067,832
Total trading assets	**220,383,968**	**145,303,607**

TRADING LIABILITIES

€T	31/12/2022	31/21/2021
Equity instruments	120,364	425,402
Debt instruments	21,850,562	13,782,087
Derivatives	172,570,012	130,246,157
Others	–	33
Total trading liabilities	**194,540,937**	**144,453,679**

The increase in trading assets amounting to € 75,080 million and trading liabilities to € 50,087 million was mainly driven by the segment Markets: Global Equities and Global Rates as a result of market volatility throughout the year.

The following table breaks down the notional amount and the fair value of the derivative financial instruments according to their type and scope.

			2022
€T	Notional amount	Positive market values	Negative market values
Interest rate	12,151,990,129	119,847,043	103,589,811
Equity	505,462,077	14,756,490	13,546,929
Foreign exchange	2,311,761,861	48,861,996	46,529,600
Credit	480,600,863	4,567,748	4,803,892
Commodity	51,483,410	4,095,845	4,099,780
Total derivatives	**15,501,298,340**	**192,129,122**	**172,570,012**

			2021
€T	Notional amount	Positive market values	Negative market values
Interest rate	11,033,850,791	72,906,108	80,124,541
Equity	433,471,267	14,400,409	14,562,603
Foreign exchange	2,249,937,531	25,154,886	24,907,044
Credit	314,950,596	5,955,181	6,088,259
Commodity	49,280,530	4,564,770	4,563,710
Total derivatives	**14,081,490,715**	**122,981,354**	**130,246,157**

17. Property and equipment

Property and equipment includes land and building, leasehold improvements, fixtures and furniture, IT equipment and right-of-use assets.

As a result of the J.P. Morgan SE merger, the net book value of property and equipment, including leasehold improvements, increased by € 173 million to € 339 million in 2022. The main contributing factor to the overall increase is the building in Dublin which was added as a result of the merger. At year-end 2022, the respective increases in acquisition costs and depreciation amounted to € 197 million and € 41 million.

The table below provides the details of changes in property and equipment and RoU assets of the Bank in 2022 and 2021:

€T	Right-of-use assets 2022	Right-of-use assets 2021	IT equipment 2022	IT equipment 2021	Fixtures and furniture 2022	Fixtures and furniture 2021	Land and building 2022	Land and building 2021	Total property and equipment 2022	Total property and equipment 2021
Carrying amount at January 1	**17,040**	**19,511**	**1,125**	**772**	**15,237**	**17,983**	**132,346**	**120,800**	**165,748**	**159,066**
Acquisition cost at January 1	**29,983**	**28,999**	**2,122**	**3,004**	**30,563**	**30,010**	**135,642**	**121,717**	**198,310**	**183,730**
Additions from merger	0	0	11,000	0	26,846	0	158,913	0	196,759	0
Additions	34,979	2,156	4,678	761	4,072	3,333	2,201	11,243	45,930	17,493
Disposals	−585	−1,173	−1,511	−1,706	−312	−35	0	0	−2,409	−2,914
Reclasses	−11	0	47	64	−389	−2,746	341	2,682	−11	0
Acquisition cost at December 31	**64,366**	**29,983**	**16,336**	**2,122**	**60,780**	**30,563**	**297,097**	**135,642**	**438,579**	**198,310**
Accumulated depreciation at January 1	**12,943**	**9,488**	**998**	**2,232**	**15,326**	**12,027**	**3,297**	**917**	**32,563**	**24,664**
Additions from merger	0	0	8,878	0	13,512	0	18,827	0	41,217	0
Depreciation for the year	10,715	4,623	2,523	408	7,528	3,406	7,120	2,380	27,884	10,817
Disposals	−585	−1,173	−1,511	−1,706	−193	−44	0	0	−2,290	−2,923
Reclasses	−5	5	0	64	0	−64	0	0	−5	5
Accumulated depreciation at December 31	**23,068**	**12,943**	**10,887**	**998**	**36,172**	**15,326**	**29,244**	**3,297**	**99,371**	**32,563**
Carrying amount at December 31	**41,298**	**17,040**	**5,449**	**1,125**	**24,608**	**15,237**	**267,853**	**132,346**	**339,209**	**165,748**

18. Intangible assets

As part of the J.P. Morgan SE merger, intangible assets have been added to the balance sheet. Intangible assets include self-developed software and purchased software with the net book value as at December 31, 2022, € 29 million. The respective increases in acquisition costs and amortization amount to € 93 million and € 68 million.

The table below provides the details of changes in intangible assets of the Bank in 2022 and 2021:

	Self-developed Software		Purchased Software		Total	
€T	2022	2021	2022	2021	2022	2021
Carrying amount at January 1	**0**	**0**	**0**	**0**	**0**	**0**
Acquisition cost at January 1	**0**	**0**	**0**	**0**	**0**	**0**
Additions from merger	82,043	0	11,419	0	93,462	0
Additions	21,373	0	21	0	21,395	0
Disposals	0	0	401	0	401	0
Reclasses	0	0	0	0	0	0
Acquisition cost at December 31	**103,416**	**0**	**11,040**	**0**	**114,456**	**0**
Accumulated amortization at January 1	**0**	**0**	**0**	**0**	**0**	**0**
Additions from merger	57,065	0	10,438	0	67,503	0
Amortization/charge for the year	16,975	0	1,003	0	17,979	0
Additions	0	0	0	0	0	0
Disposals	0	–	401	0	401	0
Reclasses	0	0	0	0	0	0
Accumulated amortization at December 31	**74,041**	**0**	**11,040**	**0**	**85,080**	**0**
Book value at December 31	**29,376**	**0**	**0**	**0**	**29,376**	**0**

19. Other assets

€T	2022	2021
Trade receivables	18,142,274	13,552,089
Other receivables (Collateral)	24,854,271	26,003,424
Net defined benefit plan assets	85,549	110,204
Prepayments and accrued income	524,961	164,758
Sundry other assets	5,687	3,658
Inventories	87,598	–
Total other assets	**43,700,342**	**39,834,131**

Trade receivables consists primarily of unsettled trades relating to sales of securities which have not yet settled. Trade receivables increased by € 4,590 million to € 18,142 million due to unsettled trades receivables amounting to € 3,344 million in Markets (line of business: Global Equities € 1,595 million and Global Rates € 1,003 million).

Other receivables (Collateral) include interest-bearing cash collateral pledged to counterparties and held by other bilateral trading partners. Trading partners may include banks, broker dealers, hedge funds or other financial institutions. Other receivables (Collateral) decreased by € 1,149 million to € 24,854 million mainly attributed to collateral pledged. For collateral pledged, the variance amounted to € 2,093 million, with a balance of € 23,950 million at year-end, attributed to the following lines of businesses: Credit Portfolio Group Derivatives € 3,811 million offset by Global Equities € 2,422 million, in Markets, as a result of lower third-party volumes.

Net defined benefit plan assets at the amount of € 86 million have decreased by € 25 million at year-end. The decrease is attributed to a reduction in the fair value of pension assets due to market movements and a decrease in the defined benefit obligation impacted by changes in actuarial assumptions being used.

Prepayments and accrued income increased by € 360 million mainly seen in accrued income from third party in Markets.

Sundry other assets is comprised of € 4 million of early retirement scheme assets and € 2 million of an equity investment in shares of S.W.I.F.T. SC.

The Bank holds inventories which are comprised of commodity positions at the amount of € 88 million. These commodity positions were added to the balance sheet as part of the J.P. Morgan SE merger, in the segment Private Bank.

20. Pensions

DEFINED BENEFITS PENSION PLANS

The Bank is involved in the following defined benefits plans:

- The Flexible Pension Plan ("FPP") is the principal active plan offered in Germany since January 1, 2002. The plan is jointly funded by the staff and the Bank and results in installment payments to participants when they reach retirement age. The plan also provides for payments in the event of disability or death. Plan assets are allocated to mutual funds based on decisions made by employees about what type of investments they prefer. The pay-outs are largely linked to the performance of the selected funds with a guaranteed minimum interest rate. Employees will only participate in fund performance that is between 70 % and 85 % above the guaranteed minimum interest rate, with a factor called "profit participation" being applied.
- The Heritage pension plans consist of five different legacy plans in Germany. The plans have been closed and have been funded accordingly. The plan also provides for payments in the event of disability or death. The plan assets are held in an investment fund that is mainly invested in bonds with an investment grade rating. Some of the plans include additional insurance coverage.
- The Deferred Incentive Compensation plans ("DIC") comprise three further legacy plans in Germany. The plans have been closed and have been funded accordingly. The plan assets are mainly invested in debt securities with an investment grade rating as well as portfolio of companies globally.
- In addition to the aforementioned plans, there are defined benefit plans in the Bank's branches in Dublin, Milan, Paris and Oslo.

An actuarial valuation of the plans as at December 31, 2022 under IAS 19 was carried out by the Group's external actuary, Mercer Global (Willis Tower Watson for Oslo Branch) and exposure to pension risk arises primarily from the J.P. Morgan SE plans in Germany.

The changes in the net assets/liabilities of all defined benefit plans are presented in the table below:

€T	2022	2021
Defined benefit plan obligations at the beginning of the year	**212,527**	**213,326**
Service cost	**4,720**	**3,336**
Current service cost	4,720	3,336
Past service cost	0	0
Gain (–)/Loss (+) on settlements	0	0
Interest expense	**2,037**	**1,443**
Cash flows	**−8,919**	**−8,234**
Benefit payments from plan assets [1]	−1,058	−1,027
Benefit payments from employer [2]	−7,861	−7,207
Settlement payments from plan assets	0	0
Settlement payments from employer	0	0
Participant contributions	0	0
Administrative expenses and taxes paid	0	0
Other significant events	**7,942**	**1,605**
Increase due to plan combinations	7,942	1,605
Remeasurements	**−39,254**	**1,051**
Effect of changes in demographic assumptions	0	0
Effect of changes in financial assumptions	−36,050	−5,790
Effect of experience adjustments	−3,204	6,841
Defined benefit plan obligations at the end of the year	**179,053**	**212,527**
Defined benefit plan assets at the beginning of the year	**315,185**	**303,111**
Interest income	**3,160**	**2,125**
Cash flows	**3,441**	**2,040**
Employer contributions [3]	12,360	10,274
Benefit payments from plan assets [1]	−1,058	−1,027
Benefit payments from employer [2]	−7,861	−7,207
Settlement payments from plan assets	0	0
Settlement payments from employer	0	0
Participant contributions	0	0
Administrative expenses and taxes paid	0	0
Remeasurements	**−76,560**	**7,909**
Actual return on plan assets excluding amounts (excluding interest income)	−76,560	7,909
Other significant events	**9,244**	**0**
Increase due to business transfers	9,244	0
Effect of changes in foreign exchange rates	**0**	**0**
Defined benefit plan assets at the end of the year	**254,470**	**315,185**
Net defined benefit assets at the end of the year	**85,549**	**110,203**
Net defined benefit liabilities at the end of the year	**10,132**	**7,545**

[1] Pension payments out of plan assets, for example payments under eligible insurance contracts
[2] Pension payments made directly by the Bank
[3] Contributions made to the plan assets by the Bank

With the exception of four plans, all defined benefit plans were over funded at the end of 2022. The assets and liabilities corresponding to these plans are shown net in the balance sheet under other assets. The net defined benefit liabilities related to the underfunded plans are reported in the balance sheet under provisions. The financing status is monitored on a quarterly basis by a special supervisory body, the "Pension Committee". If the funding gap exceeds certain thresholds, measures to close the shortfall are considered.

The table below provides the details of amounts recognized in net profit:

€T	2022	2021
Service cost		
Current service cost	4,720	3,336
Past service cost	0	0
Gain (–) / Loss (+) on settlements	0	0
Total service cost	**4,720**	**3,336**
Net interest cost		
Interest expense on deferred benefit plan obligations	2,037	1,443
Interest income on plan assets	−3,160	−2,125
Interest expense on asset ceiling effect	0	0
Total net interest cost	**−1,123**	**−682**

The table below provides the details of amounts recognized in other comprehensive income:

€T	2022	2021
Remeasurements		
Effect of changes in demographic assumptions	0	0
Effect of changes in financial assumptions	−36,050	−5,790
Effect of experience adjustments	−3,204	6,841
Return on plan assets excluding amount recognized in interest income	76,560	−7,909
Total remeasurements	**37,306**	**−6,858**

The investments in mutual funds (2022: € 90 million, 2021: € 107 million) which are held in the plan assets are valued at the current market price in accordance with IAS 19. Other plan assets include investment in special institutional funds (2022: € 149 million, 2021: € 194 million) and qualifying insurance policies (2022: € 13 million, 2021: € 13 million) which aren't quoted on an active market.

The Bank estimates the following effect of its defined benefit plans on its future cash flows:

€T	2022	2021
Expected total benefit payments	**123,158**	**104,432**
Year 1	11,283	9,153
Year 2	10,979	9,435
Year 3	11,735	10,327
Year 4	12,299	10,448
Year 5	12,664	10,962
Next 5 years	64,198	54,107

The weighted average duration of the defined benefit obligations was estimated as 9.19 years for 2021 and 6.92 years for 2022.

ACTUARIAL ASSUMPTIONS

The Bank applied actuarial assumptions in measuring the defined benefits obligations. Further, the valuation has taken place at the date of financial statements.

- Discount rate: the discount rate is based on the high-grade corporate bond yields in the currency and timeframe overall for all plans;
- Salary increase rate: the rate at which the salary of the participants of the defined benefit plans is expected to increase;
- Pensions-in-payment increase rate: the rate at which pensions that are being paid out are expected to increase year-on-year;
- Price inflation rate: expected rate of inflation;
- Post-retirement mortality assumption: assumption of longevity after retirement. Mortality assumptions for German pension plans are based on the tables of Prof. Dr. Klaus Heubeck 2018 G.

In estimating the present value of the defined benefit obligations, the Bank used the following range of weighted-average assumptions across multiple defined benefit plans of J.P. Morgan SE:

%	31/12/2022	31/12/2021
Discount rate	3.95 % – 4.25 %	1 % – 1.40 %
Salary increase rate	3 % – 3.48 %	2.5 % – 3.48 %
Pensions-in-payment increase rate	2 % – 2.5 %	1.75 % – 2.5 %

In assessing the defined benefit plan related costs (including service costs and administration fees), the Bank used the following range of weighted-average assumptions across multiple defined benefit plans of J.P. Morgan SE:

%	2022	2021
Discount rate	1 % – 1.4 %	0.7 % – 1.10 %
Salary increase rate	2.5 % – 3.48 %	2.5 % – 3.48 %
Pensions-in-payment increase rate	1.75 %	1.75 %

Given the uncertainty inherent in these actuarial assumptions and the long-time horizons to which they are applied, the Bank performs the following sensitivity analysis to estimate the potential impact on the defined benefit obligations and defined benefits plan costs resulting from changes in these assumptions:

€T	31/12/2022	31/12/2021
Discount rate: –25 basis points	188,722	213,119
Discount rate: +25 basis points	182,032	203,706
Salary increase rate: –50 basis points	95,945	123,492
Salary increase rate: +50 basis points	96,112	124,221
Pensions-in-payment increase rate: –25 basis points	105,251	123,386
Pensions-in-payment increase rate: +25 basis points	108,559	131,377
Post-retirement mortality assumption and life expectancy: +1 year	103,013	134,159

The sensitivity analysis is performed by varying the value of respective actuarial assumptions while keeping other variables constant and estimating the impact of these variables on the amount of the obligation. Interdependencies between the variables are not being considered in the sensitivity analysis.

The Bank is exposed to the pension risk, which is defined as the risk caused by contractual or other liabilities to or with respect to a pension scheme. Pension risk is driven by market and demographic risks where the pension scheme may be unable to meet future expected benefit payments.

21. Share-based payments

SHARE-BASED PAYMENT ARRANGEMENTS

In 2022, 2021 and 2020, the ultimate parent company of the Bank granted certain employees long-term share-based bonuses as part of the incentive systems.

The recipient does not incur any costs for the granting of restricted stock units (RSUs). As a rule, RSUs are granted annually and 50 % vested after two years and the remaining 50 % vested after three years. At the time of grant, they will be converted into common stock. In addition, RSUs usually contain provisions on pension entitlement that enable employees to continue to comply with an exercise period in the event of voluntary, age-related termination. The provisions are subject to possible employment after termination of the employment relationship and other restrictions. All RSU entitlements contain forfeiture conditions and clawback regulations on the part of the Bank.

The Bank records the compensation expense for each tranche of each award, minus the estimated options that expire, separately, as if it were a separate award with its own exercise date. The Company estimates the amount of options that will expire and applies that forfeiture rate at the time of grant. In general, the compensation expense for each tranche granted is recognized on a straight-line basis from the grant date to the exercise date of the respective tranche, provided that the employees are not entitled to retirement during the exercise period. For awards with pension eligibility provisions and awards granted without future material performance requirements, the Bank calculates the estimated value of the awards at the time of granting that are likely to be transferred to employees, without taking into account the effects of post-employment restrictions. For each tranche granted to employees who receive pension entitlement during the vesting period, the compensation expense is recorded linearly from the grant date to either the employee's pension entitlement date or the employee's exercise date, whichever is earlier.

The offsetting entry for the reported compensation expense is made in the capital reserve. The RSUs are therefore reported as an addition to capital reserves. Cash reimbursements made by the Bank to its ultimate parent company for these premiums reduce the capital reserves in the equity of the balance sheet. Cash reimbursements are made at the lower of the market value on the grant date or the market value on the exercise date, with the difference remaining in equity.

The following table summarizes the Bank's RSU activity for the business years 2022 and 2021.

	2022		2021	
	Number of units	Weighted average fair value, €	Number of units	Weighted average fair value, €
Outstanding at January 1	1,314,829	109.16	927,974	98.19
Granted	1,251,401	135.87	819,093	118.43
Vested	−1,072,335	116.18	−750,396	100.21
Canceled	−25,235	132.06	−292,995	110.83
Transferred	563,739	128.56	611,153	109.16
Outstanding at December 31	2,032,399	128.56	1,314,829	109.16

The Bank recognized the following non-cash compensation expense related to RSU plans in its statement of comprehensive income.

€T	2022	2021
RSU Expense	143,701	134,926

22. Deposits from banks

€T	2022	2021
Banking	7,657,521	4,954,905
Commercial Banking	49,457	37,298
Corporate Treasury	20,376,333	35,396,733
Markets	14,857,075	8,101,788
Private Bank	3,592	0
Securities Services	152,918	61,809
Total deposits from banks	**43,096,896**	**48,552,533**

Deposits from banks has experienced a decrease by € 5,456 million compared to the previous year, mainly driven by an increase in Markets (line of business Credit Portfolio Group Derivatives) by € 6,433 million and an increase in Banking (line of business Payments) by € 2,570 million due to higher external bank deposits offset by a decrease in overall placements of Euro excess cash in Corporate Treasury amounting € 15,067 million.

23. Deposits from customers

€T	2022	2021
Banking	23,075,721	4,357,182
Commercial Banking	6,746,595	860,940
Markets	8,978,418	7,302,657
Private Bank	20,825,904	0
Securities Services	35,153,156	5,960,186
Total deposits from customers	**94,779,794**	**18,480,965**

Deposits from customers have increased by € 76,299 million compared to the previous year, mainly driven by the J.P. Morgan SE merger which led to the integration of Private Bank € 20,826 million as well as resulted the movements in the following segments: increase in Securities Services by € 29,193 million, Banking (line of business Payments) by € 18,724 million, Commercial Banking by € 5,881 million and Markets (line of business Credit Portfolio Group Derivatives) by € 1,458 million.

24. Provisions

PROVISIONS

€T	2022	2021
Provisions for pensions and similar obligations	10,132	7,545
Provisions for undrawn contractually committed facilities	75,371	69,186
Other provisions	1,439	1,239
Total	**86,943**	**77,971**

PROVISIONS FOR UNDRAWN CONTRACTUALLY COMMITTED FACILITIES

Further details on provisions for undrawn contractually committed facilities are provided in note 35 to the financial statements.

PROVISIONS FOR PENSIONS AND SIMILAR OBLIGATIONS

Further details on provisions for Pensions and Similar obligations are provided in note 20 to the financial statements.

OTHER PROVISIONS

€T	2022	2021
Balance at January 1	**1,239**	**377**
Provisions made during the year	200	1,239
Provisions used during the year	0	350
Provisions reversed during the year	0	27
Unwind of discount	0	0
Balance at December 31	**1,439**	**1,239**
Non-current	0	0
Current	1,439	1,239

25. Financial liabilities designated at FVPL

Financial liabilities designated at FVPL comprises intercompany fully-funded derivative risk transfers.

Valuation adjustments based on own credit represent the adjustment, relative to the relevant benchmark interest rate, necessary to reflect the credit quality of the Bank in the valuation of liabilities measured at fair value. The Bank also incorporates the impact of funding in its valuation estimates where there is evidence that a market participant in the principal market would incorporate it in a transfer of the instrument.

Valuation adjustments based on own credit on financial liabilities that the Bank has designated as measured at FVPL reflect changes (subsequent to the issuance of the liability) in the Bank's probability of default and loss given default, which are estimated based on changes in the Firm's credit spread observed in the bond market.

The table below sets out the cumulative valuation adjustment based on own credit, carrying amount and contractual amounts due at maturity of the Bank's financial liabilities designated as measured at FVPL:

€T	Cumulative valuation adjustment recorded in OCI based on own credit	Carrying amount of financial liabilities designated at FVPL	Contractual amount of financial liabilities due at maturity[1]
December 31, 2022			
Cumulative valuation adjustment based on own credit risk	0	2,991,502	2,991,502
Total cumulative valuation adjustment based on own credit risk on financial liabilities designated at FVPL	**0**	**2,991,502**	**2,991,502**
December 31, 2021			
Cumulative valuation adjustment based on own credit risk	0	1,229,928	1,229,928
Total cumulative valuation adjustment based on own credit risk on financial liabilities designated at FVPL	**0**	**1,229,928**	**1,229,928**

[1] Contractual amounts due at maturity for structured notes will fluctuate due to the price change of the embedded derivative.

The table above does not include liabilities arising from securities sold under agreements to repurchase of € 24,778 million (2021: € 24,063 million) and securities loaned of € 3,073 million (2021: € 570 million) that the Bank has designated as measured at FVPL as the collateral arrangements fully cover the secured liabilities. As a result, there was no adjustment for the Bank's own credit risk for these agreements.

There were no valuation adjustments based on own credit risk gains/losses recognized in other comprehensive income on financial liabilities that were derecognized during the period (2021: Nil).

26. Other liabilities

€T	2022	2021
Lease liabilities	45,182	19,385
Trade payables	18,741,276	14,427,806
Amounts owed to JPMorgan Chase undertakings	508,926	48,343
Accruals and deferred income	1,005,231	448,187
Others	12,991,203	2,505,942
Total	**33,291,818**	**17,449,663**

Compared to the prior year, lease liabilities increased by € 26 million. Prior to the J.P. Morgan SE merger, lease liabilities in J.P. Morgan Bank Luxembourg S.A. amounted to € 12 million.

Trade payables predominantly consist of unsettled trades, brokerage fees payables incurred in respect of assets transferred which have not yet settled. Trade payables increased by € 4,313 million to € 18,741 million due to the following impacts in Markets: Global Equities by € 2,584 million and Global Rates by € 839 million, as well as Fixed Income Financing by € 784 million.

Amounts owed to JPMorgan Chase undertakings increased by € 461 million as a result of intercompany payables.

Accruals and deferred income changed by € 557 million mainly attributed to increase in interest payable in deposits and incentive plans due to headcount increase as a result of the J.P. Morgan SE merger.

The increase in ''Others'' compared to the previous year is mainly recognized in other payables due to higher volume related to Clearing of Derivatives in Markets – Futures & Options business in Global Equities amounting to € 9,527 million.

27. Subordinated liabilities

The following table provides an overview of the subordinated liabilities. Due to the merger with J.P. Morgan Bank Luxembourg S.A., the subordinated debt amounting to $ 3,500 million (equivalent € 3,281 million) was transferred to J.P. Morgan SE. Additionally, the tier-2 instrument of € 150 million was converted into tier-1 capital in January 2022.

Lender	Issued	Dated	Interest	2022 €T	2021 €T
J.P. Morgan International Finance Limited	December 21, 2009	December 21, 2039	3-months EURIBOR	0	150,000
J.P. Morgan International Finance Limited	December 3, 2020	December 3, 2030	€STR + 97 bps	840,000	840,000
J.P. Morgan International Finance Limited	November 18, 2020	November 20, 2028	SOFR + 124 bps	3,281,455	0
J.P. Morgan International Finance Limited	January 8, 2021	January 8, 2031	€STR + 93 bps	1,630,000	1,630,000
J.P. Morgan International Finance Limited	October 8, 2021	October 8, 2031	€STR + 97 bps	6,920,000	6,920,000
J.P. Morgan International Finance Limited	December 23, 2022	December 23, 2032	€STR + 179 bps	2,500,000	0
Total				**15,171,455**	**9,540,000**

28. Equity

28.1. SUBSCRIBED CAPITAL, SHARE PREMIUM, CAPITAL RESERVE AND RETAINED EARNINGS

The subscribed capital of J.P. Morgan SE has slightly increased compared to the prior year as a result of the merger during 2022, consisting of 136 new shares issued with a corresponding amount of € 1,586.12. The overall outstanding amount of subscribed capital as of December 31, 2022, was € 1,867 million with a calculated nominal value per share of € 11.67. The subscribed

capital of J.P. Morgan SE is divided into 160,000,136 ordinary no par value registered shares. The shares can only be transferred with the Bank's approval. The shares are fully paid up and are held directly by J.P. Morgan International Finance Limited, Newark/Delaware, USA, and each share has one voting right in the annual general meetings as well as an equal right to dividends.

As a result of the J.P. Morgan SE merger, a share premium amounting to € 5,404 million was added in the overall equity as of December 31, 2022. The share premium reflects the difference between consideration paid and the book value of the assets and liabilities received as a result of the merger.

Other capital reserve amounting to € 13,919 million as of January 1, 2022 has increased from the conversion of subordinated debt by € 150 million in January 2022 from J.P. Morgan International Finance Limited. As a result, the capital reserve amounted to € 14,069 million as of December 31, 2022.

Retained earnings consist of net income of prior years as well as the current reporting year that was not distributed as dividends. As a result of the J.P. Morgan SE merger, retained earnings were decreased by an amount of € 2 million.

Dedicated to its Luxembourg Branch, J.P. Morgan SE maintains a special reserve that is related to the Luxembourg net wealth tax pursuant to § 8a of the Luxembourg Net Wealth Tax Law. Maintaining the reserve aims at reducing the net wealth tax liabilities in line with Luxembourg tax law, under the condition that such reserves aren't distributed for a period of five years. As a result of the J.P. Morgan SE merger, the part of the reserve that already existed pre-merger and that is still non-distributable as of year-end 2022 is recorded as part of the share premium of J.P. Morgan SE and amounted to € 78 million as of December 31, 2022. The part of the net wealth tax reserve that was newly recorded after the merger is part of retained earnings and amounted to € 24 million as of December 31, 2022.

The ability to pay-out dividends or to pay back reserves is pursuant to the German commercial and share company law and it is also based on the financial statements according to the local accounting standards applicable in Germany and not on these IFRS financial statements. Under those standards, subscribed capital and part of the capital reserve as well as a part of retained earnings are restricted to be paid out as dividends or to be paid back to the shareholder. Free reserves that could be returned to the shareholder as either dividends or a payback of capital amounted to € 21,128 million as of December 31, 2022 (31/12/2021: € 14,744 million).

28.2. ACCUMULATIVE OTHER COMPREHENSIVE INCOME

The position "Other reserves" consists of fair value changes on loans at FVOCI and net actuarial gains/losses for defined benefits plans.

28.3. CAPITAL MANAGEMENT

The Management Board is responsible for capital management. J.P. Morgan SE ensures through a comprehensive capital management framework that it maintains adequate financial resources at all times to meet internal and external requirements. Its main capital objectives are to hold sufficient capital to:

- Support risks underlying business activities with a view of preserving capital strength;
- Meet and exceed minimum regulatory requirements on capital;
- Continue to build and invest in business activities through normal and stressed environments;
- Retain flexibility to take advantage of future investment opportunities;
- Ensure continued operation in the event of stress or the resolution of the parent company.

The framework used to manage capital risks within J.P. Morgan SE is based around a regular cycle of point-in-time capital adequacy assessments, monitoring and reporting, supplemented by forward-looking projections and stress-testing, with corrective action taken when required to maintain an appropriate level of capitalization.

Through this process, key capital risk metrics such as capital ratios, leverage ratios, MREL requirements and capital utilization in the ICAAP economic perspective are calculated and monitored to ensure that minimum regulatory requirements as well as internally set limits and targets for capital risk are not breached. Each part of the process is subject to rigorous controls, including capital adequacy reporting at daily, weekly and quarterly frequencies to ensure appropriate oversight in line with the Capital Management Framework.

Escalation of issues is driven by a framework of specific limits and indicators defined in J.P. Morgan SE's Capital Risk Management Framework. The J.P. Morgan SE Management Board receives at least quarterly updates on the capital position and projections and has oversight of decisions related to capital usage and capital strategy.

The quarterly ICAAP aims to ensure that J.P. Morgan SE is adequately capitalized in relation to its risk profile and appetite through the economic cycle and under a range of severe but plausible stress scenarios. The quarterly ICAAP results are reviewed by the J.P. Morgan SE ICAAP Steering Committee and the J.P. Morgan SE Management Board.

28.4. CAPITAL REQUIREMENTS

The minimum capital requirements stand at 14.25 % as of December 2022, increased by 0.68 % in comparison to December 2021, primarily driven by increase in Other Systemically Important Institutions (O-SIIs) buffer to 0.75 % in January 2022 along with an increase in Countercyclical buffer (CCyB) rates across various countries during the year 2022. The entity maintained a comfortable capital surplus over the regulatory minimum requirements, internally set targets and risk appetite throughout 2022.

In addition to the above listed requirements, J.P. Morgan SE requires to hold a further Pillar 2 capital add-on commonly known as the Pillar 2 Guidance (P2G) of 2.00 % which must be met entirely with CET1 capital. Although not legally binding, the ECB expects J.P. Morgan SE to meet the P2G requirements. Failure to meet the P2G requirements does not lead to automatic supervisory measures such as restrictions of capital distributions or incentive compensation.

The overview below of the composition of J.P. Morgan SE's capital shows the figures on both "with transitional provisions" and "fully loaded".

Position	with transitional provisions		fully loaded[3]	
€T	2022	2021	2022	2021
Equity as shown in balance sheet	23,699,997	16,957,578	23,699,997	16,957,578
Fair value gains and losses arising from the institution's own credit risk related to derivative liabilities	–	–	–	–
Cumulative gains and losses due to changes in own credit risk on fair valued liabilities	–	–	–	–
Correction to non-controlling interests (minorities)	–	–	–	
Goodwill	–	–	–	–
Intangible assets	−29,376		−29,376	–
Surplus in plan assets	−71,282	−106,771	−71,282	−106,771
Deferred tax assets from loss carry forwards	–	–	–	
Shortfall due to expected loss	−58,535	−2,036	−58,535	−2,036
Prudential valuation	−1,033,171	−634,838	−1,033,171	−634,838
First loss positions from securitizations	–	–	–	–
Deferred tax assets from temporary differences which exceed the 10 % threshold	–	–	–	–
Unrecognized gains	–	–	–	–
Others and rounding[1]	−1,227,660	−789,423	−1,227,660	−789,423
Common Equity Tier 1	21,279,973	15,424,509	21,279,973	15,424,509
Additional Equity Tier 1	–	–	–	–
Tier 1 capital	21,279,973	15,424,509	21,279,973	15,424,509
Tier 2 capital	15,171,455	9,540,000	15,171,455	9,540,000
Regulatory Capital	36,451,428	24,964,509	36,451,428	24,964,509
Risk-weighted assets	107,840,103	89,844,996	107,840,103	89,844,996
of which credit risk[2]	64,025,087	53,088,367	64,025,087	53,088,367
of which market risk	36,009,590	32,243,990	36,009,590	32,243,990
of which operational risk	7,805,426	4,512,640	7,805,426	4,512,640
Common Equity Tier 1 ratio (%)	19.73 %	17.17 %	19.73 %	17.17 %
Tier 1 ratio (%)	19.73 %	17.17 %	19.73 %	17.17 %
Total capital ratio (%)	33.80 %	27.79 %	33.80 %	27.79 %

[1] Others includes audited profit and OCI updates on account of financial statement as of December 2022 not considered in the regulatory capital submission for COREP Reporting Q4 2022.
[2] Includes credit valuation adjustment risk, Settlement risk and other Risk exposure amounts.
[3] According to Regulation (EU) No 575/2013 of the European Parliament and of the Council of June 26, 2013.

The table reconciles reported Equity to Common Equity Tier 1 (CET1) and the other components of regulatory capital.

As at the reporting date, Common Equity Tier 1 capital was € 21,280 million compared to € 15,425 million as at December 31, 2021. The increase of € 5,855 million is driven by inclusion of the share premium of € 5,404 million resulting from the J.P. Morgan SE-merger along with the inclusion of the annual audited net income for the year 2021 (€ 774 million) partly offset by the increase in the adjustment to CET1 due to prudent filters amounting to € 398 million.

Total Regulatory Capital was higher due to the above-mentioned increase in CET1/Tier 1 capital along with additional issuances of Tier 2 capital instruments of € 5,631 million during 2022.

Risk-weighted assets were € 107,840 million at the reporting date, € 17,996 million above the previous year's level. The surge was across Risk stripes i. e., Credit Risk € 10,936 million, Market Risk € 3,765 million and Operational Risk € 3,292 million and driven by the J.P. Morgan SE-merger.

The Common Equity Tier 1 ratio was at 19.73 % as of reporting date, compared to 17.17 % as at December 2021 and Total capital ratio was 33.80 % as at the reporting date, compared to 27.79 % as at December 2021. The overall increase in these capital ratios is mainly attributed to increased capital resources as previously mentioned, partly offset by increased risk weighted assets.

29. Notes to the cash flow statement

€T	2022	2021
Profit before income tax	**1,743,327**	**1,168,042**
Adjustments for:		
Non-cash movements (Loan loss provision)[1]	66,836	−40,863
Depreciation of tangible fixed assets	45,863	10,817
Share-based payments	143,701	134,926
Interest received[1]	2,427,311	2,116,915
Interest paid[1]	−1,891,769	−2,161,834
Other non-cash movements[1]	−195,046	180,039
Operating cash flows before changes in operating assets and liabilities	**2,340,223**	**1,408,042**
Changes in operating assets		
Increase in loans and advances to banks	−1,290,061	−5,980,862
Increase in loans and advances to customers	−15,281,494	−1,971,819
Decrease/Increase in securities purchased under agreements to resell or borrowed	−21,473,563	−28,826,081
Change in investment securities	0	54,911
Increase/Decrease in trading assets	−75,335,289	−34,023,311
Increase/Decrease in current tax asset[1]	−70,668	−7,989
Increase/Decrease in debtors and other assets, excluding changes in prepayments and accrued income[2]	−3,416,379	−9,225,479
Decrease in prepayments and accrued income	−449,831	−91,076
Total	**−117,317,287**	**−80,071,706**
Changes in operating liabilities		
Increase in deposits from banks	−5,455,637	−34,430,183
Increase/Decrease in deposits from customers	76,298,829	4,618,065
Increase in securities sold under repurchase agreements	714,912	17,389,498
Increase/Decrease in securities loaned	2,503,793	401,537
Increase in trade creditors[2]	14,762,033	6,207,472
Increase in trading liabilities	50,263,095	29,134,170
Increase in financial liabilities designated at FVPL[1]	1,761,574	1,208,213
Decrease/Increase in other liabilities[2]	315,189	−31,006
Total	**141,163,789**	**24,497,766**
Cash generated from (+)/used in (–) operating activities	**26,186,725**	**−54,165,898**

[1] Prior period amounts adjusted (refer to note 5.22)
[2] Changes in other liabilities exclude changes in trade creditors, changes in amounts owed to JPMorgan Chase undertakings, changes in leasing liabilities and changes in accruals and deferred income.

30. Assets and liabilities measured at fair value

VALUATION PROCESS

The Bank carries a portion of its assets and liabilities at fair value on a recurring basis.

Fair value is defined as 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. Fair value is based on quoted market prices or inputs, where available. If listed prices or quotes are not available, fair value is based on valuation models and other valuation techniques that consider relevant transaction characteristics and use as inputs observable or unobservable market parameters, including yield curves, interest rates, volatilities, equity prices, foreign exchange rates, and credit curves.

The level of accuracy in estimating unobservable market inputs or other factors can affect the amount of gain or loss reported for a particular position. The Bank believes its valuation methods are appropriate and consistent with those of other market participants. The methods and assumptions used reflect management judgment and may vary across the Bank's businesses and portfolios.

The respective business area is responsible for providing fair value estimates for assets and liabilities carried on the balance sheet at fair value. The independent Valuation Control Group ("VCG") is part of the Bank's Finance function and is responsible for verifying these estimates and determining any fair value adjustments that may be required to ensure that the Bank's positions are reported at fair value. VCG verifies fair value estimates provided by the business areas by leveraging independently derived prices, valuation inputs and other market data, where available.

In determining the fair value of a derivative portfolio, valuation adjustments may be appropriate to reflect the credit quality of the counterparty, the credit quality of the Bank, and the funding risk inherent to certain derivatives. The credit and funding risks of the derivative portfolio are generally mitigated by arrangements provided to the Bank by JPMorgan Chase Bank, N.A., and therefore the Bank takes account of these arrangements in estimating the fair value of its derivative portfolio.

The Bank makes use of the portfolio exception and manages certain portfolios of financial instruments on the basis of net open risk exposure and has elected to estimate the fair value of such portfolios on the basis of a transfer of the entire net open risk position in an orderly transaction. Where this is the case, valuation adjustments may be necessary to reflect the cost of exiting a larger-than-normal market-size net open risk position. Where applied, such adjustments are based on factors that a relevant market participant would consider in the transfer of the net open risk position.

VALUATION MODEL REVIEW AND APPROVAL

If prices or quotes are not available for an instrument or a similar instrument, fair value is generally determined using valuation models. The department responsible for the model monitoring is independent of the model development department and reviews and approves valuation models used by the Bank.

FAIR VALUE HIERARCHY

The Bank classifies its assets and liabilities according to a valuation hierarchy that reflects the observability of significant market inputs. The three levels are defined as follows:

Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3 – one or more inputs to the valuation methodology are unobservable and significant to the fair value measurement.

A financial instrument's categorization within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

VALUATION METHODOLOGIES

The following table describes the valuation methodologies used by the Bank to measure its more significant products/instruments at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Product/ Instrument	Valuation methodology, inputs and assumptions	Classifications in the valuation hierarchy
Equity, debt, and other securities	Quoted market prices are used. In the absence of quoted market prices, securities are valued based on: – Observable market prices for similar securities – Relevant broker quotes – Discounted cash flows In addition, the following inputs to discounted cash flows are used for the following products: **Mortgage and asset-backed securities specific inputs:** – Collateral characteristics – Deal-specific payment and loss allocations – Current market assumptions related to yield, prepayment speed, conditional default rates and loss severity	Level 1 Level 2 or 3
Derivatives and fully funded OTC instruments	Exchange-traded derivatives that are actively traded and valued using the exchange price. Derivatives that are valued using models such as the Black-Scholes option pricing model, simulation models, or a combination of models, that use observable or unobservable valuation inputs as well as considering the contractual terms. The key valuation inputs used will depend on the type of derivative and the nature of the underlying instruments and may include equity prices, commodity prices, interest rate yield curves, foreign exchange rates, volatilities, correlations, credit default swaps ("CDS") spreads and recovery rates. Additionally, the credit quality of the counterparty and of J.P. Morgan SE as well as market funding levels may also be considered. In addition, the following specific inputs are used for the following derivatives that are valued based on models with significant unobservable inputs: **Structured credit derivatives specific inputs include:** – CDS spreads and recovery rates – Credit correlation between the underlying debt instruments **Equity option specific inputs include:** – Equity volatilities – Equity correlation – Equity – foreign exchange ("FX") correlation – Equity – interest rate correlation **Interest rate and FX exotic options specific inputs include:** – Interest rate spread volatility – Interest rate curve – Interest rate volatility – Interest rate correlation – Foreign exchange correlation – Interest rate – foreign exchange ("FX") correlation **Commodity derivatives specific inputs include:** – Commodity volatility – Forward commodity price – Commodity correlation Additionally, adjustments are made to reflect counterparty credit quality (CVA) and the impact of funding (FVA).	Level 1 Level 2 or 3

Product/ Instrument (continued)	Valuation methodology, inputs and assumptions	Classifications in the valuation hierarchy
Financial instruments at fair value through profit and loss – loans	Where observable market data is available, valuations are based on: – Observed market prices (circumstances are infrequent) – Relevant broker quotes – Observed market prices for similar instruments Where observable market data is unavailable or limited, valuations are based on discounted cash flows, which consider the following: – Credit spreads derived from the cost of CDS; or benchmark credit curves developed by the Bank, by industry and credit rating – Prepayment speed – Collateral characteristics	Level 2 or 3
Loans and advances to customers and lending-related commitments	Valuations are based on discounted cash flows, which consider: – Credit spreads, derived from the cost of CDS; or benchmark credit curves developed by the Company, by industry and credit rating – Prepayment speed Lending-related commitments are valued similar to loans and reflect the portion of an unused commitment expected, based on the Bank's average portfolio historical experience, to become funded prior to an obligor default	Predominantly level 3
Loans and advances to customers – at FVOCI	Valuations are based on discounted cash flows, which consider: – Credit spreads – Future interest payments – Repayment of principal Prepayments and defaults are modeled deterministically and discounted to today	Level 3
Securities financing agreements	Valuations are based on discounted cash flows, which consider: – Derivative features. For further information refer to the discussion of derivatives above – Market rates for the respective maturity – Collateral characteristics	Level 2
Physical commodities	Valued using observable market prices or data.	Level 1 or 2

ASSETS AND LIABILITIES MEASURED AT FAIR VALUE ON A RECURRING BASIS

The following tables present the assets and liabilities reported at fair value as of December 31, 2022 and 2021, by major product category and fair value hierarchy.

At December 31, 2022 €T	Level 1	Level 2	Level 3	Total
Securities financing agreements				
Securities purchased under agreements to resell	–	45,612,409	–	45,612,409
Securities borrowed	–	862,181	–	862,181
Financial assets at fair value through profit and loss				
Debt and equity instruments	10,191,027	17,885,943	177,876	28,254,847
Derivative receivables	18,220	188,316,955	3,793,947	192,129,122
Loans	–	1,075,065	450,025	1,525,091
Financial assets held at FVOCI				
Loans	–	–	2,511,250	2,511,250
Other assets				
Inventories	87,598	–	–	87,598
Equity investment	–	–	2,029	2,029
Total financial assets	**10,296,845**	**253,752,553**	**6,935,128**	**270,984,526**
Securities financing agreements				
Securities sold under agreements to repurchase	–	24,777,650	–	24,777,650
Securities loaned	–	3,073,283	–	3,073,283
Financial liabilities at fair value through profit and loss				
Debt and equity instruments	11,118,044	10,852,404	478	21,970,926
Derivative payables	6,170	168,970,245	3,593,597	172,570,011
Financial liabilities designated at fair value through profit or loss				
Debt and equity instruments	87,598	425,623	9,386	522,607
Long term debt – FVO				
Other financial liabilities	–	2,293,630	175,265	2,468,895
Total financial liabilities	**11,211,812**	**210,392,836**	**3,778,725**	**225,383,373**

December 31, 2021 €T	Level 1	Level 2	Level 3	Total
Securities financing agreements				
Securities purchased under agreements to resell	–	42,519,101	–	42,519,101
Securities borrowed	–	869,450	–	869,450
Financial assets at fair value through profit and loss				
Debt and equity instruments	8,462,833	11,794,178	73,733	20,330,744
Derivative receivables	18,884	120,447,250	2,515,221	122,981,354
Loans	–	2,808,555	291,916	3,100,470
Financial assets held at FVOCI				
Loans	–	–	1,728,283	1,728,283
Other assets				
Inventories	–	–	–	–
Equity investment	–	–	–	–
Total financial assets	**8,481,717**	**178,438,534**	**4,609,153**	**191,529,404**
Securities financing agreements				
Securities sold under agreements to repurchase	–	24,062,738	–	24,062,738
Securities loaned	–	569,490	–	569,490
Financial liabilities at fair value through profit and loss				
Debt and equity instruments	6,336,145	7,871,314	64	14,207,523
Derivative payables	19,067	127,643,863	2,583,227	130,246,157
Financial liabilities designated at fair value through profit or loss				
Debt and equity instruments	–	29,943	19,882	49,824
Long term debt – FVO				
Other financial liabilities	–	978,861	201,243	1,180,104
Total financial liabilities	**6,355,212**	**161,156,209**	**2,804,415**	**170,315,836**

LEVEL 3 VALUATIONS

The Bank has established structured processes for determining fair value, including for instruments where fair value is estimated using significant unobservable inputs (level 3).

Due to the lack of observability, transaction details of comparable transactions, yield curves, interest rates, prepayment speed, default rates, volatilities, correlations, equity prices, valuations of comparable instruments, foreign exchange rates and credit curves are used.

The following table presents the Bank's primary level 3 financial instruments, the valuation techniques used to measure the fair value of those financial instruments, the significant unobservable inputs, the range of values for those inputs and, for certain instruments, the weighted averages of such inputs. While the determination to classify an instrument within level 3 is based on the materiality of the unobservable inputs to the overall fair value measurement, level 3 financial instruments typically include observable components (that is, components that are actively quoted and can be validated to external sources) in addition to the unobservable components.

The range of values presented in the table is representative of the highest and lowest level input used to value the significant groups of instruments within a product/instrument classification. Where provided, the weighted averages of the input values presented in the table are calculated based on the fair value of the instruments that are fair valued based on the input.

The input range and the weighted average value do not reflect the degree of input uncertainty or an assessment of the reasonableness of the Bank's estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by the Bank and the relative distribution of instruments within the range of characteristics.

The input range and weighted average values will therefore vary from period-to-period and parameter-to-parameter based on the characteristics of the instruments held by the Bank at each balance sheet date.

December 31, 2022

Product/Instrument	Asset €T	Liability €T	Net fair value €T	Principal valuation technique	Unobservable input[1]	Range of input values	Weighted average
Debt and equity instruments and loans	**3,139,151**	**−9,863**	**3,129,288**				
Corporate debt securities and other				Market comparables	Price	0.75 €– 137.50 €	98.79 €
Residential mortgage-backed securities and loans				Discounted cash flows	Yield	– %	– %
					Loss Severity	– %	– %
ABS				Market comparables	Price[1]	– %	0.00
Loans at FVPL				Market comparables	Price[1]	1.00 €– 120.00 €	82.79 €
						0.00 €	0.00 €
Loans at FVOCI				Discounted cash flows	Grid CDS curve spreads	5.00 bps– 5,735.58 bps	313.00 bps
					Utilization given default	0.00 % – 100.00 %	56.00 %
					CDS Recovery Rate	25.00 % – 75.00 %	42.00 %
					Loan Recovery Rate	20.00 % – 90.00 %	59.00 %

December 31, 2022							
Product/Instrument (continued)	Asset €T	Liability €T	Net fair value €T	Principal valuation technique	Unobservable input[1]	Range of input values	Weighted average
Derivatives	**3,793,947**	**−3,593,597**	**200,351**				
				Discounted cash flows	Constant prepayment rate	0.00 % – 5.00 %	0.1700 %
					Inflation rate volatility	51.1 bps – 522 bps	193.43 bps
Net interest rate derivatives				Option pricing	Bermudan switch value	2 % – 41 %	20.00 %
					Credit spread	10.88 bps – 450.14 bps	174.21 bps
Net credit derivatives				Discounted cash flows	Recovery rate	20.00 % – 40.00 %	26.00 %
					Equity volatility	6.00 % – 103.00 %	27.00 %
					Equity correlation	17.00 % – 99.00 %	54.00 %
					Equity – FX correlation	−76.00 % – 59.00 %	−24.00 %
Net equity derivatives				Option pricing	Equity Forward	85.00 % – 119.00 %	99.00 %
					Commodity Forward	829 €/MT – 5,325 €/MT	3,077 €/MT
					Commodity volatility	14.90 % – 153.50 %	84.00 %
Net commodity derivatives				Option pricing	Commodity correlation	−45.00 % – 40.00 %	−3.00 %
					Equity volatility	6.00 % – 103.00 %	27.00 %
					Equity correlation	17.00 % – 99.00 %	54.00 %
					Equity – FX correlation	−76.00 % – 59.00 %	−24.00 %
Other financial liabilities	–	−175,265	−175,265	Option pricing	Equity Forward	85.00 % – 119.00 %	99.00 %
Other level 3 assets[2]	2,029	–	2,029				
Total	**6,935,128**	**−3,778,725**	**3,156,403**				

[1] Price is a significant unobservable input for certain instruments. When quoted market prices are not readily available, reliance is generally placed on price-based internal valuation techniques. The price input is expressed assuming a par value of €100.

[2] Includes equity investments in Other assets, for which quoted prices are not readily available and the fair value is generally based on external valuation techniques.

December 31, 2021							
Product/Instrument	Asset €T	Liability €T	Net fair value €T	Principal valuation technique	Unobservable input[1]	Range of input values	Weighted average
Debt and equity instruments and loans	**2,093,932**	**−19,946**	**2,073,986**				
Corporate debt securities and other				Market comparables	Price	0.75 €– 102.88 €	73.29 €
Residential mortgage-backed securities and loans					Yield	14.99 %– 14.99 %	14.99 %
				Discounted cash flows	Loss Severity	56.00 %– 56.00 %	56.00 %
ABS				Market comparables	Price[1]	31.96 €– 31.96 €	31.96 €
Loans at FVPL						30.00 €– 106.50 €	92.93 €
				Market comparables	Price[1]	88.00 €– 106.50 €	87.70 €
Loans at FVOCI					Grid CDS curve spreads	2.67 bps– 5,732.71 bps	553.17 bps
					Utilization given default	0.00 %– 100.00 %	62.17 %
					CDS Recovery Rate	25.00 %– 75.00 %	41.77 %
				Discounted cash flows	Loan Recovery Rate	20.00 %– 90.00 %	54.21 %

December 31, 2021							
Product/Instrument (continued)	**Asset €T**	**Liability €T**	**Net fair value €T**	**Principal valuation technique**	**Unobservable input[1]**	**Range of input values**	**Weighted average**
Derivatives	**2,515,221**	**−2,583,227**	**−68,006**				
Net interest rate derivatives				Option pricing	Constant prepayment rate	0.00 % – 15.00 %	0.88 %
					Credit spread	6 bps – 123 bps	41 bps
Net credit derivatives				Discounted cash flows	Recovery rate	20.00 % – 40.00 %	27.00 %
					Equity volatility	5.00 % – 114.00 %	23.00 %
					Equity correlation	17.00 % – 99.00 %	54.00 %
					Equity – FX correlation	−79.00 % – 59.00 %	−24.00 %
Net equity derivatives				Option pricing	Equity Forward	63.00 % – 105.00 %	98.00 %
					Commodity Forward	3,113.00 €/MT – 3,390.00 €/MT	3,251.50 €/MT
					Commodity volatility	8.61 % – 195.30 %	96.95 %
Net commodity derivatives				Option pricing	Commodity correlation	−40.00 % – 30.00 %	−5.00 %
					Equity volatility	5.00 % – 114.00 %	23.00 %
					Equity correlation	17.00 % – 99.00 %	54.00 %
					Equity – FX correlation	−79.00 % – 59.00 %	−24.00 %
Other financial liabilities	–	−201,243	−201,243	Option pricing	Equity Forward	63.00 % – 105.00 %	98.00 %
Total	**4,609,153**	**−2,804,415**	**1,804,738**				

[1] Price is a significant unobservable input for certain instruments. When quoted market prices are not readily available, reliance is generally placed on price-based internal valuation techniques. The price input is expressed assuming a par value of € 100.

The categories presented in the table have been aggregated based upon the product type, which may differ from their classification on the balance sheet, and fair values are shown net.

CHANGES IN UNOBSERVABLE INPUTS

The following discussion provides a description of the inter-relationship between unobservable inputs. The impact of changes in inputs may not be independent as a change in one unobservable input may give rise to a change in another unobservable input. Relationships may also exist between observable and unobservable inputs. Such relationships have not been included in the discussion below. In addition, for each of the individual relationships described below, the inverse relationship would also generally apply.

Yield – The yield of an asset is the interest rate used to discount future cash flows in a discounted cash flow calculation. An increase in the yield, in isolation, would result in a decrease in a fair value measurement.

Credit spread – The credit spread is the difference between risky and risk-free returns. The credit spread for an instrument forms part of the discount rate used in a discounted cash flow calculation. Generally, an increase in the credit spread would result in a decrease of the fair value measurement.

Prepayment speed – The prepayment speed is a measure of the voluntary unscheduled principal repayments of a pre-payable obligation in a collateralized pool. Prepayment speeds generally decline as borrower delinquencies rise. An increase in prepayment cycles, in isolation, would result in a decrease in the fair value measurement of assets valued at a premium to par and an increase in the fair value measurement of assets valued at a discount to par.

Conditional default rate – The conditional default rate is a measure of the reduction in the outstanding collateral balance underlying a collateralized obligation as a result of defaults. An increase in conditional default rates would generally be accompanied by an increase in loss severity and an increase in credit spreads. An increase in the conditional default rate, in isolation, would result in a decrease of the fair value measurement.

Loss severity – The loss severity (the contrary is the recovery rate) is the expected amount of future realized losses resulting from the ultimate liquidation of a particular loan, expressed as the net amount of loss relative to the outstanding loan balance. An increase in loss severity is generally accompanied by an increase in conditional default rates. An increase in the loss severity, in isolation, would result in a decrease of the fair value measurement.

Utilization given default ("UGD") – A number between 0 % and 100 % that is the estimated fraction of the current undrawn balance on a revolving credit facility that will be drawn at the time of the default of the borrower. A higher UGD generally results in a decrease in the fair value of the loan.

Correlation – Correlation is a measure of the relationship between the movements of two variables (e.g., how the change in one variable influences the change in the other). Correlation is a pricing input for a derivative product where the payoff is driven by one or more underlying risks.

Correlation inputs are related to the type of derivative (e.g., interest rate, credit, equity and foreign exchange) due to the nature of the underlying risks. When parameters are positively correlated, an increase in one parameter will result in an increase of the other parameter. When parameters are negatively correlated, an increase in one parameter will result in a decrease of the other parameter. An increase in correlation can result in an increase or a decrease of the fair

value measurement. Given a short correlation position, an increase in correlation, in isolation, would generally result in a decrease of the fair value measurement.

Volatility – Volatility is a measure of the variability in possible returns for an instrument, parameter or market index given how much the particular instrument, parameter or index changes in value over time. Volatility is a pricing input for options, including equity options, commodity options, and interest rate options. Generally, the higher the volatility of the underlying, the riskier the instrument. Given a long position in an option, an increase in volatility, in isolation, would generally result in an increase of the fair value measurement.

CREDIT AND FUNDING ADJUSTMENTS

Derivatives are generally valued with models that use observable market parameters. These market parameters generally do not consider factors such as counterparty non-performance risk, the Bank's own credit quality, and funding costs. Therefore, it is generally necessary to make adjustments to the base estimate of fair value to reflect these factors.

CVA represents the valuation adjustment, relative to the relevant benchmark interest rate, necessary to reflect counterparty non-performance risk. The Bank estimates CVA using a scenario analysis to estimate the expected positive credit exposure across all of the Bank's existing positions with each counterparty, and then estimates losses based on the probability of default and estimated recovery rate as a result of a counterparty credit event considering contractual factors designed to mitigate the Bank's credit exposure, such as collateral and legal rights of offset. The key inputs to this methodology are (i) the probability of a default event occurring for each counterparty, as derived from observed or estimated CDS spreads; and (ii) estimated recovery rates implied by CDS spreads.

FVA represents the valuation adjustment to reflect the impact of funding. The Bank's FVA framework, applied to uncollateralized (including partially collateralized) over-the-counter ("OTC") derivatives incorporates key inputs such as: (i) the expected funding requirements arising from the Bank's positions with each counterparty and collateral arrangements; and (ii) the estimated market funding cost in the principal market which, for derivative liabilities, considers the Bank's credit risk (DVA). For collateralized derivatives, the fair value is estimated by discounting expected future cash flows at the relevant overnight indexed swap rate given the underlying collateral agreement with the counterparty, and therefore a separate FVA is not necessary.

The following table provides the impact of credit and funding adjustments on principal transactions revenue in the respective periods, excluding the effect of any associated hedging activities. The FVA presented below includes the impact of the Bank's own credit quality on the inception value of liabilities as well as the impact of changes in the Bank's own credit quality over time.

€T	31/12/2022	31/12/2021
Derivatives CVA	93,688	66,766
Derivatives FVA	83,759	37,367

FAIR VALUE FINANCIAL INSTRUMENTS VALUED USING TECHNIQUES THAT INCORPORATE SIGNIFICANT UNOBSERVABLE INPUTS

The potential impact as at December 31, 2022 of using reasonable possible alternative assumptions for the valuations including significant unobservable inputs have been quantified in the following table:

Sensitivity analysis of valuations using unobservable inputs		Fair Value		Favorable change	Unfavorable change
At December 31, 2022 €T	**Asset**	**Liability**	**Net**	**Statement of comprehensive income**	
Corporate debt securities and other	177,876	**−9,863**	168,013	7,571	−7,571
Loans	450,025	0	450,025	6,655	−6,655
Total debt and equity instruments and loans	**627,902**	**−9,863**	**618,038**	**14,226**	**−14,226**
Derivatives [1]	3,793,947	−3,593,597	200,351	105,458	−105,458
Other financial liabilities [1]	0	−175,265	−175,265	0	0
Other level 3 assets [2]	2,029	0	2,029	0	0
Loans at FVOCI	2,511,250	0	2,511,250	29,644	−29,644
Total	**6,935,128**	**−3,778,725**	**3,156,403**	**149,327**	**−149,327**

[1] Given significant hedging between derivatives and other financial liabilities, the net risk is considered to calculate the favorable/unfavorable changes with the result then allocated to the two lines individually.
[2] Includes equity investments in Other assets, for which quoted prices are not readily available and the fair value is generally based on external valuation techniques.

Sensitivity analysis of valuations using unobservable inputs		Fair Value		Favorable change	Unfavorable change
At December 31, 2021 €T	**Asset**	**Liability**	**Net**	**Statement of comprehensive income**	
Corporate debt securities and other	73,733	−19,946	53,787	1,595	−1,595
Loans	291,916	0	291,916	1,854	−1,854
Total debt and equity instruments and loans	**365,649**	**−19,946**	**345,703**	**3,450**	**−3,450**
Derivatives [1]	2,515,221	−2,583,227	−68,006	96,309	−96,309
Other financial liabilities [1]	0	−201,243	−201,243	0	0
Other level 3 assets	0	0	0	0	0
Loans at FVOCI	1,728,283	0	1,728,283	2,234	−2,234
Total	**4,609,153**	**−2,804,415**	**1,804,738**	**101,993**	**−101,993**

[1] Given significant hedging between derivatives and other financial liabilities, the net risk is considered to calculate the favorable/unfavorable changes with the result then allocated to the two lines individually.

CHANGES IN LEVEL 3 RECURRING FAIR VALUE MEASUREMENTS

The following tables include details on the changes of the balance sheets amounts (including changes in fair value) for financial instruments classified by the Company within level 3 of the fair value hierarchy.

Changes in assets and liabilities in level 3 during the year ended December 31, 2022:

Financial assets €T	Loans at FVOCI	Debt and equity instru-ments and loans	Derivative receivables	Other level 3 assets	Total financial assets
At January 1, 2022	**1,728,283**	**365,649**	**2,515,221**	**0**	**4,609,153**
Total gains/(losses) recognized in profit or loss	0	−190,839	469,818	0	278,979
Total gains/(losses) recognized in other comprehensive income	0	0	110,621	0	110,621
Purchases	0	505,382	1,663,607	2,029	2,171,018
Sales	0	−203,161	−100,302	0	−303,462
Issuances	1,416,620	0	0	0	1,416,620
Settlements	−633,653	13,175	−1,229,021	0	−1,849,498
Transfers into level 3	0	231,313	1,206,248	0	1,437,561
Transfers out of level 3	0	−93,618	−842,245	0	−935,863
At December 31, 2022	**2,511,250**	**627,902**	**3,793,947**	**2,029**	**6,935,128**
Change in unrealized gains related to financial instruments held at December 31, 2022	**0**	**−26,181**	**1,269,541**	**0**	**1,243,360**

Financial liabilities €T	Debt and equity instruments	Derivative payables	Financial liabilities designated at FVPL	Total financial liabilities
At January 1, 2022	**64**	**2,583,227**	**221,124**	**2,804,415**
Total (gains)/loss recognized in profit or loss	−3	−250,282	−44,936	−295,221
Total (gains)/loss recognized in other comprehensive income	0	96,777	0	96,777
Purchases	221	−129,380	−56,574	−185,733
Sales	9	1,510,759	−9,190	1,501,578
Issuances	−17	0	222,922	222,905
Settlements	−7	−652,989	−225,633	−878,630
Transfers into level 3	211	1,125,405	76,937	1,202,553
Transfers out of level 3	0	−689,919	0	−689,919
At December 31, 2022	**478**	**3,593,597**	**184,651**	**3,778,725**
Change in unrealized losses related to financial instruments held at December 31, 2022	**−35**	**−675,488**	**50,609**	**−624,914**

Movement in assets and liabilities in level 3 during the year ended December 31, 2021:

Financial assets €T	Loans at FVOCI	Debt and equity instru-ments and loans	Derivative receivables	Other level 3 assets	Total financial assets
At January 1, 2021	**1,957,462**	**177,689**	**1,693,225**	**0**	**3,828,375**
Total gains/(losses) recognized in profit or loss [1]	0	3,706	111,687	0	115,393
Total gains/(losses) recognized in other comprehensive income	0	0	0	0	0
Purchases [1]	0	477,784	2,007,096	0	2,484,880
Sales	0	−160,575	−4,370	0	−164,945
Issuances	850,568	0	0	0	850,568
Settlements [1]	−1,079,746	−17,943	−934,527	0	−2,032,217
Transfers into level 3	0	56,020	255,202	0	311,223
Transfers out of level 3	0	−171,032	−613,092	0	−784,125
At December 31, 2021	**1,728,283**	**365,649**	**2,515,221**	**0**	**4,609,153**
Change in unrealized losses related to financial instruments held at December 31, 2021 [1]	**0**	**−6,044**	**455,465**	**0**	**449,421**

[1] Adjustment to prior-year figures (see note 5.22)

Financial liabilities €T	Debt and equity instruments	Derivative payables	Financial liabilities designated at FVPL	Total financial liabilities
At January 1, 2021	**360**	**1,794,452**	**15,408**	**1,810,220**
Total (gains)/loss recognized in profit or loss	−269	315,298	6,432	321,461
Total (gains)/loss recognized in other comprehensive income	0	0	0	0
Purchases	−1	−12,503	0	−12,504
Sales	30	1,916,231	0	1,916,261
Issuances	0	0	271,153	271,153
Settlements	0	−1,012,480	−71,830	−1,084,309
Transfers into level 3	0	208,829	14	208,843
Transfers out of level 3	−55	−626,601	−53	−626,710
At December 31, 2021	**64**	**2,583,227**	**221,124**	**2,804,415**
Change in unrealized losses related to financial instruments held at December 31, 2021	**−306**	**709,337**	**3,629**	**712,660**

TRANSFERS BETWEEN LEVELS FOR INSTRUMENTS CARRIED AT FAIR VALUE ON A RECURRING BASIS

For the years ended December 31, 2022 and December 31, 2021, there were no significant transfers between levels 1 and 2.

During the year ended December 31, 2022, transfers into and out of level 3 included the following:

- € 842.0 million of assets and € 689.9 million of liabilities transferred out of level 3 driven by an increase in observability of swaps and equity options; and
- € 1,206.2 million of assets and € 1.125.2 million of liabilities transferred into level 3 driven by a decrease in observability of swaps and equity options; and
- € 65.4 million of assets transferred out of level 3 driven by an increase in observability of quoted market prices; and
- € 228.5 million of assets and € 76.9 million of liabilities transferred into level 3 driven by a decrease in observability of quoted market prices.

During the year ended December 31, 2021, transfers into and out of level 3 included the following:

- € 613.1 million of assets and € 626.6 million of liabilities transferred out of level 3 driven by an increase in observability of swaps and equity options; and
- € 255.2 million of assets and € 208.8 million of liabilities transferred into level 3 driven by a decrease in observability of swaps and equity options; and
- € 171.0 million of assets transferred out of level 3 driven by an increase in observability of quoted market prices; and
- € 56.0 million of assets transferred into level 3 driven by a decrease in observability of quoted market prices.

All transfers are based on changes in the observability and/or significance of the valuation inputs and are assumed to occur at the beginning of the period in which they occur.

RECOGNITION OF DAY ONE PROFIT AND LOSS

If there are significant unobservable inputs used in a valuation technique, the financial instrument is recognized at the transaction price and any day one profit and loss is deferred. Refer to note 5.8 on the Company's accounting policy for the recognition of day one profit and loss.

The following table presents the amounts not recognized in the income statement relating to the aggregate difference between the fair value of financial assets and liabilities at initial recognition using the valuation techniques and the transaction price.

€T	2022	2021
At January 1	−28,651	127
New transactions[1]	−68,666	−31,988
Amounts recognized in the consolidated income statement during the year	18,227	3,210
At December 31	**−79,090**	**−28,651**

[1] Adjustment to prior-year figures (see note 5.22)

FAIR VALUE OF FINANCIAL INSTRUMENTS NOT CARRIED ON BALANCE SHEET AT FAIR VALUE

Certain financial instruments that are not carried at fair value on balance sheet are carried at amounts that came close to fair value, due to their short-term nature. These instruments include loans, securities purchased under agreements to resell, cash and balances at central banks and balances at other credit institutions.

The Bank has € 164.196 million (2021: € 89.510 million) of current financial assets and € 186.339 million (2021: € 94.023 million) of current financial liabilities that are not measured at fair value, including loans and advances to customers of € 15.861 million (2021: € 1.769 million).

In estimating the fair value of these loans and advances to customers, typically a discounted cash flow model is applied with unobservable inputs and therefore would be classified as level 3 instruments or where observable market data is available, valuations are based on observed market prices, relevant broker quotes or observed market prices for similar instruments and therefore would be classified as level 2 instruments. The fair value of these loans is not materially different from the carrying amount. All other instruments are of a short-term nature and the carrying amounts in the balance sheet approximate fair value.

At December 31, 2022		Estimated fair value hierarchy			
€T	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value
Financial assets	**164,108,691**	**80,501,855**	**68,555,359**	**15,054,208**	**164,111,423**
Cash and central bank balances	75,340,930	75,340,930			75,340,930
Loans and advances to banks	9,612,156	5,160,926	4,097,490	353,486	9,611,902
Loans and advances to customers	15,861,399		1,163,664	14,700,723	15,864,386
Securities purchased under agreements to resell	19,769,040		19,769,040		19,769,040
Other assets	43,525,165		43,525,165		43,525,165
Financial liabilities	**186,339,963**	**–**	**185,677,678**	**–**	**185,677,678**
Deposits from banks	43,096,896		43,096,896		43,096,896
Deposits from customers	94,779,794		94,779,794		94,779,794
Other liabilities	33,291,818		33,291,818		33,291,818
Subordinated liabilities	15,171,455		14,509,171		14,509,171

At December 31, 2021					Estimated fair value hierarchy
€T	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value
Financial assets	**89,510,425**	**46,614,677**	**42,375,245**	**520,503**	**89,510,425**
Cash and central bank balances	38,234,989	38,234,989			38,234,989
Loans and advances to banks	8,400,952	8,379,689	21,264		8,400,952
Loans and advances to customers	1,769,041		1,248,538	520,503	1,769,041
Securities purchased under agreements to resell	1,381,516		1,381,516		1,381,516
Other assets	39,723,928		39,723,928		39,723,928
Financial liabilities [1]	**94,023,160**	**–**	**93,969,847**	**–**	**93,969,847**
Deposits from banks	48,552,533		48,552,533		48,552,533
Deposits from customers	18,480,965		18,480,965		18,480,965
Other liabilities	17,449,663		17,449,663		17,449,663
Subordinated liabilities [1]	9,540,000		9,486,686		9,486,686

[1] Adjustment to prior-year figures (see note 5.22)

31. Offsetting financial assets and financial liabilities

The table below presents the balance sheet assets and liabilities offset, where the offsetting criteria under IAS 32 Financial Instruments: Presentation ("IAS 32") have been met, and the related amounts not offset in the balance sheet in respect of cash and security collateral received, and master netting agreements, where such criteria have not been met. Further discussion of offsetting of financial assets and liabilities is provided in note 5.12 to the financial statements.

At December 31, 2022	Effects of offsetting on balance sheet			Related amounts not offset		
€T	Gross amounts	Amounts offset	Net amounts reported on balance sheet	Master netting agreements and other	Cash & security collateral	Net amount
Financial assets	**711,625,813**	**−406,855,941**	**304,769,872**	**−179,695,269**	**−70,447,904**	**54,626,701**
Securities purchased under agreements to resell [1]	159,688,093	−94,306,644	65,381,449	−4,098,358	−58,961,074	2,322,017
Securities borrowing [1]	862,181	0	862,181	−391,866	−455,068	15,248
Financial assets at fair value through profit and loss [2]	531,778,097	−311,394,129	220,383,968	−175,205,045	−11,031,762	34,147,162
Trade receivables	19,297,442	−1,155,168	18,142,274	0	0	18,142,274
Financial liabilities	**475,645,813**	**−231,521,164**	**244,124,649**	**−171,798,596**	**−34,752,743**	**37,573,309**
Securities sold under agreements to repurchase [1]	119,084,294	−94,306,644	24,777,650	−4,148,764	−20,089,927	538,959
Securities lending [1]	3,073,283	0	3,073,283	−390,701	−2,650,119	32,463
Financial liabilities at fair value through profit and loss [2]	333,591,792	−136,059,352	197,532,440	−167,259,131	−12,012,697	18,260,611
Trade payables	19,896,444	−1,155,168	18,741,276	0	0	18,741,276

[1] The fair value of securities purchased under agreements to resell and securities borrowing accepted as collateral that the Bank is permitted to sell or repledge in the absence of default, prior to the netting adjustments, is € 138,442 million (2021: € 120,105 million). The fair value of securities sold under agreements to repurchase and securities lending pledged to secure liabilities, prior to the netting adjustments, is € 110,627 million (2021: € 85,931 million).

[2] Included within the "amounts offset", there are the respective collateral payable and receivables with specific clearing counterparties.

At December 31, 2021	Effects of offsetting on balance sheet			Related amounts not offset		
€T	Gross amounts	Amounts offset	Net amounts reported on balance sheet	Master netting agreements and other	Cash & security collateral	Net amount
Financial assets[3]	**405,563,660**	**−201,937,899**	**203,625,763**	**−114,211,636**	**−36,477,082**	**52,937,044**
Securities purchased under agreements to resell[1]	122,861,043	−78,960,427	43,900,617	−15,445,569	−25,836,863	2,618,184
Securities borrowing[1]	869,450	0	869,450	−552,071	−310,212	7,167
Financial assets at fair value through profit and loss[2, 3]	267,877,783	−122,574,176	145,303,607	−98,213,996	−10,330,007	36,759,604
Trade receivables	13,955,384	−403,296	13,552,089	0	0	13,552,089
Financial liabilities[3]	**381,347,873**	**−196,604,232**	**184,743,642**	**−120,521,151**	**−23,132,260**	**41,090,231**
Securities sold under agreements to repurchase[1]	103,023,165	−78,960,427	24,062,738	−15,445,555	−6,701,692	1,915,491
Securities lending[1]	569,490	0	569,490	−401,507	−2,649	165,334
Financial liabilities at fair value through profit and loss[2, 3]	262,924,117	−117,240,509	145,683,608	−104,674,089	−16,427,919	24,581,600
Trade payables	14,831,101	−403,296	14,427,806	0	0	14,427,806

[1] The fair value of securities purchased under agreements to resell and securities borrowing accepted as collateral that the Bank is permitted to sell or repledge in the absence of default, prior to the netting adjustments, is € 120,105 million (2021: € 29,172 million). The fair value of securities sold under agreements to repurchase and securities lending pledged to secure liabilities, prior to the netting adjustments, is € 85,931 million (2021: € 10,255 million).
[2] Included within the "amounts offset", there are the respective collateral payable and receivables with specific clearing counterparties.
[3] Prior-year figure adjusted (see note 5.22)

The column ''Master netting agreements and other'' discloses the amounts that are subject to master netting agreements but were not offset because they did not meet the net settlement/ simultaneous settlement criteria; or because the rights of set-off are conditional upon the default of the counterparty only.

The column ''Cash & security collateral'' discloses the cash and financial instrument collateral amounts received or pledged in relation to the total amounts of assets and liabilities, including those that were not offset. The rights of set-off relating to the cash and financial instrument collateral are conditional upon the default of the counterparty.

Effective December 31, 2021, the Company will net settle its derivative payments with an offsetting adjustment to variation margin as a single net cash settlement amount with J.P. Morgan Securities plc and JPMorgan Chase Bank, N.A., London Branch, for identified portfolios of internal derivatives. The operational process only supports net settlement by currency, therefore, these changes will only apply to legal agreements that permit net settlement in EUR or USD.

On the basis that the criteria for offsetting under IAS 32 are met, the gross variation margin balance will be applied to individual derivative assets and liabilities. The IFRS balance sheet will present derivative assets (net of associated variation margin), derivative liabilities (net of associated variation margin) and residual net variation margin (representing unsettled net mark-to-market movements).

32. Leases

For the years ended December 31, 2022, and December 31, 2021, the Bank was under the contractual obligation for a number of leases in real estate, vehicles and equipment used primarily for the Bank's operations.

Leases of real estate predominantly related to the main office in Frankfurt am Main which relates to the office space and expires in August 2028. It contains renewal and partial cancellation options and / or escalation clauses providing for increased rental payments based on a price index. Additionally, there are leases of office premises and parking space in other locations where the entity operates, especially the offices in Luxembourg which resulted from the J.P. Morgan SE merger during 2022.

Vehicle leases are attributable to employees as part of their compensation package. The leases typically have a maturity of three years.

Other leases consist of a couple of different minor items such as IT-related items, printers or kitchen equipment. The leases have maturities of up to five years. The leases of the printers mainly contain variable lease payments which were not included in the measurement of the lease liability. The variable lease payments are based on a "pay per print"-agreement. Only a minor portion of the total lease payments for the printers are fixed and were included in the measurement of the related lease liability.

Information about leases for which the Bank is a lessee is presented below:

€T	Real Estate	Vehicles	Other
Balance as of January 1, 2021	**17,754**	**1,662**	**95**
Depreciation of ROU assets for the period	3,479	1,119	25
Balance as of December 31, 2021	**14,608**	**2,367**	**70**
Depreciation of ROU assets for the period	8,469	2,221	25
Balance as of December 31, 2022	**37,455**	**3,797**	**45**

See the Maturity Analysis of lease liabilities as follows:

€T	31/12/2022	31/12/2021
Lease liabilities – Maturity Analysis – contractual undiscounted cash flows		
Undiscounted lease liabilities at December 31		
Up to three months	2,908	2,044
More than three months up to one year	7,418	5,517
More than one year up to five years	31,644	18,885
More than five years	4,643	6,474
Total undiscounted lease liabilities	**46,613**	**32,919**
Imputed interest discount on leases	1,430	13,529
Lease liabilities included in the statement of financial position at December 31	**45,183**	**19,390**

€T	1/1 – 31/12/2022	1/1 – 31/12/2021
Interest expense on lease liabilities	636	370
Variable lease expense (i.e., for variable lease payments not included in lease liability) [1]	4	11
Short-term lease expense [1]	0	0
Low-value lease expense [1]	12	12
Other information		
Total cash outflow for leases	11,651	5,306
Additions to right-of-use assets	34,979	2,156

[1] Variable, short-term, and low-value lease expenses are recorded in the general and administration expense line item in the Company's statement of income.

33. Transfers of financial assets

In the course of its normal business activities, the Bank makes transfers of financial assets. Depending on the nature of the transaction, this may result in no derecognition at all of the assets subject to the transfer. A summary of the main transactions and the assets and liabilities and the financial risks arising from these transactions is set out below.

TRANSFERS OF FINANCIAL ASSETS THAT DO NOT RESULT IN A DERECOGNITION

Assets are transferred under repurchase and securities lending agreements with other banks and financial institutions. In such transactions not all the risks and rewards of ownership are substantially transferred, therefore the assets are not derecognized from the balance sheet. The recipient is generally able to use, sell or pledge the transferred assets for the duration of the transaction. The Company remains exposed to interest and credit risk on these instruments which it is contractually required to repurchase at a later date. The counterparty's recourse is generally not limited to the transferred assets. The carrying amount of the securities pledged under repo transactions is in the amount of € 10,305 million.

Fair value of the assets not derecognized	Fair value of the assets		Carrying amount of the related liabilities	
€T	31/12/2022	31/12/2021	31/12/2022	31/12/2021
Financial assets at fair value through profit and loss	269,063	282,312	257,450	271,700

CONTINUING INVOLVEMENT IN FINANCIAL ASSETS THAT HAVE BEEN DERECOGNIZED

Within the reporting period, the Bank derecognized financial assets even though it may have continuing involvement in them and assessed the related exposure as immaterial.

34. Pledged assets and collateral received

The Company pledges assets for various purposes, including to collateralize repurchase and other securities financing agreements, to cover short sales and to collateralize derivative contracts and deposits. Certain of these pledged assets may be sold or repledged or otherwise used by the secured parties.

Secured financing transactions expose the Company to credit and liquidity risk. To manage these risks, the Company monitors the value of the underlying securities (predominantly high-quality securities collateral, including government-issued debt and mortgage-backed securities) that it has received from or provided to its counterparties compared to the value of cash proceeds and exchanged collateral, and either requests additional collateral or returns securities or collateral

when appropriate. Margin levels are initially established based upon the counterparty, the type of underlying securities, and the permissible collateral, and are monitored on an ongoing basis.

Additionally, the Company typically enters into master netting agreements and other similar arrangements with its counterparties, which provide for the right to liquidate the underlying securities and any collateral amounts exchanged in the event of a counterparty default. Further details on netting arrangements are provided in note 31 to the financial statements.

The following table presents the carrying amount of trading assets pledged and the carrying amount of securities purchased under agreements to resell at amortized cost.

€T	31/12/2022	31/12/2021
Trading assets pledged [1]	10,304,786	17,178,547
Securities purchased under agreements to resell at amortized cost	19,769,040	1,381,516

[1] Prior-year figure adjusted (see note 5.22)

The Company receives collateral primarily in reverse repurchase agreements, securities lending agreements, derivatives transactions, customer margin loans and other transactions. These transactions are generally conducted under terms that are usual and customary for standard secured lending activities and the other transactions described. The Company, as the secured party, has the right to sell or re-pledge such collateral, subject to the Company returning equivalent securities upon completion of the transaction. This right is used primarily to cover short sales, securities loaned and securities sold under repurchase agreements.

The following table presents the fair value of collateral accepted.

€T	31/12/2022	31/12/2021
Collateral permitted to be sold or repledged, delivered, or otherwise used	174,545,298	146,897,384
of which: Collateral sold, repledged, delivered or otherwise used	158,729,072	120,158,079

35. Credit risk management

Credit risk is the risk associated with the default or change in credit profile of a client or a counterparty. J.P. Morgan SE is exposed to credit risk through its underwriting, lending, market-making, capital markets and hedging activities with and for clients and counterparties, as well as through its operating services activities (such as clearing activities), securities financing activities, investment securities portfolio, and cash placed with banks.

Credit Risk Management is an independent risk management function that monitors, measures and manages credit risk in J.P. Morgan SE and defines credit risk policies and procedures. This includes:

- Establishing a credit risk management framework
- Monitoring, measuring and managing credit risk across all portfolio segments, including transaction and exposure approval
- Setting portfolio concentration limits
- Assigning and managing credit authorities in connection with the approval of credit exposure
- Managing distressed exposures and delinquent loans
- Estimating credit losses and ensuring appropriate credit risk-based capital management

J.P. Morgan SE's Credit Risk Management Framework supplements the Firmwide risk policy framework and is approved by J.P. Morgan SE's Management Board and Risk Oversight Committee. The J.P. Morgan Credit Risk Management Framework defines that credit decisions are made on the basis of clearly defined separate responsibilities for "Front Office" and "Back Office" as well as the process of assigning and managing credit authorities in connection with the approval of all credit exposures.

EXPECTED CREDIT LOSS MEASUREMENT (IFRS 9)

Approach to measuring expected credit losses

The Bank estimates credit impairment through an ECL allowance. ECL are recognized for financial assets that are measured at amortized cost or at fair value through other comprehensive income ("FVOCI") and for specified lending-related commitments, such as loan commitments and financial guarantee contracts. The measurement of ECLs must reflect:

a. An unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
b. The time value of money; and
c. Reasonable and evidence-based information about past events, current (economic) conditions, and forecasts of future economic conditions.

The measurement of ECL also reflects how the Bank manages the financial instruments it uses for credit risk purposes such as Traditional Credit Products ("TCP") and non-traditional credit products ("Non-TCP"). Instruments in scope of TCP include loans, lending-related commitments, and other lending products stemming from extensions of credit to borrowers (including intercompany and affiliated entities). Non-TCP include, but are not limited to, other third-party and intercompany debt instruments such as reverse repurchase agreements, margin loans, fee receivables, and intercompany receivables (such as cash and deposits).

The following tables set out the gross carrying amount (before ECL) of the Bank's financial assets that are measured at amortized cost or FVOCI by the respective TCP and Non-TCP (including debt securities) categories as of December 31, 2022, and December 31, 2021, respectively. Balances are provided at amortized cost unless stated otherwise:

December 31, 2022

Gross carrying amount €T	TCP	Non-TCP	Total
Assets			
Cash and balances at central banks	0	75,340,930	75,340,930
Loans and advances to banks – at amortized cost	104,311	9,508,176	9,612,487
Loans and advances to banks – at FVOCI	150,919	0	150,919
Loans and advances to customers – at amortized cost	15,756,157	245,077	16,001,234
Loans and advances to customers – at FVOCI	2,360,331	0	2,360,331
Securities purchased under agreements to resell or borrowed	0	19,769,040	19,769,040
Debtors	0	42,996,545	42,996,545
Accrued income	0	495,032	495,032
Total financial assets measured at amortized cost and FVOCI	**18,371,718**	**148,354,800**	**166,726,518**

December 31, 2021

Gross carrying amount €T	TCP	Non-TCP	Total
Assets			
Cash and balances at central banks	0	38,234,989	38,234,989
Loans and advances to banks – at amortized cost	1,285,669	7,115,305	8,400,974
Loans and advances to banks – at FVOCI	42,903	0	42,903
Loans and advances to customers – at amortized cost	1,777,364	0	1,777,364
Loans and advances to customers – at FVOCI	1,685,381	0	1,685,381
Securities purchased under agreements to resell or borrowed	0	1,381,516	1,381,516
Debtors	0	39,555,512	39,555,512
Accrued income	0	161,880	161,880
Total financial assets measured at amortized cost and FVOCI	**4,791,317**	**86,449,202**	**91,240,519**

Off-balance sheet lending-related commitments, which are categorized as TCP of € 19,593 million (2021: € 17,549 million), are not included in the table above. These off-balance sheet lending-related commitments are disclosed separately in note 40 Provisions for credit-related commitments and guarantees amount to € 75 million (2021: € 69 million) (see note 24).

Impact of staging on measuring the expected credit losses

ECLs are measured using a three-stage model based on changes in credit quality of the financial instrument since it was initially recognized ("initial recognition"):

- Stage 1 – performing financial instruments that have not had a significant increase in credit risk since initial recognition;
- Stage 2 – performing financial instruments that have experienced a significant increase in credit risk; and
- Stage 3 – non-performing financial instruments that have been assessed to be credit-impaired.

Default and credit-impairment (Stage 3)

Financial instruments are included in Stage 3 when there is objective evidence of impairment at the reporting date. Article 178 of the CRR complemented by the EBA (European Banking Authority) guidelines on the definition of default is generally applied. Should further requirements result from IFRS 9, these are also considered. For Stage 3 instruments, ECL is calculated considering the probability of default over the remaining life of each instrument ("Lifetime ECL") on an individual asset basis and the interest revenue is calculated on the net carrying amount (that is, net of the allowance for credit losses). All financial assets, regardless of their category as TCP, Non-TCP, or debt security, are considered to be credit-impaired and included in Stage 3 when one or more of the following events that have a detrimental impact on the estimated future cash flows of that financial asset has occurred:

- Significant financial difficulty of the issuer or the borrower;
- A default or past due event;
- The Bank has granted a concession to the borrower for economic or contractual reasons relating to the borrower's financial difficulty;
- It has become probable that the borrower will enter bankruptcy or other financial reorganization;
- An active market for that financial asset no longer exists because of the borrower's financial difficulties; or
- A financial asset is purchased or originated at a deep discount that reflects a credit loss has been incurred.

Generally, a Stage 3 financial asset is considered to no longer be credit-impaired when the borrower has made payments for a minimum defined time period and there is other objective evidence of credit improvement. However, for assets that were considered to be Stage 3 as a result

of a restructuring where the borrower experiencing financial difficulty was granted a financial concession, there is no cure period and the asset will remain in Stage 3.

Significant increase in credit risk (Stage 2)

Financial instruments that have experienced a significant increase in credit risk ("SICR") since initial recognition for which there is no objective evidence of impairment are included in Stage 2. For Stage 2 instruments, ECL is calculated considering the probability of default over the remaining life of the instrument on a collective basis and the interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for the credit loss allowance).

The Bank assesses for evidence of a SICR by considering whether there has been a change in the risk of a default occurring since the financial instrument was initially recognized.

For TCP, the Bank assesses SICR based on a combination of qualitative and quantitative assessments, as described in more detail below:

- Quantitative criteria
  The Bank determines whether the probability of a default ("PD") occurring has changed between the initial recognition and the reporting date of a financial instrument. If the change in PD exceeds certain relative and absolute thresholds, the instrument has experienced a SICR. The assessment of the PD takes into account reasonable and supportable information, including information about past events, current and future economic conditions.

- Qualitative criteria
  The Bank monitors borrowers that may become impaired by including them on its watch list. Obligors that are on the watch list are considered to have experienced a SICR. The Bank also monitors changes in internal credit risk ratings (relative to the credit rating on initial recognition) and delinquency triggers to determine if a borrower has experienced a SICR.

The Bank's TCP portfolio is mostly comprised of large, international, wholesale borrowers. For these borrowers, short-term delinquencies alone are not considered to be a meaningful credit quality indicator as the Bank's experience has shown that other internal credit quality indicators generally identify increases in credit risk well before delinquency. As such, the Bank has determined that using the quantitative and qualitative assessments described above are most appropriate for capturing SICR for TCP.

The approach for determining whether there has been a SICR for Non-TCP portfolios depends on the type of instrument. The Bank assumes as Non-TCP financial assets that are 30 days past due, have experienced a SICR and are included in Stage 2. Inter-company loans and receivables to material legal entities covered by the resolution and recovery plans are assumed not to have had a SICR given the borrower's level of capitalization and access to liquidity. Finally, the remainder

of the Bank's Non-TCP is mostly short-term and generally no SICR has arisen prior to the maturity of that instrument.

Financial instruments that are in Stage 2 are moved to Stage 1 as described below in the period that the quantitative and qualitative assessments for a SICR no longer exist.

Without significant increase in credit risk (Stage 1)
Financial instruments that have not experienced a SICR since initial recognition for which there is no objective evidence of impairment are included in Stage 1. For Stage 1 instruments, ECL is individually calculated by considering the probability of default within 12 months after the reporting date on a collective basis and interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for the credit loss allowance).

Impact of sensitivities on measuring the credit loss
Sensitivity analysis of weighting
The Bank's allowance for credit losses is sensitive to numerous factors, which may differ depending on the portfolio. Changes in economic conditions or in the Bank's assumptions and judgments could affect its estimate of expected credit losses in the portfolio at the balance sheet date.

The Bank considers a variety of factors and inputs in estimating the allowance for credit losses. It is difficult to estimate how alternative judgments in specific factors might affect the overall allowance for credit losses due to the idiosyncratic nature of the factors and inputs involved.

To illustrate the potential magnitude of an alternative judgment, the Bank estimates that adjusting the extreme downside scenario weighting to 100 % could imply an increase to modeled ECL of approximately € 463 million and alternatively adjusting the extreme upside scenario weighting to 100 % could imply a decrease to modeled ECL of approximately € 133 million.

The purpose of this sensitivity analysis is to provide an indication of the isolated impact of a hypothetical alternative judgment on modeled ECL and is neither intended to imply management's expectation of future deterioration of the economy nor any specific risk factors.

Sensitivity analysis of ECL due to staging
The following table shows the impact of staging on the Bank's ECL recognized on balance sheet as at December 31, 2022 and December 31, 2021, respectively, by comparing the allowance if all performing financial assets, loan commitments and financial guarantee contracts were in Stage 1 or if all such assets were in Stage 2 to the actual ECL recorded on these assets.

TCP financial assets, loan commitments and financial guarantee contracts:

December 31, 2022

€T	Current Staging	ECL – All performing loans in Stage 1	Impact of change in staging on the statement of comprehensive income
	242,894	197,259	45,635

December 31, 2022

€T	Current Staging	ECL – All performing loans in Stage 2	Impact of change in staging on the statement of comprehensive income
	242,894	333,373	−90,479

December 31, 2021

€T	Current Staging	ECL – All performing loans in Stage 1	Impact of change in staging on the statement of comprehensive income
	104,203	86,921	17,282

December 31, 2021

€T	Current Staging	ECL – All performing loans in Stage 2	Impact of change in staging on the statement of comprehensive income
	104,203	160,936	−56,733

ECL measurement for TCP portfolios

ECL for financial assets and lending-related commitments included in Stage 1 and Stage 2 is determined individually using a collective assessment model that estimates losses expected on the portfolio from possible defaults in the next 12 months or lifetime depending on whether the instrument is included in Stage 1 or 2. The 12-month ECL are calculated by multiplying the 12-month Probability of Default, Exposure at Default and Loss Given Default. Lifetime ECL are calculated using the lifetime PD instead. These inputs are collectively known as the modeled estimate and are described in further detail below.

Probability of Default ("PD"): The PD model estimates the probability of a borrower defaulting given certain macroeconomic scenarios and the probability of a borrower moving from one risk rating to another during the reasonable and supportable period. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively. The PD is determined at a facility level.

Country-specific information is applied to risk ratings, as appropriate in accordance with internal risk rating guidelines. Beyond the reasonable and supportable period of 2 years, the probability of default and likelihood of downgrade are based on long run historical averages with no macro-economic forecasting element. Internal historical default data are used for all periods, both during the reasonable and supportable period and beyond.

Exposure at Default ("EAD"): Exposure at Default represents the gross exposure of the Firm upon the Obligor's default and is characterized, as follows:

- Term Loans – EAD is 100 % of exposure, net of amortization.
- Revolving commitments – EAD is a model-based estimate that considers the expectation of future utilization at the facility level in the case of a default given certain macroeconomic scenarios. For the reasonable and supportable forecast period, the EAD is determined based on the facility's risk characteristics.
- All other unfunded committed facilities – EAD is determined empirically, based on the type of credit facility, line of business, underlying risk characteristics and utilization.

Loss Given Default ("LGD"): LGD, also known as loss severity, represents the amount of loss, expressed as a percentage, in the event the facility defaults given certain macroeconomic scenarios during the reasonable and supportable period. Beyond the reasonable and supportable period long run historical average LGD is used based on the Loan's risk characteristics (e.g., secured type, region, LOB). Country-specific considerations are also applied to the LGD inputs, as appropriate. Similar to PD, internal historical default data is used for all periods, both during the reasonable and supportable period (R&S) and beyond.

The modeled estimate is subsequently adjusted for Large Loan Uncertainty (LLU) which captures the variation in loan sizes across the portfolio by taking into consideration the risk of large exposures defaulting due to the non-homogeneous nature of the portfolio.

Forward-looking information

ECL estimates are derived from the Bank's historical experience and future forecasted economic conditions. To incorporate forward-looking information into the ECL calculation, the Bank develops five forecasted economic scenarios (base, relative upside, extreme upside, relative downside and extreme downside cases). Each of these scenarios contains a set of MEVs that reflect forward-looking economic and financial conditions. MEVs include, but are not limited to, GDP per country or country block (group of countries that have similar economic circumstances). MEVs for each scenario are projected over a reasonable and supportable forecast period of two years. After the forecast period, the losses revert to historical averages over a one-year transition period.

On a quarterly basis, the five economic scenarios are updated and the probability-weighting is reviewed. The Bank uses judgment to develop the scenarios and assign probability-weightings.

The most likely economic scenario in the management's view is the base case which would generally be expected to be weighted more heavily than the other four scenarios.

The PD-, LGD- and EAD-models are designed to forecast the credit quality and performance of a TCP portfolio based on industry, geography, rating and size of the obligors, among other attributes of the portfolio. PD-, LGD- and EAD-models are calibrated based on historical MEVS and use forecasted macroeconomic scenarios for projecting PD-, LGD- and EAD-values.

Macroeconomic scenarios and sensitivity analysis of key sources of estimation uncertainty
The measurement of modeled ECL involves complexity and judgment, including estimation of probabilities of default (PD), loss given default (LGD), a range of unbiased future economic scenarios, estimation of expected lives, estimation of exposures at default (EAD) and assessing significant increases in credit risk.

The Bank estimates the risk parameters specific to IFRS 9 based not only on historical default information but also, in particular, on the current economic environment and forward-looking information. This assessment primarily involves reviewing the effects which the Bank's macroeconomic forecasts will have regarding the amount of the ECL, and including these effects in the determination of the ECL.

The Bank uses a five-scenario model to calculate ECL. The transformation of the macroeconomic baseline scenario into effects on the risk parameters is based on statistically derived models. The tables below show the key macroeconomic variables used in the five scenarios, the probability weights applied to each scenario and the macroeconomic variables by scenario using "specific bases" i.e. the most extreme position of each variable in the context of the scenario.

Scenarios used to calculate the Bank's ECL were refreshed for 2022 with the Baseline scenario reflecting the latest consensus macroeconomic forecasts available at the time of the scenario refresh. In the Baseline scenario, further deterioration in major economies, as inflation pressures continue to squeeze household income, along with significant monetary policy tightening, contribute to lower growth prospects. GDP is expected to continue to fall into 2023 and the US economy is anticipated to dip into mild recession in 2023.

Scenario Probability Weighting %	Extreme Upside	Relative Upside	Baseline	Relative Downside	Extreme Downside
As at December 31, 2022	5	15	45	25	10
As at December 31, 2021	5	20	50	20	5

Macroeconomic Variables (MEVs)				Baseline scenario
Baseline average macroeconomic variables used in the calculation of ECL	Actual 2021	Actual 2022	Projected 2023	Projected 2024
Top 5 MEVs				
France GDP Q/Q% growth	5.55 %	0.29 %	0.38 %	1.08 %
Germany GDP Q/Q% growth	2.85 %	0.81 %	0.38 %	1.08 %
JPM Emerging Markets Bond Index Global (EMBIG) spread	319.29	406.96	486.11	477.61
S&P500 Index	4,319.48	3,981.10	3,965.50	4,036.09
NASDAQ Composite Index	14,514.52	11,837.38	11,319.33	11,571.50

The following table provides an overview of the main underlying macroeconomic parameters in the optimistic and in the pessimistic scenarios:

2022		Optimistic scenarios		Pessimistic scenarios
Average macroeconomic variables used in the calculation of ECL	Relative Upside	Extreme Upside	Relative Adverse	Extreme Adverse
Top 5 MEVs				
France GDP Q/Q% growth	0.41 %	0.60 %	−0.37 %	−1.20 %
Germany GDP Q/Q% growth	0.91 %	1.06 %	0.04 %	−0.44 %
JPM Emerging Markets Bond Index Global (EMBIG) spread	406.95	406.95	445.52	495.17
S&P500 Index	3,981.10	3,984.64	3,852.88	3,682.93
NASDAQ Composite Index	11,837.38	11,849.97	11,384.56	10,798.18

2021		Optimistic scenarios		Pessimistic scenarios
Average macroeconomic variables used in the calculation of ECL	Relative Upside	Extreme Upside	Relative Adverse	Extreme Adverse
Top 5 MEVs				
France GDP Q/Q% growth	5.58 %	5.98 %	3.72 %	3.30 %
Germany GDP Q/Q% growth	2.88 %	3.01 %	1.15 %	0.75 %
JPM Emerging Markets Bond Index Global (EMBIG) spread	319.29	319.29	360.54	424.29
S&P500 Index	4,324.12	4,348.64	3,973.83	3,748.47
NASDAQ Composite Index	14,532.17	14,647.12	13,211.98	12,383.96

ECL calculation

The Bank uses the forward-looking PD-, LGD-, and EAD-values for each of the scenarios to produce the scenario credit losses ("SCLS"). The modeled ECL estimate is a probability-weighted calculation of the five SCLS discounted using the original effective interest rate or an approximation thereof. The weightings are periodically reviewed and approved centrally by a risk governance committee within the Firm.

As part of the normal review process, the central ECL calculation is subject to further adjustment to take into consideration the requirements of the Bank. As the centrally estimated ECL model inputs may not capture all conditions specific to the Bank's portfolio, the Bank completes a timely local review, which involves conducting individual client reviews and reviewing local MEVs and will adjust, as necessary, the centrally estimated ECL to appropriately reflect the Bank's portfolio. Management applies judgment in making this adjustment, which considers economic and political conditions, quality of underwriting standards, borrower behavior, deterioration within an industry, product or portfolio, as well as other relevant internal and external factors affecting the credit quality of the portfolio. In certain instances, the interrelationships between these factors create further uncertainties.

There have not been any significant changes in estimation techniques or assumptions made during the 2022 reporting period.

Management adjustments

A working group which consists of J.P. Morgan SE Credit Risk Management, J.P. Morgan SE Credit Risk Controlling and the IFRS 9 Reporting Team is responsible for the local review and monitoring of the model-based results of the ECL-results. Additionally the working group assesses on the appropriateness of the used scenarios including the forecasted macroeconomic variables that are used for the calculation of the ECL. Management adjustments are prepared for potential material risks that are not reflected in the model and are provided to the J.P. Morgan SE CRO and CFO for their approval.

There have not been any significant changes in estimation techniques or assumptions made during the 2022 reporting period except changes in scenario weights (where adverse weighting was applied on rising interest rates leading to inflation and likelihood of moderate recession). Impact of scenario weight adjustment is € 40.1 million.

Stage 3 portfolio estimation techniques

In estimating ECL for Stage 3 loans using an individual discounted cash flow assessment, broad economic conditions affecting a borrower are less relevant as they may not have a direct impact on the specific borrower and his ability to service their debts. Consequently, the Bank believes that borrower specific scenarios are the most relevant in estimating expected credit losses in an individual discounted cash flow assessment. When applying the discounted cash flow methodology, the Bank projects cash flows under three borrower-specific forecast scenarios that are reviewed, adjusted and ultimately blended into one probability-weighted calculation of ECL.

ECL measurement for Non-TCP portfolios

The Bank's approach to measuring ECL for Non-TCP portfolios depends on the type of instrument.

a. Cash and balances at central banks

Cash and balances with central banks include interest-bearing deposits and are held with investment-grade institutions.

In evaluating the lifetime ECL related to receivables from a bank, the Bank determined the expected probability of default was extremely remote, and the magnitude of lifetime ECL related to exposures would be negligible as these are regulated investment-grade institutions that have significant capital, loss absorbing capacity and liquidity. The majority of the deposits held are short-term in nature and can be withdrawn at short notice (typically overnight).

b. Deposits with banks

The Bank places substantially all of its deposits with banks which are of investment-grade. Refer above for ECL assessment. Similar to cash and balances at central banks, the Bank includes loans and advances to banks in Stage 1 as investment-grade institutions that are considered to have high quality credit with low risk of default and therefore the Bank has concluded there is no material SICR.

c. Securities purchased under agreements to resell and securities borrowed

The Bank generally bears credit risk related to resale agreements and securities borrowed where cash advanced to the counterparty exceeds the expected value of the collateral received on default. The Bank's credit exposure on these transactions is significantly lower than the amounts recognized on balance sheet as the substantial majority represent contractual value before consideration of any collateral received.

Where a fully collateralized arrangement exists (for example a reverse repurchase agreement), the estimate of the allowance is immaterial € 0.33 million for 2022 due to the following credit mitigants:

- Continuous margining requirements: The contractual terms of these agreements are designed to ensure that they are fully collateralized based on continuous margining requirements, even when the credit risk of the borrower increases significantly. The contractual terms provide the Bank (as lender) with the legal right to receive additional margin from the borrower each day a margin deficit exists. The contractual terms also allow the Bank to increase margin requirements, and to revoke or reduce (lending) commitments to the borrower at any time.
- Intercompany arrangements may be repayable on demand: The vast majority of the Bank's collateralized intercompany lending arrangements are executed under master contracts that provide additional protections for the Firm, such as stipulating that extensions of credit are repayable on demand.
- High quality collateral: If, in the extremely rare circumstance that the borrower were to default, because the collateral is generally of high quality (G5 government obligations) or is otherwise considered highly liquid, the Bank has the legal right and operational ability, as well as the intent, to immediately seize the collateral and liquidate it in a timely and price-efficient manner to minimize any loss.

The majority of securities purchased under agreements to resell are held at fair value. The fair value of the security collateral in respect of securities financing transactions is, in aggregate, greater than the net amounts reported on balance sheet.

Securities financing arrangements tend to be short-term in nature with no history of credit losses. These arrangements are included in Stage 1 as the Bank has determined there is no SICR during the short tenor of the instrument as at December 31, 2022, and December 31, 2021.

d. Debtors

Debtors consist of trade and other debtors. Trade debtors mainly consist of unsettled trades, receivables related to sales of securities which have not yet settled.

These receivables generally have minimal credit risk due to the low probability of default of a clearing organization default and failure to deliver, and the short-term nature of receivables related to securities settlements which are predominately on a delivery versus payment basis.

The Bank recognizes no ECL on these balances as the ECL related to these exposures is assessed as immaterial.

Other debtors primarily comprise receivables related to cash collateral paid to counterparties in respect of derivative financial instruments. Margin posted in cash is reflected as a receivable from the counterparty and is carried at amortized cost. Furthermore, the Bank provides clearing services to its clients wherein it facilitates the execution and settlement of derivative transactions by intermediating between a Central Clearing Party ("CCP") and a client, the associated cash collateral is recognized at amortized cost.

In evaluating the lifetime ECL related to receivables from a CCP, the Bank determined the expected probability of CCP default was extremely remote, and the magnitude of lifetime expected credit losses related to CCP exposures would be negligible due to the multi-layered credit protection inherent in the design and operations of the CCP clearing model. The Bank includes these receivables in Stage 1 due to the multi-layered credit protection inherent in the design and operations of the CCP clearing model.

e. Fee receivables

Fee receivables arise out of revenue from contracts with customers, such as a management fee or distribution revenue.

Staging and write-off policies depend on the nature of the asset.

Fee receivables for institutional clients are included in Stage 1 if they are less than 90 days past due ("dpd"), and instruments less than 180 dpd are included in Stage 2. A fee receivable from an institutional client is deemed to be credit-impaired and 100% reserved when it is 180 dpd.

The Bank has not had significant losses on its fee receivable portfolios and based on the immateriality of these losses, the provision matrix and staging approach described is applied. The

Bank continues to monitor the fee receivable population to ensure the described framework is appropriate and ECL on this portfolio are adequately reflected.

Fee receivables from non-institutional clients are included in Stage 1 if they are less than 30 dpd, and instruments less than 90 dpd are included in Stage 2. A fee receivable for non-institutional clients is deemed to be credit-impaired and 100 % reserved when it is 90 dpd. The Firm has not had significant losses on its fee receivable portfolios and based on the immateriality of these losses, the provision matrix and staging approach described is applied. The Bank continues to monitor the fee receivable population to ensure the described framework is appropriate and ECL on this portfolio are adequately reflected.

f. Non-TCP intercompany transactions

For intercompany transactions where the counterparty is a Material Legal Entity ("MLE"), the Bank's anticipated ECL was determined to be immaterial and no ECL was recognized, for the following reasons:

- The MLE has been prepositioned with funding from both a liquidity and a capital perspective.
- JPMorgan Chase Bank, N.A., ("JPMCB") and the JP Morgan Chase's Intermediate Holding Bank ("IHC") are obligated to provide financial support to their direct and indirect subsidiaries in connection with the Support Agreement that is put in place as part of the Firm's resolution planning process, which effectively functions as a guarantee/backstop for intercompany lending arrangements with an MLE borrower.

As MLEs are adequately capitalized to ensure the MLE can fulfill all of its obligations even in the event of an orderly liquidation of JPMorgan Chase & Co. and are of investment grade, these intercompany receivables are included in Stage 1 as they are held with MLEs and considered to not have an increase in credit risk that would result in material expected credit losses.

Receivables from MLEs are only included in Stage 2 if the obligor is no longer considered an MLE and there is evidence of credit deterioration of the obligor, or if certain support triggers defined in the JPMorgan Chase's Resolution Plan occur. Receivables from MLEs are not credit-impaired as the Firm ensures MLEs are more than adequately capitalized as required by the Firm's Resolution Plan.

The anticipated ECL for other receivables from non-MLEs was determined to be immaterial and no ECL was recognized.

g. Unfunded capped default fund commitments to CCP

J.P. Morgan SE is a member of several securities and derivative exchanges and clearing houses through which it provides clearing services. Membership in these CCPs requires the Firm to pay a pro-rata share of the losses incurred by the organization as a result of the default of another member.

For some CCP, the Firm can now estimate maximum possible exposure under these membership agreements (based on the CCP's rulebooks), which are reported as "Other commitments" as an off balance sheet item. As at December 31, 2022, the commitment amounted to € 1.8 billion (31/12/2021: € 1.9 billion).

These unfunded capped default fund commitments, which represent the maximum potential loss, relate to a commitment to provide funds to clearing houses and central counterparties (CCPs) in the event of default by a member of those counterparties. When a member defaults, the loss incurred by the counterparties is allocated on a pro-rata basis among the other non-defaulting members, where the amount of loss is allocated based on the volume of activity between the non-defaulting member and the defaulting member.

h. Other assets

The accounting policy for other assets requires they be written off when the asset is (i) deemed to be uncollectible or (ii) past due for more than 90 days, whichever occurs first.

The Bank believes that the 90-day write-off policy materially limits the Non-TCP exposure recognized on the balance sheet for Non-TCP that may have collectability concerns and no additional impairment charges are required for Non-TCP in this category.

The Bank relies on the staging backstops in IFRS 9 and presumes that other assets that are 30 dpd have experienced a SICR and are included in Stage 2. Other assets that are greater than 90 days past due are deemed to be credit-impaired and are included in Stage 3. Other assets that are current or less than 30 dpd are included in Stage 1.

ECL and gross carrying amount reconciliation

The following tables provide an explanation of the change in the loss allowance during the year ended December 31, 2022 and December 31, 2021, respectively, by respective product classes (TCP and Non-TCP). The tables also set out which effects contributed to the changes in the loss allowance:

1. Traditional credit products (TCP)

The ECL recognized in the reporting period is impacted by the judgments made by management as described below:

- Determining criteria for significant increase in credit risk;
- Choosing appropriate models and assumptions for the measurement of ECL;
- Establishing the number and relative weightings of forward-looking scenarios for each type of product/market and the associated ECL; and
- Establishing groups of similar financial assets for the purposes of measuring ECL.

Wholesale loans

a) Loans and advances at amortized cost

2022				ECL				Gross carrying amount
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total[1]
At January 1, 2022	**3,168**	**2,513**	**2,662**	**8,343**	**2,993,524**	**60,122**	**9,388**	**3,063,034**
New loans originated or purchased	20,945	13,694	627	35,266	3,703,669	774,682	1,886	4,480,237
Loans derecognized or repaid	−4,067	−1,043	−593	−5,703	−4,956,918	−312,445	−16,422	−5,285,785
Existing loans including credit quality changes	21,993	7,912	−2,193	27,712	31,958,383	1,203,741	14,211	33,176,335
Changes in macroeconomic variables ("MEV")	15,366	4,597	0	19,963	0	0	0	0
Stage transfers	−25,514	43,143	10,392	28,021	−2,604,495	2,582,726	19,894	−1,875
Other	−46	−1,700	165	−1,581	193,261	3,720	581	197,562
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	19,956	8,185	0	28,141	0	0	0	0
Total changes	48,633	74,788	8,398	131,819	28,293,900	4,252,424	20,150	32,566,474
At December 31, 2022	**51,801**	**77,301**	**11,060**	**140,162**	**31,287,424**	**4,312,546**	**29,538**	**35,629,508**

[1] The total includes non-TCP "Securities purchased under resell agreements" measured at amortized cost.

2021				ECL				Gross carrying amount
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total[1]
At January 1, 2021	**697**	**10,613**	**1,814**	**13,125**	**743,277**	**1,203,200**	**6,322**	**1,952,799**
New loans originated or purchased	2,810	569	0	3,379	1,155,085	9,331	0	1,164,416
Loans derecognized or repaid	−122	−4	0	−126	−426,390	−1,244,987	0	−1,671,377
Existing loans including credit quality changes	11	−965	697	−257	1,459,536	−7,813	2,539	1,454,261
Changes in macroeconomic variables ("MEV")	86	−1,074	0	−989	0	0	0	0
Stage transfers	0	0	0	0	0	0	0	0
Other	55	897	151	1,104	62,016	100,391	527	162,934
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	−369	−7,523	0	−7,891	0	0	0	0
Total changes	2,471	−8,100	848	−4,780	2,250,247	−1,143,078	3,066	1,110,234
At December 31, 2021	**3,168**	**2,513**	**2,662**	**8,345**	**2,993,524**	**60,122**	**9,388**	**3,063,033**

[1] The total includes non-TCP "Securities purchased under resell agreements" measured at amortized cost.

Main drivers for the ECL increase were both new and existing facilities as exposures increased in stage 1 and stage 2. Further contributing to the increase were both changes in MEV and effects from the management adjustment as well as stage transfers from stage 1 to stage 2.

The changes in the gross carrying amount of the receivables measured at amortized cost were mainly due to newly issued claims along with increase in existing facilities.

b) Loans and advances at FVOCI

2022			ECL				Gross carrying amount	
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At January 1, 2022	**35,520**	**12,671**	**2,526**	**50,716**	**1,274,164**	**367,076**	**87,044**	**1,728,284**
New loans originated or purchased	5,216	13,039	0	18,255	1,042,604	122,970	0	1,165,574
Loans derecognized or repaid	−31,053	−10,391	0	−41,444	−374,722	−96,754	0	−471,476
Existing loans including credit quality changes	1,215	−2,005	3,139	2,349	96,404	−126,399	1,826	−28,169
Changes in macroeconomic variables ("MEV")	2,951	370	0	3,321	0	0	0	0
Stage transfers	−814	2,517	−777	926	−50,357	52,437	−4,946	−2,866
Other	2,268	819	156	3,243	−51,144	152,614	5,386	106,856
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	5,181	917	0	6,098	0	0	0	0
Total changes	−15,036	5,266	2,518	−7,252	662,785	104,868	2,266	769,919
Fair value adjustment	0	0	0	0	3,196	9,851	0	13,047
Deferred fees adjustment	0	0	0	0				
At December 31, 2022	**20,484**	**17,937**	**5,044**	**43,464**	**1,940,145**	**481,795**	**89,310**	**2,511,250**

2021			ECL				Gross carrying amount	
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At January 1, 2021	**11,915**	**34,762**	**15,858**	**62,534**	**1,339,544**	**458,252**	**159,666**	**1,957,462**
New loans originated or purchased	33,980	360	0	34,340	767,744	−119,143	0	648,601
Loans derecognized or repaid	−5,039	−2,289	−6,166	−13,493	−695,019	−80,968	−25,361	−801,348
Existing loans including credit quality changes	−591	1,235	−9,221	−8,577	−282,977	98,797	−65,240	−249,420
Changes in macroeconomic variables ("MEV")	4	1,561	0	1,565	0	0	0	0
Stage transfers	0	−7,022	732	−6,290	−954	−32,682	4,658	−28,978
Other	992	2,940	1,323	5,255	111,771	38,234	13,321	163,326
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	−5,741	−18,876	0	−24,618	0	0	0	0
Total changes	23,605	−22,091	−13,332	−11,818	−99,435	−95,762	−72,622	−267,819
Fair value adjustment	0	0	0	0	34,055	4,586	0	38,641
Deferred fees adjustment	0	0	0	0	0	0	0	0
At December 31, 2021	**35,520**	**12,671**	**2,526**	**50,716**	**1,274,164**	**367,076**	**87,044**	**1,728,284**

Changes in the gross carrying amount of the receivables measured at FVOCI contributed to changes in the ECL in the 2022 financial year as follows:

– The increase in newly granted loans.
– Overall reduction in ECL is driven mainly due to repaid facilities.

c) Loan Commitments and Financial Guarantees

At December 31, 2022				ECL				Notional amount
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At January 1, 2022	**23,774**	**26,558**	**18,855**	**69,187**	**16,522,092**	**881,051**	**145,409**	**17,548,553**
New loan commitments and financial guarantees	12,117	3,414	0	15,531	4,558,658	386,120	0	4,944,778
Loan commitments and financial guarantees drawn	−3,249	−6,487	−15,853	−25,589	−2,809,045	−239,057	−125,248	−3,173,350
Existing loan commitments and financial guarantees including credit quality changes	−10,570	−21,372	19,752	−12,190	−1,143,869	333,465	−953	−811,357
Changes in macroeconomic variables ("MEV")	5,912	4,437	0	10,349	0	0	0	0
Stage transfers	−4,534	10,393	−3,899	1,960	−296,423	324,926	−28,206	297
Other	10,802	12,966	−18,855	4,913	1,022,368	54,518	8,998	1,085,884
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	1,097	10,113	0	11,210	0	0	0	0
Total changes	11,575	13,464	−18,855	6,184	1,331,689	859,972	−145,409	2,046,252
At December 31, 2022	**35,349**	**40,022**	**0**	**75,371**	**17,853,781**	**1,741,023**	**0**	**19,594,805**

At December 31, 2021				ECL				Notional amount
€T	Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At January 1, 2021	**27,809**	**45,021**	**3,292**	**76,122**	**10,200,960**	**1,429,259**	**19,581**	**11,649,801**
New loan commitments and financial guarantees	10,249	2,877	14,929	28,055	5,174,976	81,374	100,071	5,356,421
Loan commitments and financial guarantees drawn	−2,860	−2,307	−6	−5,174	−1,859,160	−777,939	−39	−2,637,138
Existing loan commitments and financial guarantees including credit quality changes	2,508	5,116	−3,306	4,318	2,145,138	38,613	−2,400	2,181,351
Changes in macroeconomic variables ("MEV")	−1,234	−450	0	−1,684	0	0	0	0
Stage transfers	472	−1,593	3,671	2,550	9,047	−9,508	26,562	26,101
Other	1,648	3,992	275	5,915	851,131	119,252	1,634	972,017
Model update	0	0	0	0	0	0	0	0
Qualitative management adjustment	−14,817	−26,098	0	−40,915	0	0	0	0
Total changes	−4,034	−18,463	15,563	−6,935	6,321,132	−548,208	125,828	5,898,752
At December 31, 2021	**23,775**	**26,558**	**18,855**	**69,187**	**16,522,092**	**881,051**	**145,409**	**17,548,553**

Changes in the notional amount of loan commitments and financial guarantees contributed to changes to the ECL in the reporting period 2022 as follows:

– A positive balance of new and drawn loan commitments and financial guarantees increased the gross book value of the loan commitments and financial guarantees. Overall increase in ECL is driven mainly by the new commitments along with management adjustments driven by adverse scenario weights.

2. Non-traditional credit products (Non-TCPs)

Non-TCPs include all other instruments measured at amortized cost and are subject to the impairment provisions according to "IFRS 9". The Bank hasn't recorded any ECL for Non-TCPs, because the ECL on these instruments is considered as immaterial.

The approach for measuring ECL for Non-TCP portfolios follows the type of instrument. An analysis by balance sheet item can be found above in the section "ECL measurement for Non-TCP portfolios".

CREDIT RISK EXPOSURES

The following tables include an analysis of credit risk exposure for all financial assets irrespective of whether an ECL has been recorded for them or not. An ECL is recorded for a financial instrument if it is subject to the IFRS 9 impairment rules.

The maximum credit risk of the financial assets in the table shows the maximum potential credit loss:

December 31, 2022				**Risk mitigants**	
€T	Maximum credit risk exposure	Exposures captured by market risk	Master netting agreements and other	Cash & Security	Net credit exposure
Financial assets:					
Cash and balances at central banks	€ 75,340,930	€ –	€ –	€ –	€ 75,340,930
Loans and advances to banks	€ 9,763,075	€ –	€ –	€ −108,176	€ 9,654,899
Loans and advances to customers	€ 19,746,821	€ –	€ –	€ −13,902,402	€ 5,844,419
Securities purchased under agreements to resell	€ 65,381,449	€ –	€ −4,098,358	€ −58,961,074	€ 2,322,017
Securities borrowed	€ 862,181	€ –	€ −391,866	€ −455,068	€ 15,247
Financial assets at fair value through profit and loss	€ 220,383,968	€ 25,740,843	€ −175,205,045	€ −11,031,761	€ 59,888,005
Debtors	€ 42,996,545	€ –	€ −1,155,167	€ –	€ 41,841,378
Accrued income	€ 495,032	€ –	€ –	€ –	€ 495,032
Total	**€ 434,970,001**	**€ 25,740,843**	**€ −180,850,436**	**€ −84,458,481**	**€ 195,401,927**

December 31, 2021			Risk mitigants		
€T	Maximum credit risk exposure	Exposures captured by market risk	Master netting agreements and other	Cash & Security	Net credit exposure
Financial assets:					
Cash and balances at central banks	€ 38,234,989	€ –	€ –	€ –	€ 38,234,989
Loans and advances to banks	€ 8,473,322	€ –	€ –	€ −11,093	€ 8,462,229
Loans and advances to customers	€ 4,533,917	€ –	€ –	€ −978,721	€ 3,555,196
Securities purchased under agreements to resell	€ 43,900,617	€ –	€ −15,445,569	€ −25,836,863	€ 2,618,184
Securities borrowed	€ 869,450	€ –	€ −552,071	€ −310,212	€ 7,167
Financial assets at fair value through profit and loss	€ 145,303,607	€ 21,254,421	€ −98,213,996	€ −10,330,007	€ 58,014,025
Debtors	€ 39,555,512	€ –	€ −403,296	€ –	€ 39,152,217
Accrued income	€ 161,880	€ –	€ –	€ –	€ 161,880
Total	**€ 281,033,293**	**€ 21,254,421**	**€ −114,614,932**	**€ −37,466,897**	**€ 150,205,886**

Maximum credit risk exposure

The gross balance sheet exposure represents the Bank's maximum exposure to credit risk from these assets. It is determined separately for each counterparty for derivatives and securities, taking into account enforceable netting agreements in accordance with IAS 32 "Financial Instruments: Presentation" for which there is legal right and the intention of a net settlement. The net exposure after risk mitigation is presented taking into account for assets that are primarily exposed to market risk, the aforementioned enforceable master netting agreements (where the netting criteria according to IAS 32 are not met) and the value of the collateral received. Cash and securities collateral is taken into account at their respective fair values, while other collateral received, such as guarantees and sureties, is generally not taken into account.

The collateral is taken into account under conditions that are customary for the relevant securities and financing transactions. J.P. Morgan SE receives securities as collateral for securities repurchase agreements or cash-backed securities lending transactions. These can generally be resold or repledged by J.P. Morgan SE. For the resale or repledging of the collateral provided, the customary contractual terms apply. The quality of the collateral is assured by its ability to be liquidated, used and third party usability, as well as by regular evaluation.

The Bank's credit risks are described in more detail below. Since the ECL allowance is only recognized on loans and advances held at amortized cost and FVOCI, further analyses of the Bank's credit commitments are included.

Off-balance sheet exposure consists of lending-related commitments, capped commitments and financial guarantees of € 40,861 million (2021: € 25,574 million). Refer to note 40.

Loans and advances to customers and banks

The table below shows the Bank's credit exposure and contractual maturity profile for gross loans and advances to customers and banks before any ECL allowance. The credit quality and credit concentration of loans and advances to customers is managed within the Bank's Credit Risk Management function. The ratings scale is based on J.P. Morgan SE's internal risk ratings, which generally correspond to the ratings as defined by S&P and Moody's Investors Service. The below table also includes securities purchased under resale agreements that are classified at amortized cost.

Maturity profile of TCP financial assets (IFRS 7, Paragraph 35M)

Maturity €T	2022	2021
5 years or more	1,037,025	277,002
5 years or less but over 1 year	7,391,657	1,986,149
1 year or less but over 3 months	3,175,387	621,874
3 months or less	26,536,689	1,906,292
Total	**38,140,758**	**4,791,317**

Ratings profile (IFRS 7, Paragraph 35M)

At December 31, 2022				Stages		
€T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loans and advances to customers at amortized cost						
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
2+	AA+	Aa1	394,792	–	–	394,792
2	AA	Aa2	4,907	–	–	4,907
2–	AA–	Aa3	8,525	–	–	8,525
3+	A+	A1	19,931,054	–	–	19,931,054
3	A	A2	461,822	2	–	461,824
3–	A–	A3	23,082	–	–	23,082
4+	BBB+	Baa1	422,817	–	–	422,817
4	BBB	Baa2	836,437	9,922	–	846,359
4–	BBB–	Baa3	2,943,137	1,084,573	–	4,027,710
Non-investment-grade						
5+	BB+	Ba1	2,416,581	460,406	–	2,876,987
5	BB	Ba2	1,424,230	567,881	–	1,992,111
5–	BB–	Ba3	1,035,443	639,833	–	1,675,276
6+	B+	B1	478,954	333,670	–	812,624
6	B	B2	378,440	502,729	–	881,169
6–	B–	B3	472,002	480,063	–	952,065
7	CCC+	Caa1	52,001	167,143	–	219,144
8	CC	Ca	3,200	66,325	–	69,525
9	C/D	C	–	–	29,537	29,537
Gross carrying amount			**31,287,424**	**4,312,547**	**29,537**	**35,629,508**

At December 31, 2022					Stages	
(continued) €T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loans and advances to customers at FVOCI						
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
1+	AAA	Aaa	96,817	138,943	–	235,760
2	AA	Aa2	136,254	–	–	136,254
2–	AA–	Aa3	44,165	–	–	44,165
3+	A+	A1	4,556	–	–	4,556
3	A	A2	170,756	21	–	170,777
3–	A–	A3	124,775	8,977	–	133,752
4+	BBB+	Baa1	41,050	–	–	41,050
4	BBB	Baa2	153,968	–	–	153,968
4–	BBB–	Baa3	204,803	–242	–	204,561
Non-investment-grade						
5+	BB+	Ba1	178,950	110,679	–	289,629
5	BB	Ba2	163,576	–	–	163,576
5–	BB–	Ba3	217,734	23,316	–	241,050
6+	B+	B1	191,875	25,827	–	217,702
6	B	B2	50,412	19,983	–	70,395
6–	B–	B3	93,207	35,985	–	129,192
7	CCC+	Caa1	64,048	77,715	–	141,763
8	CC	Ca	–	30,742	–	30,742
9	C / D	C	–	–	84,675	84,675
10	D	C	–	–	4,636	4,636
Gross carrying amount (interim value)			**1,936,946**	**471,946**	**89,311**	**2,498,203**
Fair value adjustment[1]						**13,047**
Gross carrying amount						**2,511,250**
Total gross carrying amount						**38,140,758**

[1] IFRS 9 defines the gross carrying amount of a financial asset as the amortized cost of a financial asset, before adjusting for any loss allowance. Accordingly, the gross carrying amounts in the table above exclude any fair value adjustments on FVOCI facilities. These fair value adjustments are presented separately.

At December 31, 2021			Stages			
€T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loans and advances to customers at amortized cost						
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
2+	AA+	Aa1	611,292	–	–	611,292
3+	A+	A1	1,388,541	–	–	1,388,541
3	A	A2	255,273	–	–	255,273
3–	A–	A3	555	–	–	555
4+	BBB+	Baa1	87,791	48	–	87,839
4	BBB	Baa2	3,173	–	–	3,173
4–	BBB–	Baa3	798	–	–	798
Non-investment-grade						
5+	BB+	Ba1	517,364	–	–	517,364
5	BB	Ba2	55,481	–	–	55,481
5–	BB–	Ba3	5,487	–	–	5,487
6+	B+	B1	43,922	–	–	43,922
6	B	B2	19,031	–	–	19,031
6–	B–	B3	4,816	9,331	–	14,147
7	CCC+	Caa1	–	–	–	–
8	CC	Ca	–	50,743	–	50,743
9	C/D	C		–	9,388	9,388
				0	0	0
Gross carrying amount			**2,993,523**	**60,122**	**9,388**	**3,063,033**

At December 31, 2021				Stages		
(continued) €T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Loans and advances to customers at FVOCI						
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
1+	AAA	Aaa	–	152,782	–	152,782
2	AA	Aa2	30,769	–	–	30,769
2–	AA–	Aa3	142,470	–	–	142,470
3+	A+	A1	20,454	130	–	20,584
3	A	A2	64,013	1	–	64,014
3–	A–	A3	64,541	–	–	64,541
4+	BBB+	Baa1	29,134	–	–	29,134
4	BBB	Baa2	268,211	–	–	268,211
4–	BBB–	Baa3	113,546	–	–	113,546
Non-investment-grade						
5+	BB+	Ba1	33,491	103,926	–	137,417
5	BB	Ba2	88,331	–	–	88,331
5–	BB–	Ba3	83,105	–	–	83,105
6+	B+	B1	46,051	–	–	46,051
6	B	B2	−313	–	–	−313
6–	B–	B3	42,175	12,163	–	54,338
7	CCC+	Caa1	214,128	6,307	–	220,435
8	CC	Ca	–	87,183	–	87,183
9	C / D	C	–	–	87,045	87,045
10	D	C	–	–	–	–
Gross carrying amount (interim value)			**1,240,106**	**362,492**	**87,045**	**1,689,643**
Fair value adjustment[1]						**38,641**
Gross carrying amount						**1,728,284**
Total gross carrying amount						**4,791,317**

[1] IFRS 9 defines the gross carrying amount of a financial asset as the amortized cost of a financial asset, before adjusting for any loss allowance. Accordingly, the gross carrying amounts in the table above exclude any fair value adjustments on FVOCI facilities. These fair value adjustments are presented separately.

Loan commitments and financial guarantees (IFRS 7, Paragraph 35M)

At December 31, 2022			Stages			
Rating grades €T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
1+	AAA	Aaa	8,309	0	0	8,309
1	AAA	Aaa	26,188	0	0	26,188
2+	AA+	Aa1	40,128	0	0	40,128
2	AA	Aa2	28,127	0	0	28,127
2–	AA–	Aa3	377,116	0	0	377,116
3+	A+	A1	410,953	2	0	410,955
3	A	A2	3,887,142	740	0	3,887,882
3–	A–	A3	567,135	1,030	0	568,165
4+	BBB+	Baa1	2,139,667	348	0	2,140,015
4	BBB	Baa2	3,130,620	108,340	0	3,238,960
4–	BBB–	Baa3	3,074,920	109,695	0	3,184,615
Non-investment-grade						
5+	BB+	Ba1	1,306,701	76,144	0	1,382,845
5	BB	Ba2	779,759	243,764	0	1,023,523
5–	BB–	Ba3	917,382	362,867	0	1,280,249
6+	B+	B1	272,967	114,646	0	387,613
6	B	B2	192,634	120,461	0	313,095
6–	B–	B3	496,874	139,132	0	636,006
7	CCC+	Caa1	122,111	172,891	0	295,002
8	CC	Ca	75,049	290,963	0	366,012
9	C/D	C	0	0	0	0
10	D	C				0
Notional amount			**17,853,782**	**1,741,023**	**0**	**19,594,805**
Loss allowance						75,371
Notional amount (Net of ECL)						**19,519,434**

At December 31, 2021					Stages	
Rating grades €T			Stage 1 12 month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total
Investment-grade						
JPMC – Default grade	S&P Rating	Moody's Rating				
1+	AAA	Aaa	1,098	0	0	1,098
1	AAA	Aaa	0	0	0	0
2	AA	Aa2	146,493	0	0	146,493
2–	AA–	Aa3	34,995	0	0	34,995
3+	A+	A1	799,008	0	0	799,008
3	A	A2	3,755,382	46	0	3,755,428
3–	A–	A3	356,405	127	0	356,532
4+	BBB+	Baa1	1,634,825	423	0	1,635,248
4	BBB	Baa2	2,905,213	505	0	2,905,718
4–	BBB–	Baa3	2,641,568	0	0	2,641,568
Non-investment-grade						
5+	BB+	Ba1	1,596,136	213,619	0	1,809,755
5	BB	Ba2	518,718		0	518,718
5–	BB–	Ba3	705,504	24,126	0	729,630
6+	B+	B1	308,931	4,790	0	313,721
6	B	B2	363,485	3,836	0	367,321
6–	B–	B3	512,003	178,383	0	690,386
7	CCC+	Caa1	212,859	118,335	0	331,194
8	CC	Ca	29,469	336,862	0	366,331
9	C / D	C	0	0	145,409	145,409
10	D	C	0	0	0	0
Notional amount			**16,522,092**	**881,052**	**145,409**	**17,548,553**
Loss allowance						69,187
Notional amount (Net of ECL)						**17,479,366**

Analysis of concentration credit risk (IFRS 7, Paragraph 35M)

The credit portfolio is decomposed by geographic region and by industry in the table below. According to the Bank's evaluation, as of December 31, 2022, the portfolio is well diversified in relation to geographic region and industry.

Credit risk concentration 2022

€T	Loans and advances at amortized cost	Loans and advances at FVOCI	Loan commitments and financial guarantees
Geographic region			
Germany	331,786	125,424	901,421
Other European	6,004,408	2,030,512	12,287,015
Rest of the world	29,293,314	355,314	6,406,369
Total	**35,629,508**	**2,511,250**	**19,594,805**
Industry			
Commercial and industrial	555,265	1,680,614	11,994,333
Real estate	191,060	251,223	924,577
Energy	0	0	0
Financial services	22,290,170	193,147	5,980,359
Other	12,593,013	386,266	695,536
Total	**35,629,508**	**2,511,250**	**19,594,805**

Credit risk concentration 2021

€T	Loans and advances at amortized cost	Loans and advances at FVOCI	Loan commitments and financial guarantees
Geographic region			
Germany	280,993	117,195	929,282
Other European	2,633,783	1,317,805	10,073,967
Rest of the world	148,257	293,284	6,545,304
Total	**3,063,033**	**1,728,284**	**17,548,553**
Industry			
Commercial and industrial	731,865	1,278,335	12,128,373
Real estate	8	217,070	758,537
Energy	–	–	–
Financial services	1,481,028	48,803	4,357,423
Other	850,132	184,076	304,220
Total	**3,063,033**	**1,728,284**	**17,548,553**

Market risk, liquidity risk and operational risk disclosures are incorporated in the risk report as part of the management report.

36. Interest in unconsolidated structured entities

STRUCTURED ENTITIES

The Company engages in various business activities with structured entities which are designed to achieve a specific business purpose. A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as, when any voting rights relate to administrative tasks only and the relevant activities are directed by means of other contractual arrangements.

Typically, structured entities have one or more of the following characteristics:

- An insufficient amount of at-risk equity to permit the entity to finance its activities without additional subordinated financial support;
- Equity at-risk owners that, as a group, are not able to make significant decisions relating to the entity's activities through voting rights or similar rights; or
- Equity at-risk owners that do not absorb the entity's losses or receive the entity's residual returns.

The most common type of structured entity is a special purpose entity ("SPE"). SPEs are commonly used in securitization transactions in order to isolate certain assets and distribute the cash flows from those assets to investors. The party that has power to direct the most significant activities of the entity and an exposure to the risks of the entity (together constituting control of the entity) is required to consolidate the assets and liabilities of the structured entity.

The Company has involvement with various structured entities, established by the Firm or by third parties. These typically include securitizations:

- Securitizations – Residential and commercial mortgage-backed and other asset-based entities: the Company invests in securities generally issued by third party sponsored structured entities. The Company is not able to make significant decisions relating to the entity's activities through voting rights or similar rights.

INTEREST IN UNCONSOLIDATED STRUCTURED ENTITIES

The Company's interest in an unconsolidated structured entity is considered as the contractual and non-contractual involvement that exposes the Company to the variability of returns from the performance of the structured entity but not deemed a subsidiary.

The following table shows, by type of structured entity, the Company's interest in unconsolidated structured entities recognized on the balance sheet. The maximum exposure to loss is determined by considering the nature of the interest in the unconsolidated structured entity. The maximum exposure for loans and securities is reflected by their carrying amounts of these interests. The

maximum exposure for off balance sheet commitments such as guarantees, liquidity facilities and loan commitments is reflected by the notional amounts of potential future losses. The derivative types reflected in the table consist primarily of plain vanilla instruments, such as interest rate swaps, cross-currency swaps and FX forwards, the maximum exposure to loss for these derivatives is reflected by their fair value. The maximum exposure for asset swap vehicles and credit-related notes is determined based on the amount of collateral.

The table also provides an indication of the size of the structured entities, measured by the total assets held in the structured entity. The carrying amounts do not necessarily reflect the risks faced by the Company, as factors such as economic hedges and effect of collateral held by the Company are not included.

		Interest in unconsolidated structured entities		
€T	Fair value of assets held by SPE	Financial assets and liabilities at fair value through profit and loss	Financial assets and liabilities at amortized cost	Total
December 31, 2022				
Residential mortgage-backed vehicles	11,068,061	108,760	119,884	**228,644**
Commercial mortgage-backed vehicles	5,637,305	65,855	263,614	**329,469**
Other asset-backed vehicles	6,630,856	85,653	562,102	**647,755**
Covered bonds	11,257,380	76,589	0	**76,589**
Derivative and note issuances	8,997,889	2,728,283	0	**2,728,283**
Other	0	492,163	122	**492,284**
Total assets	**43,591,491**	**3,557,303**	**945,722**	**4,503,024**
Commitments & guarantees	**0**	**0**	**163,974**	**163,974**
Maximum exposure to loss	**43,591,491**	**8,257,784**	**945,722**	**9,203,506**
Total liabilities	**0**	**415,654**	**0**	**415,654**

		Interest in unconsolidated structured entities		
€T	Fair value of assets held by SPE	Financial assets and liabilities at fair value through profit and loss	Financial assets and liabilities at amortized cost	Total
December 31, 2021				
Residential mortgage-backed vehicles	15,296,105	202,518	0	**202,518**
Commercial mortgage-backed vehicles	3,704,214	66,052	0	**66,052**
Other asset-backed vehicles	7,968,349	134,627	836,898	**971,525**
Covered bonds	5,808,494	9,562	0	**9,562**
Derivative and note issuances	6,314,535	1,975,766	0	**1,975,766**
Other	0	0	0	0
Total assets	**39,091,697**	**2,388,525**	**836,898**	**3,225,423**
Commitments & guarantees	**0**	**0**	**0**	**0**
Maximum exposure to loss	**39,091,697**	**2,348,250**	**836,898**	**3,185,148**
Total liabilities	**0**	**468,758**	**0**	**468,758**

37. Market risk

INTERBANK OFFERED RATE ("IBOR") TRANSITION

The Financial Stability Board ("FSB") and the Financial Stability Oversight Council ("FSOC") have observed that the secular decline in interbank short-term funding poses structural risks for unsecured benchmark interest rates such as Interbank Offered Rates ("IBORs"), and therefore regulators and market participants in various jurisdictions identified alternative reference rates that are compliant with the International Organization of Securities Commission's standards for transaction-based benchmarks.

In the US, UK, EU, Japan and Switzerland, the Alternate Reference Rate Committee ("ARRC"), the Working Group on Sterling Risk-Free Reference Rates ("Sterling RFR WG"), the Working Group on Euro Risk-Free Rates ("Euro RFR WG"), the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks and the National Working Group on Swiss Franc Reference Rates respectively, groups composed of market and official sector participants, have identified the Secured Overnight Financing Rate ("SOFR"), the Sterling Overnight Index Average Rate ("SONIA"), the Euro Short-Term Rate ("€STR"), the Tokyo Overnight Average Rate ("TONA"), and the Swiss Average Rate Overnight ("SARON") as the recommended alternative benchmark rates.

On March 5, 2021, the Financial Conduct Authority ("FCA") confirmed the delay to the cessation of the principal tenors of U.S. dollar LIBOR (i.e., overnight, one-month, three-month, six-month and 12-month LIBOR) until June 30, 2023 and announced that there has been no change to the scheduled cessation of U.K. sterling, Japanese yen, Swiss franc and Euro LIBOR, as well as the remaining tenors of U.S. dollar LIBOR, from December 31, 2021.

Cessation of non-USD LIBOR settings occurred at the end of 2021 with "synthetic" 1-, 3-, 6-month U.K. sterling and Japanese yen LIBOR rates published on a non-representative basis for use in all legacy LIBOR contracts, other than cleared derivatives, that had not been transitioned to replacement rates by January 1, 2022. The use of these synthetic LIBORs allowed market participants additional time to complete their transition to replacement rates or otherwise to reduce their exposure to contracts that do not have robust fallback mechanisms and that are difficult to amend.

JPM Group established a Firmwide LIBOR Transition program in early 2018. The Firmwide CFO and the CEO of the Corporate & Investment Bank ("CIB") oversee the program as senior sponsors. Following non-USD LIBOR cessation, in 2022 the Firm successfully transitioned substantially all of its remaining non-USD LIBOR referencing contracts to alternative benchmark rates by way of industry standard fallback language. For those contracts which utilized "synthetic" U.K. sterling or Japanese yen settings, the Firm has either proactively remediated the contract or the contract will mature prior to the cessation date of the rates as confirmed by the FCA on November 23, 2022.

The Firm has made significant progress towards reducing its exposure to U.S. dollar LIBOR referencing contracts, including in derivatives, bilateral and syndicated loans, securities, and debt and preferred stock issuances, and is on-track to meet its internal milestones for contract remediation as well as the industry milestones and recommendations published by National Working Groups. In connection with the transition from U.S. dollar LIBOR, as of December 31, 2022, the Firm had remediated substantially all of the notional amount of its bilateral derivatives contracts linked to U.S. dollar LIBOR, and continues its client outreach with respect to U.S. dollar LIBOR linked loans. The Firm is on-track in its preparations for the planned conversion of cleared derivatives referencing U.S. dollar LIBOR anticipated during the second quarter of 2023.

The Federal Reserve, the OCC and the FDIC and the FCA encouraged banks to cease entering into new contracts that use U.S. dollar LIBOR as a reference rate by December 31, 2021, and in connection with this, the Firm now offers various floating rate products, and provides and arranges various types of floating rate debt financings, that reference the Secured Overnight Financing Rate ("SOFR") across its businesses. The Firm continued to engage with clients in relation to U.S. dollar LIBOR transition in 2022 and will continue to support clients as they transition to SOFR in 2023.

On August 27, 2020, the International Accounting Standards Board ("IASB") issued guidance that provides practical expedients to contracts and hedge accounting relationships affected by the reference rate reform. These practical expedients are intended to simplify the operational impact of applying existing IFRS requirements to transactions impacted by the reference rate reform, and the Company applied the practical expedients from January 1, 2021.

The table below shows the outstanding principal amounts of non-derivative financial instruments, the gross notional values of derivative financial instruments and the contractual amounts of off-balance sheet exposures held by the Company as of December 31, 2022, and December 31, 2021, respectively, that are subject to IBOR reform that have yet to transition. The table includes financial instruments with a contractual maturity date later than the relevant agreed IBOR cessation date and includes contracts that have been changed to incorporate the new alternative reference rates but which have yet to become effective as of December 31, 2022, and December 31, 2021, respectively. Substantially all of these contracts have fallback mechanisms that will transition the IBOR-referencing contracts to the new alternative reference rates at the next fixing date subsequent to the relevant cessation date.

December 31, 2022 €T	USD LIBOR	GBP LIBOR	JPY LIBOR	CHF LIBOR	EUR LIBOR	EUR EONIA	Other[1]	Multiple basis[2]
Non-derivative financial assets (outstanding principal amount)								
Loans	317,672	0	0	0	0	0	108,011	0
Securities purchased under agreements to resell	0	0	0	0	0	0	0	0
Trading securities	291,538	2,812	0	0	0	0	737,546	0
Investment securities	0	0	0	0	0	0	0	0
Total non-derivative financial assets	**609,210**	**2,812**	**0**	**0**	**0**	**0**	**845,557**	**0**
Non-derivative financial liabilities (outstanding principal amount)								
Securities sold under agreements to repurchase	0	0	0	0	0	0	0	0
Trading securities	297,360	5,013	0	0	0	0	722,155	0
Debt issuance	0	0	0	0	0	0	0	0
Total non-derivative financial liabilities	**483,055**	**5,013**	**0**	**0**	**0**	**0**	**722,155**	**0**
Derivative financial instruments (gross notional value[3])								
Interest rate derivatives – exchange traded	9,988,749	0	0	0	0	0	0	0
Interest rate derivatives – OTC	84,338,956	0	0	0	0	0	882,158	5,289,404
Other OTC derivatives	813,842,590	0	0	0	0	0	486,856	18,909,950
Total derivative financial instruments	**908,170,295**	**0**	**0**	**0**	**0**	**0**	**1,369,014**	**24,199,354**
Off-balance sheet exposures (contractual amount[4])								
Loan commitments	535,771	0	0	0	0	0	1,649,394	3,452,747
Total off-balance sheet	**535,771**	**0**	**0**	**0**	**0**	**0**	**1,649,394**	**3,452,747**

[1] Other relates to the following contracts:
JPY TIBOR, THB THBFIX, ZAR JIBAR, USD ICE SWAP RATE/CMS, GBP ICE SWAP RATE/CMS, SEK STIBOR, SGD SOR, SGD SIBOR, PLN WIBOR, CAD CDOR, INR MIFOR and DKK CIBOR

[2] Multiple basis relates to underlying contracts utilizing multiple benchmarks subject to reform.

[3] Represents the sum of gross long and gross short notional derivative contracts.

[4] Represents the stated contractual amounts which include both drawn and unused portions of commitments.

December 31, 2021 €T	USD LIBOR	GBP LIBOR	JPY LIBOR	CHF LIBOR	EUR LIBOR	EUR EONIA	Other[1]	Multiple basis[2]
Non-derivative financial assets (outstanding principal amount)								
Loans	526,930	5,608	0	0	0	0	189,206	8,581
Securities purchased under agreements to resell	4,326	0	0	0	0	25,895	0	0
Trading securities	450,344	23,250	0	34,794	268,786	0	1,174,714	0
Investment securities	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0
Total non-derivative financial assets	**981,600**	**28,858**	**0**	**34,794**	**268,786**	**25,895**	**1,363,919**	**8,581**
Non-derivative financial liabilities (outstanding principal amount)								
Securities sold under agreements to repurchase	4,326	0	0	0	0	45,298	0	0
Trading securities	440,738	2,659	0	19	273,521	0	1,131,983	0
Debt issuance	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0
Total non-derivative financial liabilities	**445,065**	**2,659**	**0**	**19**	**273,521**	**45,298**	**1,131,983**	**0**
Derivative financial instruments (gross notional value[3])								
Interest rate derivatives – exchange traded	2,618,753	0	0	0	0	0	0	0
Interest rate derivatives – OTC	121,105,345	3,385,040	1,670,491	1,611,622	12,053,135	1,239,568	7,795,475	11,481,165
Other OTC derivatives	971,244,495	10,912,265	2,435,181	1,611,620	11,160,419	169,457,872	6,466,023	26,780,017
Total derivative financial instruments	**1,094,968,593**	**14,297,304**	**4,105,672**	**3,223,242**	**23,213,554**	**170,697,440**	**14,261,498**	**38,261,181**
Off-balance sheet exposures (contractual amount[4])								
Loan commitments	3,657,061	7,538	0	38,236	0	0	582,274	5,410,843
Total off-balance sheet	**3,657,061**	**7,538**	**0**	**38,236**	**0**	**0**	**582,274**	**5,410,843**

[1] Other relates to the following contracts:
JPY TIBOR, THB THBFIX, ZAR JIBAR, USD ICE SWAP RATE/CMS, GBP ICE SWAP RATE/CMS, SEK STIBOR and DKK CIBOR
[2] Multiple basis relates to underlying contracts utilizing multiple benchmarks subject to reform.
[3] Represents the sum of gross long and gross short notional derivative contracts.
[4] Represents the stated contractual amounts which include both drawn and unused portions of commitments.

38. Business combination under common control

CROSS-BORDER MERGER

On January 22, 2022, a single EU headquartered pan-European banking entity was created.

J.P. Morgan Bank Luxembourg S.A. and the J.P. Morgan Bank (Ireland) plc were merged into J.P. Morgan AG, as the acquiring legal entity effective January 22, 2022. At the same time, J.P. Morgan AG changed the legal form of a German Stock Corporation ("Aktiengesellschaft" – AG) to a European Company ("Societas Europaea" – SE). All assets and liabilities were transferred under the universal succession of title. The SE ("Societas Europaea") is a supranational legal form provided under European law.

Whilst the transferring companies will cease to exist upon the effectiveness of the merger, the business operations of the transferring companies, including the branches of J.P. Morgan Luxembourg S. A. (currently in Belgium, Denmark, Finland, Ireland, Italy, Germany, the Netherlands, Norway, Spain, Sweden, United Kingdom) shall be carried on by the head office or the branches of J.P. Morgan SE in the relevant jurisdictions.

This strategy forms a core part of J.P. Morgan's long term European legal entity strategy, and it has the objective of creating a sustainable legal entity platform in the EU that will be more scalable and less complex than the current multi-entity structure. It would consolidate the existing banking subsidiaries into a single EU cross franchise banking entity supported by a branch network across the European Economic Area and the United Kingdom.

The following table presents the details of the business combination, for which the book value method has been applied:

€M	
Increase in equity	**5,402**
of which fair value of equity shares issued	0.002
Recognized amounts of identifiable net assets:	
Cash at central banks	14,681
Loans and advances to banks/customers	46,848
Securities purchased under agreement to resell or borrowed	15,503
Other assets	1,641
Deposits from banks/customers	−68,308
Subordinated liabilities	−3,090
Other liabilities	−1,873
Net identifiable assets and liabilities	**5,402**

The fair value of loans and advances to banks/customers as well as other receivables is deemed to be equal to their book values as of the date of the merger, which are included in the table above.

CONSIDERATION TRANSFERRED

The sole shareholder of J.P. Morgan (Ireland) plc and J.P. Morgan Luxembourg S. A., J.P. Morgan International Finance Limited (JPMIFL), did receive 136 shares with a notional amount of € 11.67 each in J.P. Morgan SE as consideration. No additional consideration, in particular no cash payments, shall be made by J.P. Morgan SE to J.P. Morgan International Finance Limited as the sole shareholder of the transferring companies.

Acquisition-related costs amounting to € 8.3 million (2021: € 17.8 million) have been recognized as an expense in the consolidated income statement, as part of other expenses.

JPMORGAN CHASE BANK, BRUSSELS BRANCH TRANSFER TO J.P. MORGAN SE, BRUSSELS

As part of J.P. Morgan Group's ongoing legal entity simplification in Europe, activities in the business division Payments and the segment Commercial Banking have been transferred from JPMorgan Chase Bank, N.A. – Brussels Branch to J.P. Morgan SE Brussels Branch on August 1, 2022. In addition to customer-related balances in these two segments, related equipment and a lease contract related to the used premises as well employees were part of the transfer agreement. Total assets transferred amounted to approx. € 200 million. The transfer was treated as a business combination under common control and the assets and liabilities were considered by J.P. Morgan SE at predecessor carrying value, with no goodwill arising.

39. Related party transactions

Parties are considered to be related if one party has the ability to directly or indirectly control the other party or exercise significant influence over the other party in making financial or operational decisions. J.P. Morgan SE's related parties include:

- Key management personnel, close family members of key management personnel and entities which are controlled, significantly influenced by, or for which significant voting power is held by key management personnel or their close family members;
- J.P. Morgan group entities; and
- Post-employment benefit plans for the benefit of J.P. Morgan SE employees.

RELATIONSHIP TO PARENT

The sole shareholder of J.P. Morgan SE is J.P. Morgan International Finance Limited, Newark/Delaware, USA. It has informed us in writing on February 14, 2023, that a direct holding exists totaling

100 %. In addition, JPMorgan Chase & Co. and JPMorgan Chase Bank, National Association, have informed us in writing on the same day that an indirect equity interest exists, totaling 100 %.

The group financial statements for the smallest and the largest scope of included companies are prepared by JPMorgan Chase & Co., Wilmington/Delaware, whose shares are quoted on the New York Stock Exchange as well as on certain European and Asian stock markets. The financial statements can be obtained on request from J.P. Morgan SE, Frankfurt am Main.

KEY MANAGEMENT PERSONNEL

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of J.P. Morgan SE, directly or indirectly. The Company considers the members of both of its Management and Supervisory Boards to constitute key management personnel for the purposes of IAS 24.

Management board compensation:

€T	1/1/–31/12/2022	1/1/–31/12/2021
Short-term employee benefits	8,122	3,127
Other long-term benefits	370	289
Share-based payment	8,717	1,713
Total key management personnel compensation	**17,210**	**5,129**

The Supervisory Board consists of 12 members (2021: 12 members), of which four are employee representatives (2021: four), six are representatives of the shareholder of J.P. Morgan SE, that are employed by other J.P. Morgan entities as well as two group external members (2021: six representatives of the shareholder of which three were employed by other J.P. Morgan entities and two were group external members). In the reporting year, the total compensation of the Supervisory Board amounted to € 250 thousand (2021: € 290 thousand). As in the prior year, the total compensation was attributable to the group external members and to the employee representatives. The compensation they receive for their services as employees is in conformity with the market payment practices. The six representatives of the shareholder that are employed by other J.P. Morgan entities do not receive a compensation for their board membership from J.P. Morgan SE. Their service as a board member to J.P. Morgan SE is covered by the compensation they receive from the employing J.P. Morgan group entity and is neither separated as part of their payment nor any partly recharging to J.P. Morgan SE is in place.

TRANSACTIONS WITH RELATED PARTIES

The table below provides an overview of transactions with related parties as per Balance Sheet and Income Statement of J.P. Morgan SE:

	J.P. Morgan group entity		Thereof: Parent entity		Key personnel of J.P. Morgan SE or its parent entity		Other related parties		Total	
€T	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Receivables from banks	8,594,803	7,990,557	0	0	0	0	0	0	8,594,803	7,990,557
Receivables from customers	23,495	6,937	0	0	0	0	0	0	23,495	6,937
Receivables from reverse repo transactions	23,708,584	20,724,498	0	0	0	0	0	0	23,708,584	20,724,498
Trading assets	102,563,350	74,219,564	0	0	0	0	0	0	102,563,350	74,219,564
Remaining assets	12,583,299	10,553,515	0	0	0	0	0	0	12,583,299	10,553,515
Total assets	**147,473,531**	**113,495,071**	**0**	**0**	**0**	**0**	**0**	**0**	**147,473,531**	**113,495,071**
Liabilities to banks	31,580,769	39,197,009	0	0	0	0	0	0	31,580,769	39,197,009
Liabilities to customers	2,363,914	600,713	0	0	0	0	0	0	2,363,914	600,713
Liabilities from repo transactions	22,758,481	20,252,949	0	0	0	0	0	0	22,758,481	20,252,949
Trading liabilities	90,818,887	73,838,678	0	0	0	0	0	0	90,818,887	73,838,678
Provisions	0	449	0	0	0	0	0	0	0	449
Financial liabilities designated at FVPL	2,490,198	1,157,453	0	0	0	0	0	0	2,490,198	1,157,453
Remaining liabilities	5,746,539	2,852,929	23,954	2,464	0	0	0	0	5,746,539	2,852,929
Subordinated liabilities	15,171,455	9,540,000	15,171,460	9,540,000	0	0	0	0	15,171,455	9,540,000
Total liabilities	**170,930,243**	**147,440,180**	**15,195,414**	**9,542,464**	**0**	**0**	**0**	**0**	**170,930,243**	**147,440,180**
Total equity	**23,760,504**	**16,957,578**	**23,760,504**	**16,957,578**	**0**	**0**	**0**	**0**	**23,760,504**	**16,957,578**
Guarantees received	0	148,889	0	0	0	0	0	0	0	148,889
Guarantees given	1,601,771	324,173	0	0	0	0	0	0	1,601,771	324,173
Net interest income	187,299	358,533	−186,077	−13,138	0	0	0	0	187,299	358,533

(continued)	J.P. Morgan group entity		Thereof: Parent entity		Key personnel of J.P. Morgan SE or its parent entity		Other related parties		Total	
€T	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Net fee and commission income	1,244,872	913,759	1,599	1,023	0	0	0	0	1,244,872	913,759
Net income from financial assets and liabilities measured at fair value through profit and loss	−569,493	−492,899	0	0	0	0	0	0	−569,493	−492,899
Other revenues	−515	1,059	0	0	0	0	0	0	−515	1,059
Loan loss provision	−29,174	1,549	0	0	0	0	0	0	−29,174	1,549
Administration and other expense	1,126,231	399,174	3,612	2,317	0	0	0	0	1,126,231	399,174
Profit before tax	−234,894	379,729	−188,090	−14,432	0	0	0	0	−234,894	379,729

The provisions for credit losses in the Income Statement related to receivables from and loan commitments or guarantees to J.P. Morgan Group entities amounted to € 29.2 million for the year 2022 (2021: € 1.5 million). It is mainly driven by the release of provisions for credit losses amounting to € 29.5 million due to the significant reduction of internal reverse repurchase agreements with J.P. Morgan Group entities as a result of the J.P. Morgan SE merger, partly offset by an increase in credit loss provisions of € 0.3 million on the transactions with J.P. Morgan Group entities. The amount of credit loss allowances on the Balance Sheet amounted to € 0.6 million as of December 31, 2022 (December 31, 2021: € 0.2 million).

Transactions with J.P. Morgan Group entities are mainly related to liquidity management, covering funding requirements, risk management activities (e.g., when risk is managed centrally in the group) or related to J.P. Morgan SE being the group's point of contact to the European Central Bank, acting as the Euro-clearer of the group and to provide access to continental-European exchanges to facilitate clearing activities of client trades. Related to these activities, there are regularly back-to-back trades with J.P. Morgan Group entities as well. Transactions with J.P. Morgan Group entities are performed on arm's length principle.

J.P. Morgan SE has issued a guarantee for notes, warrants and certificates issued by J.P. Morgan Structured Products B.V. (JPMSPBV) that are held by third parties in the maximum nominal amount of USD 5 billion (31/12/2021: USD 5 billion). In the event of non-performance on payments due on the securities issued by JPMSPBV, J.P. Morgan SE has the obligation to perform payments to holders of the securities. Thereby, the fair value of the securities – and hence the payments due – can exceed the maximum nominal value. For the guarantee, J.P. Morgan SE does not receive a separate compensation. Providing the guarantee is however to be viewed in

the overall context of enlarging the business activities as part of the implementation of the J.P. Morgan group-wide Brexit strategy.

As of December 31, 2022, the fair value of issued securities amounted to € 1,284 million (31/12/2021: € 1,264 million), of which J.P. Morgan SE held € 1,194 million (31/12/2021: € 1,089 million), leading to a guaranteed amount of € 90.2 million as of the reporting date (31/12/2021: € 175.3 million). Unused guarantee amounted to € 3,403 million as of December 31, 2022 (31/12/2021: € 3,150 million) and it has been considered in the calculation of the expected credit loss.

For this guarantee, a credit loss provision of € 0.2 million was set up as of the reporting date (31/12/2021: € 0.1 million), which is already included in the total provided above for J.P. Morgan group entities.

In 2022, there were no transfer of trading and banking book activities from other J.P. Morgan group entities in the UK to J.P. Morgan SE. The difference between the acquisition cost of the assets minus liabilities and the higher total acquisition cost was recorded in Equity and amounted to € 0 in the reporting year (31/12/2021: € 32.0 million).

POST-EMPLOYMENT BENEFIT PLANS

The Bank has a number of post-employment benefit plans, and the services are provided to these plans by either itself, other J.P. Morgan group entities or third-party asset managers or insurances. No fees were paid from the plan assets to asset managers of J.P. Morgan group entities.

40. Off-balance sheet lending-related commitments and guarantees

The Bank provides lending-related financial instruments (e.g., commitments and guarantees) to meet the financing needs of its customers. The contractual amount of these financial instruments represents the maximum possible credit risk to the Bank should the counterparty draw upon the commitment, or the Bank be required to fulfill its obligation under the guarantee, and should the counterparty subsequently fail to perform according to the terms of the contract. Most of these commitments and guarantees expire without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Bank’s view, representative of its actual future credit exposure or funding requirements.

€T	2022	2021
Contractual amount		
Unused commitments on loans	14,167,180	16,509,938
Standby letters of credit and guarantees	1,919,958	2,208,206
Financial guarantees	18,040,929	338,326
Total unused lending-related commitments	**34,128,067**	**19,056,470**
Other unused commitments	6,732,656	6,517,541
Total unused contractual commitments	**6,732,656**	**6,517,541**
Expected credit loss on unused lending-related commitments	75,371	69,187

The financial guarantees given totaling € 18,041 million (31/12/2021: € 338 million) mainly consist of agency lending guarantees (as a result of the J.P. Morgan SE merger), whereas J.P. Morgan SE acts as an agency lender by guaranteeing the lender of the securities in an ASL (Agency security lending) arrangement against the failure of the borrower to return the lent securities.

Other unused commitments include unfunded capped default fund commitments to CCPs amounting to € 1,771 million (31/12/2021: € 1,876 million). Please refer to note 35 (section "g") for more details. Furthermore, this includes the J.P. Morgan SE guarantee for notes, warrants and certificates issued by J.P. Morgan Structured Products B.V. (JPMSPBV) that are held by third parties in the maximum nominal amount of $ 5 billion (31/12/2021: $ 5 billion), please refer to note 39.

The following table shows nominal amounts of J.P. Morgan SE's commitments arising from unsettled securities purchased under agreements to resell and securities sold under agreement to repurchase which have a trade date at or prior to December 31, are recognized on settlement date and settle subsequent to year-end.

€T	2022	2021
Nominal amount		
Unsettled securities purchased under agreements to resell (i)	94,879,655	73,424,915
Unsettled securities sold under agreements to repurchase (ii)	78,274,382	62,810,012
Total collateralized commitments	**173,154,037**	**136,234,927**

41. Other information

41.1. NUMBER OF EMPLOYEES

On average, for the year 2022 there were 4,105 employees, broken down as follows:

Number	2022	2021
Yearly average	**4,105**	**1,287**
Distribution of employees		
Authorized signatories	7	7
Authorized officers	1,941	559
Commercial employees	2,157	721

In the reporting year, these employees were employed by the main office and the branches of J.P. Morgan SE as follows:

Number	2022	2021
Yearly average	**4,105**	**1,287**
Branch		
London	1,212	139
Dublin	623	–
Paris	607	379
Main Office Frankfurt	553	480
Luxembourg	540	–
Other	570	289

Employees who are seconded, released from duties and on parental leave are not included in these figures.

The increase in the number of employees in London, Dublin and Luxembourg was due to the merger of J.P. Morgan Bank Luxembourg S.A. and the J.P. Morgan Bank (Ireland) plc into J.P. Morgan SE, and the integration of Private Bank as a new line of business.

41.2. TOTAL REMUNERATION OF THE ACTIVE MEMBERS OF THE BOARDS

The remuneration paid to members of the Management Board totaled € 17 million (2021: € 5 million). A portion of this (i.e. the remuneration of the active Board Members) came from 60,196 restricted stock units (2021: 14,831 restricted stock units) with a fair value on their grant date of € 8 million (2021: € 2 million).

The remuneration of the Supervisory Board for 2022 amounted to a total of € 0.3 million (2021: € 0.3 million).

No loans were granted to Board members during this financial year.

41.3. TOTAL PAYMENTS TO FORMER BOARD MEMBERS AND THEIR DEPENDENTS

Pension provisions for the former members of the Management Board totaled € 13 million as of December 31, 2022 (2021: € 12 million). The total remuneration paid to former members of the Management Board and their dependents amounted to € 0.7 million as of December 31, 2022 (2021: € 3 million).

41.4. FEE EXPENSES

€T	1/1–31/12/2022	1/1–31/12/2021
Total auditors' fees billed for the financial year calculated for	**12,201**	**6,430**
Financial statements auditing services	**10,693**	**5,795**
of which, for the previous year	1,007	82
of which, expenses in the current financial year	3,112	2,717
of which, expenses for creating provisions	6,574	2,996
Other confirmation services	**1,507**	**635**
of which, for the previous year	0	0
of which, expenses in the current financial year	89	52
of which, expenses for creating provisions	1,418	583

The fee for the auditing services is due to the auditor BDO in the amount of € 10 million. For auditing services provided for branches of J.P. Morgan SE, audit fee is due to the PwC in the amount of € 993 thousand.

Other confirmation services include the audits under § 89 WpHG (Wertpapierhandelsgesetz – Securities Trading Act). Of this, € 1.5 million is attributable to PwC.

41.5. EXPLANATORY NOTES ON OTHER FINANCIAL COMMITMENTS

The Bank utilizes services from various Group member companies as part of its outsourcing functions. Group internal services amounted to € 1,088 million in the year 2022. The business procurement contracts have a notice period of three months.

The future rent payments for all the outstanding leases amounted to € 47 million as at December 31, 2022 (2021: € 33 million). Of all outstanding leases, the main lease agreement is for the business premises in Frankfurt, which has a term until August 1, 2028 (see note 32 Leases).

41.6. INFORMATION ON CORPORATE BODIES

Due to the departure of Cindyrella Amistadi from the Management Board as of March 14, 2023, the "Schedule of Delegation" as of April 29, 2022, came into effect, according to which from March 15, 2023, "Outsourcing" was taken over by Nicholas Conron and "Operations and Technology" by Burkhard Kübel-Sorger on an interim basis.

Management Board
Stefan Behr Chairperson of the Management Board, Managing Director, J.P. Morgan SE
Cindyrella Amistadi (until March 14, 2023) Head of Technology, Operations and Outsourcing, Managing Director, J.P. Morgan SE
Nicholas Conron CRO, Managing Director, J.P. Morgan SE Head of Outsourcing, (from March 15, 2023)
Pablo Garnica (since January 24, 2022) Head of Private Banking, Managing Director, J.P. Morgan SE
Burkhard Kübel-Sorger CFO, Managing Director, J.P. Morgan SE Head of Operations and Technology, (from March 15, 2023)
Tom Prickett (from January 24, 2022 until March 31, 2023) Head of Markets Trading, Managing Director, J.P. Morgan SE
Gunnar Regier (until March 31, 2023) Markets Sales Business Area Director, Managing Director, J.P. Morgan SE
Matthieu Wiltz (since April 1, 2023) Head of Markets, Managing Director, J.P. Morgan SE
Supervisory Board
Mark S. Garvin Chairperson, Managing Director, JPMorgan Chase Bank, N.A.
Andrew Cox JPMorgan Chase Bank, N.A.
Susan Dean JPMorgan Chase Bank, N.A.
Wanda Eriksen Professional Board Member
Marco Kistner Consultant
Thomas Freise Head of Works Council J.P. Morgan SE, Employee Representative, J.P. Morgan SE
Paul Uminski (since August 26, 2022) Managing Director, JPMorgan Chase Bank, N.A.
Maja Torun (since March 3, 2022) Employee Representative, J.P. Morgan SE
Elisabeth Munro (since January 1, 2023) Managing Director, JPMorgan Chase Bank, N.A.
Pranav Thakur (since January 19, 2023) Managing Director, J.P. Morgan Securities plc
Stephane Wathelet (since March 3, 2022) Employee Representative, J.P. Morgan SE
Tracey Campell Devery (since March 3, 2022) Employee Representative, J.P. Morgan SE
Guy America (until January 18, 2023) Deputy Chairperson, Managing Director, J.P. Morgan Securities plc
Elena Korablina (until December 31, 2022) Managing Director, JPMorgan Chase Bank, N.A.
Mark Golding (until August 25, 2022) JPMorgan Chase Bank, N.A.
Peter Augsten (until March 2, 2022) Bank Employee, Employee Representative, J.P. Morgan SE
Christoph Fickel (until March 2, 2022) Information Security Manager, Employee Representative, J.P. Morgan SE
Ann-Kathrin Reinwald (until March 2, 2022) Banking Manager, Employee Representative, J.P. Morgan SE

Directorships or seats on supervisory boards:

Management Board
Stefan Behr; no further mandates
Cindyrella Amistadi (until March 14, 2023); no further mandates
Nicholas Conron; Supervisory Board Esparity Solar (UK) Holdings Limited
Pablo Garnica (since January 24, 2022) Director, J.P. Morgan (Suisse) SA
Burkhard Kübel-Sorger; Chairman of the Association of Foreign Banks in Germany
Tom Prickett (from January 24, 2022 until March 31, 2023) Director: The Baycliff Management Company Trustee: The Green Room Charitable Trust
Gunnar Regier (until March 31, 2023) Management body: J.P. Morgan Securities plc Frankfurt Branch Director Supervisory Board: BVV Versicherungsverein des Bankgewerbes; 360X
Matthieu Wiltz (since April 1, 2023); no further mandates
Supervisory Board
Mark S. Garvin Member of Advisory Council: Euroclear SA Director: British American Business Inc.
Andrew Cox; no further mandates
Susan Dean; no further mandates
Wanda Eriksen Director Supervisory Board: AXA Switzerland; AXA-ARAG Legal Protection Ltd; (subsidiary of AXA); BKW Infra Services AG (subsidiary of BKW), BKW Infra Service Europa SE (subsidiary of BKW), Caitlin Re Switzerland Ltd (subsidiary of AXA); Aquila AG; Arnold AG, (Vice Chair): Swiss Federal Audit Oversight
Marco Kistner; no further mandates
Thomas Freise; no further mandates
Paul Uminski (since August 26, 2022); no further mandates
Elisabeth Munro (since January 1, 2023); no further mandates
Pranav Thakur (since January 19, 2023); no further mandates
Maja Torun (since March 3, 2022); no further mandates
Stephane Wathelet (since March 3, 2022); no further mandates
Tracey Campbell Devery (since March 3, 2022); no further mandates
Guy America (until January 18, 2023); no further mandates
Elena Korablina (until December 31, 2022); no further mandates
Mark Golding (until August 25. 2022); no further mandates
Peter Augsten (until March 2, 2022); no further mandates
Christoph Fickel (until March 2, 2022); no further mandates
Ann-Kathrin Reinwald (until March 2, 2022); no further mandates

42. Proposed allocation of earnings

Management Board and Supervisory Board propose to the annual general meeting to carry forward the balance sheet profit of € 884 million for the financial year 2022 as based on local German accounting regulation (HGB) to retained earnings.

43. Subsequent events

No events have occurred after the end of the financial year which have a significant effect on the asset, financial and earnings situation. This also includes the default of the Silicon Valley Bank as well as the acquisition of Credit Suisse Group by UBS Group AG in March 2023.

Frankfurt am Main, April 21, 2023

J.P. Morgan SE
Frankfurt am Main
The Management Board

STEFAN BEHR
Chief Executive Officer

MATTHIEU WILTZ
Markets

PABLO GARNICA
Private Bank

NICHOLAS CONRON
Chief Risk Officer

BURKHARD KÜBEL-SORGER
Chief Financial Officer

INDEPENDENT AUDITOR'S REPORT

To J.P. Morgan SE, Frankfurt am Main

AUDIT OPINIONS

We have audited the separate IFRS financial statements of J.P. Morgan SE, Frankfurt am Main, comprising the balance sheet as of December 31, 2022, the income statement and other comprehensive income, statement of changes in equity and the cash flow statement for the financial year from January 1, 2022 to December 31, 2022, and the notes to the financial statements, including a summary of significant accounting policies.

In addition, we have audited the management report of J.P. Morgan SE for the financial year from January 1, 2022 to December 31, 2022. In accordance with German legal requirements, we have not audited the content of the components of the management report mentioned under "OTHER INFORMATION".

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

– the accompanying IFRS separate financial statements comply, in all material respects with IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Art. 325 para. 2a HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the company as of December 31, 2022 and of its financial performance for the financial year from January 1, 2022 to December 31, 2022, and

– the accompanying management report as a whole provides an appropriate view of the company's position. In all material respects, this management report is consistent with the IFRS separate financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. Our audit opinion on the management report does not cover the content of the components of the management report mentioned under "OTHER INFORMATION".

Pursuant to Art. 322, para. 3 sentence 1 HGB, we declare that our audit has not led to any reservations regarding the legal compliance of the IFRS separate financial statements and of the management report.

BASIS FOR THE AUDIT OPINION

We conducted our audit of the IFRS separate financial statements and of the management report in accordance with Art. 317 HGB and the EU Audit Regulation (No. 537/2014; hereinafter "EU-APrVO") in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institute of Public Auditors in Germany (IDW). Our responsibility under those provisions and standards is described in the section "AUDITOR'S RESPONSIBILITY FOR THE AUDIT OF THE IFRS SEPARATE FINANCIAL STATEMENTS AND OF THE MANAGEMENT REPORT". We are independent of the company in accordance with European law and German commercial

and professional law and we have fulfilled our other German professional obligations in accordance with these requirements.

In addition, in accordance with Article 10 (2) letter (f) of the EU-APrVO we declare that we have not performed any prohibited non-audit services as defined in Article 5 (1) of the EU-APrVO.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the IFRS separate financial statements and on the management report.

KEY AUDIT MATTERS IN THE AUDIT OF THE IFRS SEPARATE FINANCIAL STATEMENTS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the IFRS separate financial statements for the financial year from January 1, 2022 to December 31, 2022. These matters were addressed in the context of our audit of the IFRS separate financial statements as a whole, and in forming our opinion thereon; we do not provide a separate audit opinion on these matters.

We have identified the following matter as a key audit matter:

VALUATION OF FINANCIAL INSTRUMENTS MEASURED AT FAIR VALUE USING VALUATION MODELS

Facts of the matter

As of December 31, 2022, J.P. Morgan SE has trading assets of € 220,384 million and trading liabilities of € 194,541 million. The valuation result is included in the net result of assets and liabilities measured at fair value. This amounts to € 1,665 million for the financial year from January 1, 2022 to December 31, 2022.

Transactions in the trading portfolio are initially measured at cost. In accordance with IFRS 13, subsequent measurement is at fair value. If there is no active market for financial instruments held for trading on the basis of which the market price can be determined, J.P. Morgan SE uses recognized valuation methods (procedures and models) to determine the fair value. For certain financial instruments, parameters that are not observable in an active market are included in the valuation. The parameters are based on estimated values or internal key figures. This relates in particular to complex derivatives and debt securities.

The selection of the valuation models and their parameterization are subject to discretionary decisions. As the subsequent measurement of financial instruments held for trading is highly dependent on assumptions and judgments due to the complexity of the valuation techniques and models used, and as trading assets and trading liabilities represent significant balance sheet items, we have identified this matter as a key audit matter.

J.P. Morgan SE's disclosures on the valuation of financial instruments measured at fair value using valuation models are included in the notes to the IFRS separate financial statements, in particular in section "5.7 Fair Value" and section "30 Assets and liabilities measured at fair value".

Audit Response and Findings

We first obtained a comprehensive insight into the development of the financial instruments held for trading, the associated risks and the internal control system in relation to the valuation of the financial instruments held for trading. For the assessment of the adequacy of the internal control system with regard to the valuation of financial instruments including valuation models, we inspected relevant organizational guidelines, internal reporting and other documents as well as conducted interviews and identified relevant controls.

We assessed the adequacy and effectiveness of the relevant specific controls. In particular, we assessed the controls for independent price verification, for independent model validation and assessment of model limitations, for monitoring the use of valuation models, and for calculating valuation adjustments.

In a sample of financial instruments to be measured at fair value involving valuation models, we performed our own independent valuation using our own models and input parameters.

We performed our audit procedures on the valuation models and on our own independent revaluation with the involvement of our internal specialists with expertise in the valuation of financial instruments.

Based on our audit procedures, we are satisfied that the valuation models used by management to determine the fair values of the financial instruments held for trading for which there is no active market are appropriate and in accordance with the applicable valuation principles. The valuation parameters of J.P. Morgan SE on which the valuation is based are basically appropriate.

OTHER INFORMATION

The management or the Supervisory Board are responsible for the other information. The other information comprises

- the statement on corporate governance provided in section "4.3.2 Business drivers, non-financial performance indicators and operational excellence" of the management report pursuant to Art. 289f (4) HGB (disclosures on the quota for women),

- the separate non-financial report referred to in section 4.3.2 of the management report,

- the responsibility statement by the management board contained in the management report under section 7, and

– the other parts of the annual report, except for the audited IFRS separate financial statements and management report as well as our independent auditor's report.

Our audit opinions on the IFRS separate financial statements and on the management report do not cover the other information and, accordingly, we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in doing so, assess whether the other information

– is materially inconsistent with the IFRS separate financial statements, with the management report or our knowledge obtained in the course of the audit, or

– otherwise appears to be materially misstated.

RESPONSIBILITIES OF THE MANAGEMENT AND THE SUPERVISORY BOARD FOR THE IFRS SEPARATE FINANCIAL STATEMENTS AND THE MANAGEMENT REPORT

Management is responsible for the preparation of the separate financial statements that comply, in all material respects, with the IFRS as adopted by the EU and the additional requirements of German commercial law pursuant to Art. 325 para. 2a HGB, and that the separate financial statements give a true and fair view of the assets, liabilities and financial performance of the company. In addition, the management is responsible for such internal controls that they determined are necessary in accordance with German generally accepted accounting principles to enable the preparation of the separate IFRS financial statements that are free from material misstatement, whether due to fraud or error (i.e., accounting manipulations and misstatements of assets).

In preparing the IFRS separate financial statements, management is responsible for assessing the company's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, provided no actual or legal circumstances conflict therewith.

Furthermore, management is responsible for the preparation of the management report, that as a whole, provides an appropriate view of the company's position and is consistent in all material respects with the IFRS separate financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, management is responsible for the arrangements and measures (systems) that it determines are necessary to enable the preparation of a management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the management report.

The Supervisory Board is responsible for overseeing the company's financial reporting process for the preparation of the IFRS separate financial statements and of the management report.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE IFRS SEPARATE FINANCIAL STATEMENTS AND OF THE MANAGEMENT REPORT

Our objectives are to obtain reasonable assurance about whether the IFRS separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the management report as a whole provides a suitable view of the company's position and, in all material respects, is consistent with the IFRS separate financial statements and the knowledge obtained in the audit, complies with German legal requirements, and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the IFRS separate financial statements and on the management report.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Art. 317 HGB and the EU-APrVO and in compliance with German Generally Accepted Standards for the 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 IFRS separate financial statements and management report.

We exercise professional judgment and maintain a professional scepticism throughout the audit. We also:

– identify and assess the risks of material misstatement of the IFRS separate financial statements and of the management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting material misstatements resulting from fraud is higher than one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

– obtain an understanding of internal control relevant to the audit of the IFRS separate financial statements and of arrangements and measures (systems) relevant to the audit of the management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems of the company.

– evaluate the appropriateness of accounting policies used by management and the reasonableness of accounting estimates and related disclosures made by management.

- conclude on the appropriateness of the going concern basis of accounting used by management and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the IFRS separate financial statements and in the management report or, if such disclosures are inadequate, to modify our respective audit opinions. We draw our conclusions on the basis of the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may result in the company being unable to continue as a going concern.

- evaluate the overall presentation, structure and content of the IFRS separate financial statements, including the disclosures, and whether the IFRS separate financial statements represent the underlying transactions and events in a manner that the IFRS separate financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the company in compliance with German Legally Required Accounting Principles.

- evaluate the consistency of the management report with the IFRS separate financial statements, its compliance with German law and the view of the company's position it provides.

- perform audit procedures on the prospective information presented by management in the 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 an independent opinion on the prospective information and on the assumptions used as a basis. There is a significant unavoidable risk that future events may 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, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the IFRS separate financial statements of the current period and are therefore the key audit matters. We describe these matters in the auditor's report unless law or regulation precludes public disclosure of the matter.

Other Legal And Regulatory Requirements

FURTHER DISCLOSURES PURSUANT TO ARTICLE 10 EU-APRVO

We were elected as auditors by the General Meeting on May 4, 2022. We were engaged by the Supervisory Board on September 1, 2022. We have served as the auditors of J.P. Morgan SE, Frankfurt am Main, since fiscal year 2021.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the Audit Committee pursuant to Article 11 EU-APrvo (long-form audit report).

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the audit is Wolfgang Otte.

Frankfurt am Main, April 25, 2023

BDO AG
Wirtschaftsprüfungsgesellschaft

sgd. POSSELT	sgd.OTTE
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

ANNEX: COUNTRY-BY-COUNTRY REPORTING 2022

The requirements in Article 89 of EU Directive 2013/36/EU (Capital Requirements Directive, CRD IV) for country-by-country reporting were implemented into German law by the Banking Act (KWG). The information below is shown before the elimination of transactions between J.P. Morgan SE and its branches and therefore not reconcilable with other financial information in this report.

CRR institutions have to publish information about branches and subsidiaries broken down by member states of the EU and third countries.

The following information refers to J.P. Morgan SE and its registered branches in 2022. The amounts included in the table below are based on local German accounting regulations (HGB).

On December 31, 2022, J.P. Morgan SE had the branch offices listed in the overview.

J.P. Morgan SE and its listed branches have not received any public subsidies during this financial year.

Company name	Location	Country
J.P. Morgan SE – Brussels Branch	Brussels	Belgium
J.P. Morgan SE – Copenhagen Branch, filial af J.P. Morgan SE, Tyskland	Copenhagen	Denmark
J.P. Morgan SE – Helsingin sivuliike	Helsinki	Finland
J.P. Morgan SE – Paris Branch	Paris	France
J.P. Morgan SE – Athens Branch	Athens	Greece
J.P. Morgan SE – Dublin Branch	Dublin	Ireland
J.P. Morgan SE – Milan Branch	Milan	Italy
J.P. Morgan SE – Luxembourg Branch	Luxembourg	Luxembourg
J.P. Morgan SE – Amsterdam Branch	Amsterdam	Netherlands
J.P. Morgan SE – Oslo Branch	Oslo	Norway
J.P. Morgan SE (Spółka Europejska) – oddział w Polsce	Warsaw	Poland
J.P. Morgan SE – Stockholm Bankfilial	Stockholm	Sweden
J.P. Morgan SE, Sucursal en España	Madrid	Spain
J.P. Morgan SE – London Branch	London	United Kingdom

Country	Number of employees [1]	Turnover [2] €T	Profit (+) or loss (–) before taxes €T	Taxes on profit (+) or loss (–) €T	Activity
Germany	553	752,389	−58,804	183,345	The company operates business activities in the areas of Banking, Payments, Commercial Banking, Securities Services (as a custodian bank and custodian), Markets (acting as an accounting unit for specific customer segments in the OTC derivative business) and Private
Belgium	22	38,135	18,517	5,103	Banking, Payments, Commercial Banking, Securities Services, Markets and Private Bank
Denmark	24	35,051	13,818	2,816	Banking, Commercial Banking, Securities Services and Private Bank
Finland	5	3,763	−231	−60	Commercial Banking and Securities Services
France	607	1,830,643	1,025,044	263,348	Banking, Payments, Commercial Banking and Markets
Greece	7	7,692	3,811	961	Banking and Private Bank
Ireland	623	274,265	58,640	8,360	Banking, Payments, Commercial Banking and Securities Services
Italy	121	148,642	20,332	8,886	Banking, Payments, Commercial Banking, Markets and Private Bank
Luxembourg	540	863,943	222,445	61,993	Payments, Commercial Banking, Securities Services and Private Bank
Netherlands	80	107,656	43,540	12,033	Banking, Payments, Commercial Banking, Securities Services and Private Bank
Norway	14	8,224	41	168	Banking, Payments, Commercial Banking and Securities Services
Poland	119	13,160	87	55	Banking
Spain	140	99,404	11,207	5,741	Banking, Payments, Commercial Banking, Markets and Private Bank
Sweden	38	47,634	11,659	2,297	Banking, Payments, Commercial Banking, Securities Services, Markets and Private Bank
United Kingdom	1,212	550,672	95,853	26,609	Private Bank

[1] Number of employees based on the annual average in full-time equivalents
[2] Turnover is defined as total of interest income, commission income, investment, trading income and other operating income.

ANNEX: SEPARATE NON-FINANCIAL REPORT 2022 (UNAUDITED)

1. Introduction

JPMorgan Chase & Co. ("JPMorgan Chase" or "the Firm") communicates information about its Environment, Social and Governance (ESG) policies and performance through a number of channels. JPMorgan Chase maintains a dedicated ESG Information page on its website to facilitate access to information on these topics.[1]

To complement the Firm's information, J.P. Morgan SE ("the Bank") is publishing its second Separate Non-Financial Report on a legal entity level, as an annex to its Annual Report 2022. J.P. Morgan SE publishes this Separate Non-Financial Report in accordance with § § 289b – 289e of the German Commercial Code (Handelsgesetzbuch or "HGB") and thus complies with the requirements of European Union Directive 2014/95/EU[2] and the German "CSR-Richtlinie-Umsetzungsgesetz".

ESG and the implementation of ESG-related regulatory and supervisory requirements are a key focus area for the Bank. J.P. Morgan SE's ESG disclosures will further develop over future iterations to address evolving regulatory expectations (e. g., the EU Corporate Sustainability Reporting Directive) and stakeholder information needs.

2. Our Business Principles and Business Model

As one of the oldest financial institutions in the United States – and one of the largest in the world – JPMorgan Chase seeks to build a thriving business and a sustainable and inclusive economy and believes that continued success rests on adherence to its Business Principles, which focus on how we strengthen, safeguard and grow our company over time.

Building off the foundation of the Firm's Business Principles, we are leveraging our expertise, capital, data and resources to advance inclusive growth, promote sustainable development, and support the transition to a low-carbon economy. Environmental, Social and Governance ("ESG") matters are an important consideration in how we do business, including how we develop our products and services, serve our customers, support our employees and help lift our communities.

Our approach to ESG is supported and strengthened by our ongoing efforts to enhance accountability, transparency and engagement. Additionally, we strive to leverage the Firm's robust governance structures to foster sound management and a culture of accountability on ESG matters. This includes defining oversight and management of ESG matters within and across our lines of business.

J.P. Morgan SE is fully integrated into the corporate culture of JPMorgan Chase & Co., whose guiding principles are described by the four pillars of the group-wide Business Principles, as

[1] https://www.jpmorganchase.com/about/governance/esg
[2] Directive 2014/95/EU of the European Parliament and of the Council of October 22, 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups

outlined in section 2.1 of the Management Report. The Firm believes that continued success rests on adherence to these principles, and therefore strengthens our ability to continue to deliver to all our stakeholders, customers and clients, employees and community, as well as the Firm and its shareholders. These principles apply consistently across LOBs and geographies where we operate.

The successful creation of J.P. Morgan SE in January 2022 delivered a single, EU headquartered pan-European banking entity supporting multiple lines of business across the J.P. Morgan Firmwide franchise combined with a branch network across the European Economic Area and the United Kingdom. This setup continues to help facilitate the provision of JPM Group's global capabilities to EEA clients in the Corporate & Investment Bank and Commercial Banking, as well as EMEA clients in Private Bank, and provides access to Euro liquidity and products for globally operating clients.

J.P. Morgan SE's business model is further described in the Management Report section of this document under section "3 Our Business Segments and Performance".

3. Materiality Assessment

As outlined in § 289c HGB and relevant EU guidelines[3], J.P. Morgan SE is looking to include in this Separate Non-Financial Report information to enable understanding of the Bank's development, performance, position and impact of its activity relating to non-financial aspects[4], to the extent relevant.

To determine these non-financial aspects, J.P. Morgan SE has conducted a materiality[5] assessment taking into account internal and external factors. These include interests and expectations of relevant stakeholders, the Bank's business model and strategy, legal and regulatory drivers in the local jurisdiction, as well as main sectoral matters as indicated by a comparison against the material non-financial topics identified by comparable institutions in the local jurisdiction. The Bank's ESG Forum and Management Board have reviewed the assessment.

The below table shows the non-financial aspects identified as material by J.P. Morgan SE[6]. These are mapped to the section headings of this Separate Non-Financial Report, which are structured according to the mandatory reportable categories prescribed in HGB § 289c and amended with further aspects identified as material. The latter have been reported in the sections "Governance" and "Client Service and Operational Excellence".

[3] In particular, European Non-Financial Reporting Directive and European Commission's Guidelines on non-financial reporting.
[4] According to § 289c HGB, these need to cover, at a minimum, environmental, employee and social matters, human rights, and anti-corruption & bribery.
[5] As per Directive 2013/34/EU, "material" means the status of information where its omission or misstatement could reasonably be expected to influence decisions that users make on the basis of the financial statements of the undertaking. The materiality of individual items is assessed in the context of other similar items.
[6] Our inclusion of items identified as material for J.P. Morgan SE is different from JPMorgan Chase & Co. disclosures under U.S. Securities and Exchange Commission regulations.

J.P. Morgan SE material non-financial aspects, mapped to sections of this disclosure:

Category	J.P. Morgan SE material non-financial aspects	Section
Environment	Broaden support for the climate- and sustainability-banking needs of our clients	4.1. Our Approach to Environmental Sustainability 4.2. Supporting our Clients 4.5. Disclosure according to Art. 8 of the EU Taxonomy
	Transition to a low carbon economy	
	Managing environmental risks, including climate-related risks	4.3. Climate Risk
	Minimizing the environmental impacts of our physical operations	4.4. Operational Sustainability
Social	Expanding economic opportunity in the communities where we do business	5.1. Increasing Economic Mobility
	Serving our customers	5.2. Client Service and Operational Excellence
	Investing in our human capital	5.3. Employee Matters
	Promoting diversity, equity and inclusion	
	Addressing human rights-related risks	5.4. Human Rights
Governance	Maintaining effective Board leadership and management processes	6.1. Corporate Governance 6.2. Management and Oversight of ESG
	Cultivating a strong risk and control environment	
	Fostering a culture of transparency and ethical behavior	
	Safeguarding privacy and cybersecurity	6.3. Safeguarding Privacy and Cybersecurity
	Anti-corruption and anti-bribery	6.4. Anti-corruption and anti-bribery

The following sections report on each of the non-financial aspects identified above.

4. Environmental Matters

The finance sector has an important role to play in helping to address some of the most pressing environmental and social ("E&S") challenges of our time, primarily by supporting its clients and providing targeted capital to help scale solutions. Building off the foundation of our Business Principles, we are leveraging our expertise, capital, data and resources to advance inclusive growth, promote sustainable development, and support the transition to a low-carbon economy. Environmental, Social and Governance ("ESG") matters are an important consideration in how we do business, including how we develop products and services, serve our customers, support our employees and help lift our communities.

The world today faces serious environmental and social challenges, such as climate change, biodiversity and ecosystem services loss, lack of water quality and availability, waste generation, human rights issues and the impact of development on communities. We recognize that our business decisions have the potential to impact the environment and surrounding communities. If not adequately addressed, these challenges could create risks for society and businesses. For more information on the Firm's approach to integrate climate risk management into existing risk governance framework, please see the JPMorgan Chase & Co. Climate Report 2022[7] and the J.P. Morgan SE Risk Report, section 6.6.3 within this document.

[7] https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/documents/Climate-Report-2022.pdf

Developing solutions sufficient to meet the climate challenge will require significant capital, including capital to deploy and scale clean energy solutions to meet the world's growing energy needs. Capital is also required to promote the sustainable management of resources, including water and forests. These aims support each other; some actions that address climate change, such as reforestation, also have positive impacts on nature, biodiversity and the sustainable management of resources.

J.P. Morgan SE's strategy is aligned with these objectives including helping our clients navigate the challenges and realize the economic opportunities of the transition to a low-carbon economy.

4.1. OUR APPROACH TO ENVIRONMENTAL SUSTAINABILITY

JPMorgan Chase & Co. believes helping its clients finance and accelerate their transition objectives creates positive environmental benefits and generates long-term financial returns for our shareholders.

These efforts are guided by the three pillars of its environmental sustainability strategy – scaling green solutions, meeting needs responsibly, and minimizing our operational impact – all of which is underpinned by ongoing focus on accountability, transparency and engagement, which helps us continue to evolve and remain responsive to stakeholder interests.

The J.P. Morgan SE Management Board remains committed to supporting the transition to a low-carbon economy while also continuing to promote energy security, advancing climate and sustainability considerations in our offerings, client engagement, risk management and our operations, in line with the Firmwide initiatives and targets, and leveraging the leading expertise of client facing teams and functional groups globally.

4.2. SUPPORTING OUR CLIENTS

Highlighted below are the continued efforts JPMorgan Chase & Co. makes to broaden support for the climate- and sustainability-related banking needs of its clients, from early stage and small companies through to multinationals and other large corporations. The Firm deploys its capital and expertise to assist clients working to transition their business model and operations to reduce emissions. As the Firm and the Bank expand our capabilities across lines of business, we aim to provide clients with increasingly diverse and innovative solutions while helping to grow the market for green and sustainable financing.

CIB – Corporate & Investment Bank (Markets, Investment Banking, Payments, Securities Services)

The Markets business created the Global Markets Sustainability Center ("GMSC") in October 2021 to, among other purposes, further drive the Firm's efforts in providing sustainability solutions to institutional investors. The GMSC leadership and core team are Paris-based. The global GMSC is developing solutions across asset classes, from equity to credit, including new asset classes like carbon credits, to help clients transition their portfolios to a low-carbon economy.

ESG Solutions is a team of investment bankers who provide ESG-related advice and transaction support to advance sustainability solutions for our clients and to provide clients access to ESG and sustainability focused capital across equity, debt and private markets. In Europe, the Middle East & Africa, ESG Solutions also co-ordinates JPMorgan Chase's investment banking coverage of clients in emerging green economy sectors. The group works with other investment banking teams across the CIB and in J.P. Morgan SE to identify and execute on ESG-related advisory and product opportunities.

To bring a climate lens to the way financing decisions are made at JPMorgan Chase & Co., the Firm has developed an assessment methodology of its clients' emissions and decarbonization plans for consideration in its decision-making on new in-scope financing transactions and clients in our targeted sectors. The Carbon Assessment Framework ("CAF") combines quantitative and qualitative measures to analyze clients' climate ambition and performance. Quantitative factors include the client's historical emissions reductions, current carbon intensity and forecasted intensity based on publicly announced targets. Qualitative factors include actions the client has taken to drive progress and other strategic steps taken towards decarbonization. Each factor is assigned a score, which contributes to a client's overall CAF score of 1–5, allowing the carbon assessment results to be reviewed as one consideration alongside other factors in our transaction review process. Although this is currently a reasonably designed framework, JPMorgan Chase will continue to look for enhancement opportunities.

JPMorgan Chase & Co.'s Center for Carbon Transition ("CCT") has led the creation, and continues to oversee the implementation of the CAF, which helps monitor the progress towards the Firm's 2030 Paris aligned financing portfolio-level emissions intensity reduction targets published in May 2021 for the Oil & Gas, Electric Power and Auto Manufacturing sector portfolios. As published in the 2022 Climate Report, the CCT has also set net-zero aligned targets for three additional sectors, Iron & Steel, Cement and Aviation.

New sector targets and progress against our existing targets				Progress as of June 30, 2022	
		Portfolio Baseline	2030 Target	Metric	%
Oil and Gas[1]	Operational	5.4[7]	**−35 %**	5.4	0 %
	End Use	66.5	**−15 %**	67	+1 %
Electric Power[2]		375.6	**115.4** (−69 %)	294.8	−22 %
Auto Manufacturing[3]		157.8	**92.3** (−41 %)	141.3	−10 %
Iron & Steel[4]		1,454	**1,010** (−31 %)	N/A, new target	
Cement[5]		647.8	**460.0** (−29 %)	N/A, new target	
Aviation[6]		956.4	**625.0** (−35 %)	N/A, new target	

[1] Measured in g CO_2e/MJ using 2019 baseline
[2] Measured in kg CO_2e/MWh using 2019 baseline
[3] Measured in g CO_2e/km using 2019 baseline
[4] Measured in t CO_2e/t crude steel using a 2020 baseline
[5] Measured in kg CO_2e/t CP using a 2020 baseline
[6] Measured in g CO_2e/RTK using a 2021 baseline
[7] 2019 operational baseline revised from 6.1 reflecting data quality improvements over the past year
Source: JPMorgan Chase & Co. 2022 Climate Report

The CCT also provides clients globally with low-carbon transition focused advice and expertise and works with industry coverage and product teams within the CIB and Commercial Bank, including product and country coverage teams in J.P. Morgan SE, on a wide variety of transactions that have a strategic sustainability focus.

Our approach in supporting the transition to a low-carbon economy and advancing climate and sustainability solutions is aligned to the Firmwide approach including contributing to the progress towards the Firmwide 2030 emission reduction targets. By considering CAF as one element of our transaction-level decision-making for in-scope clients, we are able to assess how an in-scope transaction may affect progress toward our portfolio-level targets. In the J.P. Morgan SE, new in-scope wholesale credit and capital markets transactions in 2022 were limited compared to our overall financing activities. In addition, restrictions on the provision of financial services to certain activities and clients in the coal mining and coal fired power sectors are in place across the Firm.

Payments

We offer a Supply Chain Financing solution with an ESG component. Currently, we are in the process of expanding its offering in ESG-related Trade products. Possible product enhancements are additional trade finance products, but also enhanced interest rates for liquidity products.

Securities Services

Securities Services provides post trade solutions including, but not limited to, global custody, depositary services, fund administration, agency securities lending, collateral management and

liquidity services to institutional clients, asset managers and asset owners. The business has been enhancing existing product and service capabilities and implementing new service solutions, where appropriate, to support our clients as they integrate ESG considerations into their investment portfolios and respond to the evolving sustainable finance regulatory changes.

In the context of fund administration, JPMorgan Chase & Co. has been enhancing capabilities to support clients on SFDR disclosures in funds' periodic financial statements and building out European ESG Template ("EET") data provision. Collateral services have added new ESG reference data indices and created a flexible framework for collateral, enabling clients to match the collateral they accept to their ESG/sustainable investment strategy while at the same time mitigating counterparty credit risk exposures. Agency securities lending have built out proxy data offering via increased asset coverage and enhanced its proxy voting framework to support clients' stewardship activities and engagement with issuers on sustainability/ESG related matters. In the data solutions space, JPMorgan Chase has developed an ESG analytics tool to help clients on TCFD and SFDR disclosure requirements; investment compliance service has been also enhanced to support SFDR-related investment compliance monitoring. To meet growing client demand for more ESG data points, build out of the multi-vendor ESG data management solution is under way with a focus on: data normalization, ESG hierarchy management, ESG screening and solutions for clients to calculate ESG exposures on positions across their investment portfolios.

Commercial Banking

As the need for climate solutions grows, so does the number and diversity of companies focused on providing them, with each requiring a unique combination of financial services and advice to achieve its business objectives. The CB Green Economy Banking team is called upon to provide subject matter expertise, banking solutions and specialized credit underwriting for the growing number of companies in the sustainable technologies, products and services industry. Green Economy Banking team focuses on five sectors – renewable energy, efficiency technology, sustainable finance, agriculture and food technology, and clean energy mobility – with senior bankers assigned to provide specific sub-industry coverage within each of these sectors.

Private Bank

In response to growing interest in climate-related thematic investing, J.P. Morgan Global Private Bank ("Global Private Bank") is actively expanding the range of available strategies and funds. For example, in 2022, the Global Private Bank added a growth equity climate solutions investment fund focused on decarbonization, energy efficiency, resource conservation and emissions management. Additionally, the business is considering new product opportunities in the sustainable food and agriculture industries.

The Global Private Bank also recognizes demand from certain clients that climate risk be incorporated into how they manage their strategy and operations. In line with this, the Global Private Bank offers a number of strategies and funds that aim to actively manage and address ESG risks, including climate.

Additionally, the Global Private Bank continues to invest in tools and solutions to help clients achieve their sustainable investing goals and to further raise their awareness and understanding of related trends and opportunities. In June 2021, JPMorgan Chase & Co. acquired OpenInvest, a values-based investing financial technology company. In the first quarter of 2022, and as part of OpenInvest capabilities, we launched sustainability reporting for J.P. Morgan's Sustainable Equity Strategy managed by the Private Bank.

4.3. CLIMATE RISK

Climate risk is the risk associated with the impacts of climate change on the Firm's and J.P. Morgan SE's clients, customers, operations and business strategy. Climate change is viewed as a driver of risk that may impact existing types of risks managed by the Firm and J.P. Morgan SE. Detailed information on climate risk, including governance can be found in section 6.6.3 of the Risk Report.

4.4. OPERATIONAL SUSTAINABILITY

Minimizing the environmental impact of physical operations of JPMorgan Chase & Co. is a key component of the Firm's approach to sustainability. Activities across the Firm's more than 6,000 corporate offices, bank branches and data centers around the world play a role in its operational environmental footprint. JPMorgan Chase's strategy for minimizing impact focuses on optimizing how we source and use energy, reducing direct and indirect greenhouse gas ("GHG") emissions, and enhancing resource management in our buildings and supply chain.

J.P. Morgan SE's 2022 Operational Footprint

In 2022, J.P. Morgan SE's reported operational GHG emissions[8] were primarily driven by two activities: powering our buildings (e.g., electricity, heating and cooling) and business travel. Scope 1 GHG emissions include those from building operations and company-owned aircraft and vehicles, while Scope 2 emissions include those from purchased electricity. The majority of our Scope 3 business travel-related emissions comprises of emissions from commercially operated air and rail, reimbursed personal vehicle and rental car travel, and hotel stays. We expect to continue to evaluate additional categories of operational emissions for future reporting.

2022 J.P. Morgan SE GHG Emissions – Summary

	GHG Emissions ($mtCO_2e$)[1]
Scope 1	983
Scope 2 (location)	2,022
Scope 3[2]	4,521
Total	**7,526**

[1] Metric tons of carbon dioxide equivalent
[2] Scope 3 includes business travel-related emissions from commercial air and rail, reimbursed personal vehicle and rental car travel, and hotel stays.

[8] The Firm's GHG inventory has been prepared in accordance with the WRI/WBCSD GHG Protocol Corporate Accounting and Reporting Standard (Scope 1 and 2), and WRI/WBCSD Greenhouse Gas Protocol Corporate Value Chain Accounting and Reporting Standard (Scope 3).

Operational Sustainability Targets

JPMorgan Chase has been committed to maintaining carbon neutral operations since 2020 and continues to pursue efforts to optimize energy use and reduce the Firm's GHG footprint across global operations. Efforts are guided by a set of key operational sustainability targets:

- Maintain carbon neutral operations annually;
- Source renewable energy for 100 % of our global power needs annually;
- Reduce Scope 1 and Scope 2 GHG emissions by 40 % by 2030, based on a 2017 baseline;
- Satisfy at least 70 % of our renewable energy goal with on-site renewable energy and off-site long-term renewable energy contracts by 2025;
- Reduce global water consumption by 20 % by 2030, based on a 2017 baseline;
- Reduce office paper use by 90 % by 2025, based on a 2017 baseline;
- Purchase 100 % of paper from certified sources; and
- Divert 100 % of e-waste from landfill through responsible third-party vendors.

With these goals in mind, the Firm's strategy to maintain carbon neutral operations focuses on the following:

1. **Improving efficiency and accelerating electrification.** Reducing energy use and using less carbon-intensive energy sources are its first priorities. JPMorgan Chase continues to undertake a variety of energy efficiency measures – for example, optimizing the use of heating and cooling in our buildings and procuring more efficient servers for our data centers – and to expand their implementation across our operations. The Firm is also looking for electrification opportunities within our buildings, branches and data centers.

2. **Sourcing renewables.** Next, JPMorgan Chase is focused on transitioning to zero carbon energy sources, including installing on-site solar systems at its properties and establishing long-term renewable energy procurement agreements (e.g., power purchase agreements ("PPAs") and green power supply contracts). Renewable energy for J.P. Morgan SE's major office locations in Frankfurt and Paris continues to be sourced through long-term renewable supply contracts.

3. **Purchasing Energy Attribute Certificates ("EACs") and carbon credits.** Finally, to continue to meet the Firm's commitment to source renewable energy for 100 % of our global power needs and address the remainder of its reported emission[9], JPMorgan Chase purchased applicable EACs (e.g., Green-E certified Renewable Energy Certificates ("RECs"), International RECs) and carbon credits[10].

[9] This includes Scope 1 (direct) GHG emissions from building operations and company-owned aircraft and vehicles; Scope 2 (indirect) GHG emissions from purchased electricity and steam; and Scope 3 (indirect) GHG emissions associated with business travel.

[10] Carbon credits and the market for them are evolving rapidly. Although we endeavor to source high-quality carbon credits verified by independent third parties, the ability to use carbon credits to fully and permanently "offset" emissions or achieve carbon "neutrality" relies on certain assumptions and is subject to debate among experts.

For more information and updates on the Firm's efforts around these targets, see the JPMorgan Chase 2022 Environmental, Social and Governance Report[11].

Engaging Employees in Sustainability
Recognizing the important role our employees can play in addressing sustainability challenges and climate change, as of January 2023, we introduced a new benefit for Germany-based employees which provides the opportunity to lease company bikes and e-bikes. This encourages employees to not only stay active, but to foster a more climate-friendly commute to work.

In J.P. Morgan SE's major office locations, efforts are ongoing to eliminate or reduce use of single-use plastics, improve waste segregation and recycling in the office, and promote employee awareness and action on environmental sustainability. To celebrate the merger of our existing EU credit institutions in Germany, Ireland and Luxembourg into a single European public company, J.P. Morgan SE facilitated planting of 5,682 trees via Tree Nation.

JPMorgan Chase fosters a community of informed, engaged and inspired employees who contribute to the culture of sustainability through GoGreen, a JPMorgan Chase global employee action group aimed at harnessing the power of our employees to make a positive impact on the environment. The GoGreen mission is to:

- Increase employee awareness of sustainability at JPMorgan Chase including our sustainability targets, and what the firm is doing to meet them;
- Offer employees opportunities to engage in sustainable activities at work, at home and in the communities where they live.

For more than 20 years, GoGreen teams have helped increase awareness of sustainability topics, and promote sustainable behaviors among their colleagues. In 2022, membership in GoGreen increased threefold year over year, with employees engaging in 250 sustainability activities around the globe. At the launch of our GoGreen Frankfurt initiative, another 600 trees were planted and one tree for each employee of J.P. Morgan SE Frankfurt was planted for the World Earth Day in April 2021. Going forward, J.P. Morgan SE is planning to plant a tree for each new employee hired.

Today, through a network of more than 50 employee-led GoGreen teams across 40 countries, J.P. Morgan SE's employees have the opportunity to collaborate to drive positive environmental change, reinforcing green initiatives and promoting sustainable practices across our global footprint.

4.5. DISCLOSURE ACCORDING TO ART. 8 OF THE EU TAXONOMY

Article 8(1) of Regulation (EU) 2020/852 (the "EU Taxonomy") requires J.P. Morgan SE to disclose the proportion of its exposures to Taxonomy-eligible and Taxonomy non-eligible economic activities in its assets on an annual basis.

[11] The JPMorgan Chase & Co. ESG Report can be found on https://www.jpmorganchase.com/about/governance/esg.

Market practice and understanding of the application and interpretation of certain terms under the EU Taxonomy has not yet settled as the legislation is relatively new and continues to evolve. As market practice develops and further regulatory guidance is provided around this, and as the EU Taxonomy is developed further, J.P. Morgan SE disclosures may change.

Where there is no published data relevant to issuers or counterparties (including clients) at the time of the finalization of these accounts, J.P. Morgan SE is not representing exposure to these issuers or counterparties as Taxonomy eligible. After J.P. Morgan SE publishes this report, further counterparty disclosures for year-end 2022 will be made in the course of 2023. Our year-end 2022 report reflects the availability of data as of the time of finalizing this report.

A significant proportion of J.P. Morgan SE's covered assets is composed of "other assets, other demand deposits, tangible assets and tax assets" that are not considered EU Taxonomy eligible. Additionally, as a significant percentage of our clients are not EU public entities and private entities, we may or may not see EU Taxonomy disclosures for those.

As at December 31, 2022		€T	As % of Total assets	As % of Covered assets	% EU Taxonomy eligible
	Total Assets (A + B + C + D + E)	**435,969,641**	100 %		**<1 %**
A	Trading assets (Non-Derivatives)	28,254,847	6 %		
B	Securities purchased under agreements to resell or borrowed	46,417,359	11 %		
C	Trading assets (Derivatives)	192,129,122	44 %		
D	Cash and exposures to central banks, central governments, and supranational issuers	75,340,930	17 %		
E	**Covered Assets**	**93,827,383**	**22 %**	**100 %**	**<3 %**
	Assets to assess for EU Taxonomy eligibility:				
	Loans and advances, investment securities and securities purchased under agreements to resell or borrowed (not Held-for-trading)	39,628,258	9 %	42 %	
	Of which exposures to non-NFRD entities including private companies			*35 %*	
	Of which exposures to households			*6 %*	
	Assets not assessed for EU Taxonomy eligibility:			58 %	
	Other demand deposits	9,848,074	2 %		
	Tangible assets	339,209	<1 %		
	Intangible assets	29,376	<1 %		
	Tax assets	282,124	<1 %		
	Other assets [1]	43,700,342	10 %		

[1] Details on other assets can be found in section 19 of the Notes to J.P. Morgan SE's Financial Statements (IFRS) for the financial year from January 1 to December 31, 2022.

The Climate Delegated Act was amended in 2022 to enable certain economic activities relating to nuclear and fossil gas to be classified as environmentally sustainable under the EU Taxonomy. J.P. Morgan SE has some exposure to entities involved in nuclear and gas activities. As this information is due to be disclosed for the first time during the course of 2023, there is limited actual data available in order for J.P. Morgan SE to assess the nuclear and fossil gas economic activities of our counterparties.

Template 1: Nuclear and fossil gas related activities[1]		YES/NO
NUCLEAR ENERGY-RELATED ACTIVITIES		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	YES
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	YES
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	YES
FOSSIL GAS-RELATED ACTIVITIES		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using gaseous fossil fuels.	YES
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using gaseous fossil fuels.	YES
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using gaseous fossil fuels.	N/A

[1] Template as defined in the Commission Delegated Regulation (EU) 2022/1214 of March 9, 2022

5. Social Matters

5.1. INCREASING ECONOMIC MOBILITY

We, at J.P. Morgan SE, are committed to operating a healthy and vibrant company that plays a leading role in advancing a sustainable and inclusive economy. As part of a global financial institution, we strive to apply our expertise, insights, and resources to help address economic and societal challenges facing our clients, employees, and communities. To support our communities, clients and employees, we are focusing on key drivers of economic growth: building careers and skills, fuelling business growth and entrepreneurship, and strengthening financial health and wealth creation.

Impact Case Studies

Last year, hundreds of J.P. Morgan SE employees used their skills and talent to help foster economic inclusion in our local communities through participation in Firm programs, including volunteering their time to help young students prepare for future careers.

Building Skills

The Schools Challenge and Career Connect are programs that empower young people from low-income backgrounds to boost their employability through skills-building and mentorship. In 2022, the Bank's employees across France, Germany, Italy, Ireland, Luxembourg & Poland supported nearly 500 young people to build skills for the future. The Schools Challenge aims to connect secondary school students from socio-economically disadvantaged backgrounds to mentors from the Bank to support them in developing skills for the future and an understanding of career pathways, particularly in Science, Technology, Engineering and Math (STEM). In 2022 in Frankfurt, 46 Bank employees provided support and guidance to 69 students over the course of six months as they worked on a solution to make their city a better place to live.

Our Career Connect program in Dublin is a 1-year program that aims to inspire high-achieving students from underserved backgrounds to enter professional careers and develop key skills. In 2022, 20 of these students had the opportunity to engage with 18 mentors from J.P. Morgan SE and participate in a range of different activities at the Dublin office, including group mentoring, CV and career orientation classes, and introductory sessions to learn more about the different lines of business.

Mentoring Women Entrepreneurs

The Bank is also working to advance the success of underserved female entrepreneurs. As part of Founders Forward Mentoring, female entrepreneurs receive mentoring from J.P. Morgan SE employees over the course of six months. In 2022, 42 female entrepreneurs from Frankfurt and Paris received mentoring support from 47 mentors from the Bank. Over the course of the program, mentoring partnerships work together to develop the mentee's leadership skills. According to end-of-program surveys, 88 % of entrepreneurs who participated in the program in Paris and Frankfurt agreed that their mentor helped them to feel more empowered to make decisions to support the growth and sustainability of their business.

Building Non-profit Capacity

As part of our work in helping non-profit partners build their capacity, we harness the skills and talents of our employees through the Service Corps program, a skills-based volunteering program that engages the Firm's employees. Through this program, 11 employees based in Ireland, Finland and Sweden worked with organizations across Germany, Ireland and Poland – including Kompass Frankfurt, Northside Partnership, Fundacja Zwolnieni z Teorii, socialbee – on a tactical business challenge to help each organization achieve their mission.

Supporting Refugees

As the war in Ukraine continues, a growing number of people have been left without access to basic needs and millions of refugees and internally displaced individuals have fled their homes in Ukraine. To support humanitarian relief efforts in Ukraine, the Firm committed up to $ 10 million in philanthropic capital in 2022, including more than $ 1.5 million in employee matching donations, the largest disaster giving campaign in the Firm's history. The commitment supports a number of organizations working to provide emergency food, housing and medical services to those in need, including working with select humanitarian relief organizations such as International Medical Corps, International Rescue Committee, Polska Akcja Humanitarna, UNICEF and World Central Kitchen.

As part of our commitment, the Firm provided $ 5 million to support the Chamber of Commerce of the Polish Hotel Industry as they worked to provide temporary shelter for over 1,400 refugees in Poland through access to hotel rooms as well as information and guidance on access to other assistance including medical care, childcare and longer-term housing, in coordination with member hotels, non-profits and local governments.

The Firm's support reaches beyond philanthropic efforts. We offered 50 Ukrainian refugees the opportunity to join a work and training program focused on upskilling people displaced by the war to work in areas including finance, human resources and operations in its Warsaw office.

JPMorgan Chase & Co. continues to monitor the humanitarian crisis in Ukraine to consider how it can best deploy our resources to meet growing and changing needs in the region.

Impact Case Studies: The JPMorgan Chase Foundation

The JPMorgan Chase Foundation is a US non-profit charitable organization which funds charitable initiatives through donations to non-profit organizations across 37 countries worldwide, including France, Germany, Ireland, Italy, Luxembourg, Poland and Spain. While these donations are not funded by J.P. Morgan SE, they are reported on here because they represent part of the Firm's commitment to regional and local communities in J.P. Morgan SE's office locations.

Preparing Young People for the Future of Work

The Global Career Readiness Initiative is a $ 75 million, five-year initiative to expand access to economic opportunity for young, underserved people by supporting pathways and policy solutions that better prepare them for the future of work. In 2022, as part of this initiative the Foundation funded two new career readiness initiatives in France and Italy to support broad systems change by scaling innovative solutions and developing high-impact approaches to inform policy reforms. It also renewed its philanthropic support for the Organization for Economic Cooperation and Development (OECD) Directorate for Education and Skills to conduct analyses of effective and equitable career readiness policies and programs for students and disseminate them globally with policy makers.

In France, in 2021 approximately 16 % of young people aged 18 to 24 were not in employment, education or training, suggesting that they will need alternative pathways to obtain the skills and experience necessary to succeed in the labour market (OECD Education at a Glance 2022). Across Île-de-France, there were more than 28,000 early school leavers, with youth from disadvantaged backgrounds disproportionately represented (Region Île-de-France, 2020). School closures during the pandemic are estimated to have widened the educational attainment gap and increased the risk of dropouts amongst poorer students, with unequal access to digital equipment, parental support, and/or suitable space to work.

The Foundation is supporting this non-profit organization through philanthropic capital to scale innovative, high-quality career guidance services and tools for young people pursuing technical and vocational education pathways in the region Île-de-France. The program began in 2022 and is aiming to reach 2,500 youth with their progression into higher education or employment by 2025.

Accelerating entrepreneurship for migrants and refugees
Newcomers to a country often face particular barriers to participating in the local economy due to language barriers, lack of recognized qualifications and lack of networks. Entrepreneurship can provide a pathway to economic independence as an alternative to employment.

In Sweden, the Foundation is supporting NyföretagarCentrum to scale business support and counselling services to support migrant and refugee women entrepreneurs in a post-COVID world, providing 3,000 female newcomers to the country with resources to help start and sustain their businesses. The Foundation's financial commitment to NyföretagarCentrum dates back to 2016. Since then, NyföretagarCentrum's efforts have, through J.P. Morgan's support, contributed to more than 25,000 foreign-born people being given advice on starting their own business, and over 10,000 new viable companies have been started.

Promoting opportunities for women in tech
One of the key priorities of the JPMorgan Chase Foundation is to support women in advancing their careers, starting or growing small businesses and improving their financial health so that they can participate in the benefits of a growing economy.

In Dublin, the Foundation has supported Fast Track into Technology (FIT), an organization that works closely in partnership with tech industry employers to promote inclusive access to in-demand tech jobs through training and apprenticeship programs. This commitment supports FIT to open up more opportunities for women in Information, Communication and Technology (ICT) and increase female enrolment and participation in their ICT apprenticeship program. The program ended in 2022 and trained approximately 300 low-income, unemployed and underemployed young women enabling them to earn certifications within the ICT sector and supported more than 250 in obtaining apprenticeships or gaining full time employment.

In 2022, the Foundation also renewed its philanthropic support for ReDI School of Digital Integration in Germany, to support its new Talent Program for female tech learners. The ReDI School offers IT, coding courses and career support to connect the refugee and migrant population to employment opportunities in the IT sector. As part of this grant, ReDI is providing targeted career support for its female students and alumni across Germany, through monthly talks and events, tailored workshops, and work experiences, additional 1:1 and small group coaching, and support post-hire.

5.2. CLIENT SERVICE AND OPERATIONAL EXCELLENCE

At J.P. Morgan SE, we are devoted to building and maintaining the best and most respected financial services company in the world, serving our clients and growing our communities globally. We seek to always do right by them, consistently strive not only to meet their needs but also to exceed their expectations and continually make it easy for clients to do business with us.

Our business principle "Exceptional Client Service" includes the following aspects:

- *We focus on the customer:*
  We must remember that we are in business for one reason: to serve our clients. Our job is to always do right by them and consistently strive not only to meet their needs but also to exceed their expectations and continually make it easy for clients to do business with us.

- *We are field and client driven; we operate at the local level:*
  True customer orientation means acting in the customer's best interest all the time. This means offering outstanding products and services and being helpful and courteous.

- *We build world-class franchises, investing for the long term, to serve our clients:*
  A mark of an exceptional company is its ability to serve its clients and outperform its competitors over a sustained period of time, regardless of economic conditions. At JPMorgan Chase & Co., our obligation is to build a company that can thrive in any environment. To achieve these results, we must provide our customers with a broad, complete and high-quality set of products and services while leveraging the benefits and efficiency that come with scale.

We report on products and services offered to our clients in the Management Report, section "Segments and essential products and processes".

J.P. Morgan SE measures client service – inter alia – by the number of client complaints and leverages complaints and any other client feedback to improve its products, services and the underlying services. Client complaints are reported as in section 4.3.2 in the Management Report section of this document.

In order to provide exceptional client service, we have to strive for operational excellence in execution.

The business principle "Operational Excellence" includes, among others, that we set the highest standards of performance, strive to build and maintain the best, most efficient systems and operations, and that we execute with both skill and urgency.

Based on the above aspects, operational targets have been implemented in the various businesses and corporate functions. A selection of key operational targets are reported in the section "Non-financial performance indicators" in the Management Report section of this document. These relate to business and client volumes, degree of automation and operational losses.

5.3. EMPLOYEE MATTERS

Diversity, Equity and Inclusion (DEI)

At JPMorgan Chase, the Firm continually works to create and reinforce a culture of respect, equity and inclusion, in which its employees are empowered to be their true selves. The Firm does so by creating forums for employee engagement, initiatives to advance inclusion and elevate diverse perspectives, and education and training programs designed to identify ways that all of our people can contribute to an inclusive culture. DEI is an important factor in making the Firm strong, and we want to build a workforce that brings together people with unique skills, backgrounds and professional experiences. Achieving this is a shared responsibility, built on both personal and shared accountability.

Support and Allyship for Diverse Employee Populations

The Firm's Business Resource Groups ("BRGs") are an important part of how it provides support and allyship for diverse employees. These are innovative and inclusive groups where employees can gather around shared affinities, lend their ideas for developing the business and build bridges with like-minded colleagues across the firm. J.P. Morgan SE employees are welcome to join any of the BRGs available globally, including: BOLD – Black Organization for Leadership Development; PRIDE – Lesbian, Gay, Bisexual, Transgender, Queer + and Ally; VETS – Voices for Employees That Served; WOTM – Women On The Move; WFN – Working Families Network; NEXTGEN – Leadership Development for Early Career Professionals; ADELANTE – Latino/Hispanic BRG and Access Ability – Disability and Caregiver. At the end of 2022, approximately 60% of J.P. Morgan SE employees were a member of at least one of our BRGs.

Empowering Women in the Workplace

In addition to the BRGs, the Firm also has dedicated branded strategies focused on specific communities. Women on the Move (WOTM) Center of Excellence is committed to providing women with the opportunities to succeed in their professional and personal lives. The key objectives of WOTM are to expand women-run businesses, improve women's financial health and advance women's career growth.

Human Resources

Employee Matters

J.P. Morgan SE's human capital strategy is aligned to that of JPMorgan Chase & Co., while also taking the needs of each branch into consideration. Our people drive our success in serving customers, clients and communities. It is through their ingenuity, excellence and integrity that we are able to build a prosperous business. As we navigate the ongoing challenges of a post-COVID pandemic world and compete for the best talent in the marketplace, we are committed to fostering a work environment in which our people are supported, feel like they belong, and are able to make an impact through their work. Our work environment is an important component of our human capital strategy which focuses on investing in seamless, meaningful experiences across the employee life cycle, including attracting, developing and retaining talent, employee engagement, and setting a competitive total rewards portfolio, including compensation, benefits and policies.

Attracting the Best People

We strive to attract and recruit the best talent for every role across J.P. Morgan SE. Our goal is to maintain a diverse and inclusive workforce reflective of the communities we serve, and we are focused on hiring talent with a wide range of characteristics, as well as diverse perspectives and skill sets. We are also committed to sourcing from underrepresented communities and establishing strategic partnerships and programs to create new pathways for candidates with less traditional backgrounds.

Early Career Talent

A robust pipeline of diverse junior talent is essential to creating a representative workforce and meeting our long-term needs. We have a competitive recruiting portfolio which includes summer internships, working student programs, apprenticeships and full-time hiring. We focus on expanding diversity in our traditional internship programs and operate four Emerging Talent Programs across J.P. Morgan SE that specifically focus on recruiting people who are often underrepresented in typical talent channels. We also maintain an active presence on campus across Europe by running student recruitment events including those focused on the equity and inclusion of underrepresented groups.

Experienced Talent

The Firm also continues to focus on diversifying the experienced talent pool. Examples are the ReEntry Program and the Military & Athlete Transition Program:

a. The ReEntry Program offers experienced professionals, who are currently on an extended career break of at least two years, the support and resources needed to relaunch their careers.
b. The Military & Athlete Transition Program offers service leavers and high-performance athletes the opportunity to experience working at JPMorgan Chase & Co. and make the most of their potential in a brand new environment.

Investing in Employee Development

Helping our employees advance their skills and professional development is important to our human capital strategy.

Training and Leadership Development

We train our employees with the skills needed for today and tomorrow. Training efforts include mandatory curricula for new hires and existing employees, along with a range of programs focused on topics from leadership development and technology to risk and compliance and business processes. Employees Firmwide are required to complete training on topics such as culture and conduct, anti-money laundering, privacy and data protection, cybersecurity and anti-corruption.

Leadership Edge

The global Leadership Development program provides development at management and executive levels. All Leadership Edge programs are rooted in the Firm's Business Principles and leadership attributes, and provide both in-person and online training. We also continued to maintain a focus on our talent management and succession planning process. The human resources team actively engages with senior leaders to discuss key talent, internal succession and the development of our leadership pipeline.

Performance Evaluations

We use an annual Firmwide performance review process to help employees grow and evaluate how they support our culture, business success, client/customer needs, and the Firm's DEI initiatives. Employees are assessed on both results ("what") and behaviors ("how") on four Firmwide Performance Dimensions and expectations for their level: (1) Business Results; (2) Client/Customer/Stakeholder; (3) Teamwork and Leadership; and (4) Risks, Controls, and Conduct.

Additionally, we provide opportunities to facilitate both solicited and unsolicited feedback between employees, managers, and colleagues to enrich the review process and career dialogue.

Fostering Employee Engagement and Satisfaction

Providing a first-class employee experience is important to our human capital strategy. This includes engaging our employees in strengthening our culture and business, providing allyship for our diverse employee populations, and listening and responding to employee experiences and ideas. As per local legislation, employees are given the opportunity to provide insights, perspectives and feedback. This includes the J.P. Morgan SE Supervisory Board where one-third of members are employee-appointed, and also at a country level where employees have the opportunity to participate in Works Councils in France, Germany, Luxembourg, Italy, Spain and Employee Forum/Representative Groups in UK and Poland. Additionally, the Works Council of J.P. Morgan SE meets twice a year.

We also support employees' drive to help strengthen their communities by facilitating skills-based volunteering opportunities. The Firm provides one day of paid time off for volunteer and employee engagement activities from Firm-sponsored events to outside activities that are meaningful to our employees.

In 2022, 83 % of J.P. Morgan SE's employees participated in our annual employee engagement survey, the results of which are reviewed by senior leadership for potential program improvements.

Supporting and Rewarding Our People

JPMorgan Chase & Co. provides market-competitive compensation and benefits programs to our employees. The Firm's compensation philosophy provides the guiding principles that drive compensation-related decisions across all levels of the Firm. The compensation philosophy promotes an equitable and well-governed approach to compensation which includes pay-for-performance practices that attract and retain top and diverse talent in a competitive market, is responsive to and aligned with our shareholders, reinforces the Firm's culture and How We Do Business Principles, integrates risk, controls and conduct considerations, and avoids excessive risk taking. The Firm is committed to equal pay for equal work.

As outlined in the Firm's Equal Opportunity, Anti-Discrimination and Anti-Harassment Policy, JPMorgan Chase & Co. is also committed to providing equal opportunity in accordance with applicable local law in all areas of people management, including recruitment, employment, assignment, transfer, promotion, compensation, benefits and training. The Firm's remuneration policies and practices are consistent with this commitment and prohibit discrimination on the basis of gender or any other personal characteristic protected under applicable local law or the Firm's Code of Conduct.

Pay Equity

We are committed to fair compensation for our employees. We conduct periodic pay equity reviews covering employees at all levels within the Firm. At JPMorgan Chase, in 2022, taking into account factors such as an employee's role, tenure, seniority and geography, in aggregate, those who self-identified as women globally were paid 99 % of what men were paid.

Pay equity reviews give us important insights, but they are just a starting point. If the Firm identifies individuals with compensation that is less than expected, we dig deeper. Where appropriate, we take action to address it. We are proud of the overall diversity of our workforce. However, we also know that women and ethnically diverse employees still are not represented in as many senior management positions as are men and White employees. We are taking a variety of actions focused on hiring, retaining, developing and advancing women and ethnically diverse employees, especially at more senior levels.

Well-Being and Work Life Balance

Our benefits programs focus on supporting the needs of our employees and their families, promoting employee well-being and engagement, and building our culture of inclusion and equity. We offer extensive benefits and wellness packages to our employees and their families. The offerings vary according to country and include health care coverage, retirement benefits, life and disability insurance, health care offerings, health screening programs, employee assistance programs, vacation and leave policies, backup childcare arrangements, mental health counselling and support, region-wide webinars and more.

Supporting Families

Supporting working families is an important element of how we support our employees, including providing time away from work for people who need it. We offer enhanced paid Family Leave policies according to statutory requirements and market practice. In addition, J.P. Morgan SE has flexible work options to support parents and others, and we provide backup childcare in some countries, additional flexible unpaid leave options and other assistance to working parents.

5.4. RESPECT FOR HUMAN RIGHTS

Human Rights Risk

JPMorgan Chase & Co. and J.P. Morgan SE support fundamental human rights across their lines of business and in each region of the world in which they operate.

We are guided by the United Nations Universal Declaration of Human Rights and the Guiding Principles on Business and Human Rights as the overarching framework for corporations to respect human rights in their own operations and through their business relationships.

JPMorgan Chase & Co. has a range of policies and procedures that pertain to human rights issues, including modern slavery, across our business and supply chain. JPMorgan Chase also publishes a Modern Slavery Act Statement annually, which outlines practices and policies in place to mitigate the potential risk of modern slavery occurring in our business and supply chain.[12]

The Management Board of J.P. Morgan SE has affirmed the JPMorgan Chase Modern Slavery Act Statement, re-affirming our commitment to the protection of human rights.

Supply Chain and Responsible Sourcing

JPMorgan Chase & Co.'s suppliers are expected to demonstrate high standards of business conduct and integrity. The Firm's Supplier Code of Conduct sets out the Business Principles that suppliers are expected to adhere to, such as operational excellence, fairness, and environmental and social responsibility. Suppliers respond to annual targeted surveys and attestations to monitor how well they manage issues such as labor practices, human rights, environmental management, and occupational health and safety. We believe that the effective management of these issues,

[12] https://www.jpmorganchase.com/about/our-business/human-rights

including adherence to applicable laws and regulations, reduces potential risk to both JPMorgan Chase & Co. and our suppliers.

6. Governance

J.P. Morgan SE's strong corporate governance practices help us protect the interests of stakeholders, including customers, clients, employees, shareholders and communities. The Bank's Management Board believes that our continued success rests on adherence to the Firm's Business Principles, which focus on how we strengthen, safeguard and grow our company over time.

6.1. CORPORATE GOVERNANCE

J.P. Morgan SE's governance structures and processes strive to promote accountability, transparency and ethical behavior – and we regularly evaluate and enhance them as we seek to operate at the highest levels of performance.

The Corporate Governance structure of J.P. Morgan SE is set out in the Management Report in section "2.2 Corporate Governance" and section "4.5 Internal Control System". The Risk Governance structure of J.P. Morgan SE is further detailed in section "6.2 Risk Governance Framework" of the Bank's Risk Report within this document.

Business Ethics

We strive to be accountable, straightforward and honest in our dealings with customers, employees, suppliers, shareholders and other stakeholders. The JPMorgan Chase Code of Conduct, Business Principles and other internal policies and procedures are designed to promote a culture of respect that allows every employee to feel safe at work and empowered to speak up if they have concerns about unethical behavior.

Code of Conduct

Our Code of Conduct highlights the personal responsibility of every employee to operate with the highest standards of integrity, transparency and ethical conduct. It emphasizes the importance of avoiding real and perceived conflicts of interest, protecting confidential information and maintaining a workplace that is free from threats, intimidation, and physical harm. Further information on the Code of Conduct is available in the Management Report, within the section "Compliance risk".

6.2. OVERSIGHT & MANAGEMENT OF ESG

Climate-related and environmental risks are also integrated in J.P. Morgan SE's business objectives and risk management framework. Oversight of climate-related and environmental risks is part of the schedule of responsibilities of the Management Board and Supervisory Board. ESG objectives are part of the goals of Management Board members.

J.P. Morgan SE has implemented a governance structure on ESG, including climate and environmental risk. This includes the J.P. Morgan SE ESG Forum sponsored by J.P. Morgan SE's CEO and the EMEA Head of ESG. The purpose of the J.P. Morgan SE ESG Forum is

- To drive awareness and create a dialogue of ESG topics relevant to the legal entity and the Management Board;
- Facilitate discussion on how ESG/Climate-related matters may impact our business strategy; and
- Enable effective communication of the Firmwide ESG/Climate-related strategy (and its continuing evolution) to key Product and Functional partners in the entity and of relevant ESG/Climate-related regulatory requirements impacting J.P. Morgan SE.

The ESG Forum contributes to sustainable advancements of our ESG Agenda, and its members consist of senior members of all lines of business and key stakeholders of J.P. Morgan SE. The co-chairs of the J.P. Morgan ESG SE Forum, at their discretion, will elevate topics to the J.P. Morgan SE Management Board as and when required. In addition, the J.P. Morgan SE ESG Forum escalates topics as appropriate to the EMEA ESG Business Forum, the EMEA ESG Governance Forum or the EMEA CIB ESG Regulatory Implementation Steering committee. J.P. Morgan SE representation is in place in all three of these regional forums and provides updates on topics related to J.P. Morgan SE. The J.P. Morgan SE Regulatory Change Forum oversees and monitors required regulatory implementations, which also includes ESG regulations.

The Bank's Management and Supervisory Boards receive regular ESG-related updates on objectives and priorities. For example, in September 2022, an ESG-related deep dive session was conducted by various stakeholders for the J.P. Morgan SE Supervisory Board. Additional deep dives like these will follow in the future if and when deemed necessary. Updates on Climate & Environmental (C&E) related topics and issues are standing agenda items at the monthly Management and quarterly Supervisory Board Meetings.

6.3. SAFEGUARDING PRIVACY AND CYBERSECURITY

As digital solutions play an ever-larger role in financial services and the economy as a whole, the risk of cyberattacks and other threats to information security continues to evolve and grow. In addition, all the individuals with whom the Bank interacts expect that our data practices are safe, lawful and fair. Data privacy and cybersecurity therefore remain top priorities for the Bank.

Data Privacy

As a global financial institution, the Firm collects, processes, uses, shares and dispositions all manner of personal and financial data every day, and manages that data in accordance with the laws, rules and regulations of the countries in which it operates. The Firm takes a multi-faceted approach to addressing privacy and data protection risks, including maintaining and evolving our internal controls, establishing comprehensive policies covering all stages of the data lifecycle, deploying the right technology, and having the right people in place.

The Firmwide internal policy on personal information reflects the core principles of data protection and privacy laws around the world and applies globally to all legal entities including J.P. Morgan SE, as well as third parties that handle personal information on our behalf. The policy sets forth minimum requirements including ensuring that personal information is processed for clearly defined purposes, information is minimized to what is necessary for those purposes and access is limited only to those with a legitimate need to know. The policy also specifies the use of Privacy by Design principles, designed to ensure that privacy is taken into account from the start of a project and throughout the data lifecycle.

A general supplement is in place at EMEA level and in J.P. Morgan SE to make sure that the core principles of the EU General Data Protection Regulation are considered and executed. Country specificities have been included in our Data Retention Requirements Management.

Data protection and privacy are key components of our global data risk management program. The Firm's multi-stakeholder approach to oversight and governance is embedded in our three lines of defense and supported by dedicated data and privacy teams around the world. We provide regular training and awareness to our workforce. We safeguard the confidentiality, integrity and availability of personal information through a wide range of technological, administrative, organizational and physical security measures. Our Code of Conduct and related ethics policies include specific guidelines on how employees should protect customers' confidential information, while also limiting their access to it. We have clear and established processes and procedures to report and respond to any suspected or actual data privacy incident that may compromise the confidentiality, integrity or availability personal information. Our centralized process requires escalation to a dedicated incident response team for severity assessment, mitigation, root cause analysis and corrective action.

Individuals and regulators are notified of any data incidents in accordance with applicable laws and regulations.

Cybersecurity

As threats to cybersecurity grow in size and sophistication, protecting our Firm, customers and vendors while enabling innovation is an important, evolving priority. When we enter new businesses and adopt new technologies, these risks and challenges multiply. This is why the Bank devotes significant, diverse resources to cybersecurity. Our efforts are designed to stop malicious actors from infiltrating our computer systems to destroy data, obtain confidential information, disrupt service, engage in "ransomware" or cause other damage.

J.P. Morgan SE's cybersecurity controls are explained within the Risk Report section of this document, in the dedicated section on "Cybersecurity Risk".

6.4. ANTI-CORRUPTION AND ANTI-BRIBERY

JPMorgan Chase & Co. has zero tolerance for bribery and corruption and its global Anti-Corruption Policy (the "Policy") therefore prohibits offering or giving anything of value (including gifts, hospitality, travel, employment, and work experience) to – and soliciting or accepting anything of value from – anyone for a corrupt purpose, such as improper payments or benefits to government officials or private parties for a business advantage. The Policy further prohibits making facilitation payments to cause a government official to perform or expedite performance of a routine duty.

Other key features of the Policy include requirements to:

- Obtain Compliance review and approval before offering or giving anything of value to government officials (subject to certain thresholds relating to gifts and business hospitality);
- Keep accurate books, records, and accounts that relate to the business of the Firm, its clients, suppliers, and other partners;
- Conduct due diligence and oversight of intermediaries/agents, joint venture partners, and entities over which the Firm has or may obtain control or influence;
- Report potential corruption-related issues (including through the Code Reporting Hotline), with a prohibition on retaliation against those who make good faith reports.

Any violation of the Policy may result in disciplinary action up to and including dismissal.

The Firm's Anti-Corruption Compliance Program (the "Program") is reasonably designed to implement the Policy's requirements, as well as identify, manage, and mitigate the risk of non-compliance with those requirements.

Key components of the Program include:

- A governance structure managed by anti-corruption professionals with senior management oversight;
- Training and awareness activities;
- Monitoring and testing for compliance;
- Periodic assessment of corruption risks and control effectiveness;
- Protocols for managing and reporting material issues.

The Firm regularly participates in anti-corruption professional forums such as the Wolfsberg Anti-Bribery and Corruption Working Group to enhance ethical standards and practices both at the Firm and across the financial services industry.

JPMorgan Chase & Co. has a published Commitment to Anti-Corruption Compliance on its website.[13]

[13] https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/documents/jpmc-commitment-to-anti-corruption-compliance.pdf

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