J.P.Morgan

ANNUAL REPORT 2021 OF J.P. MORGAN SE
(FORMER J.P. MORGAN AG)

J.P.Morgan

INDICATORS J.P. MORGAN SE

€M	2021	2020
Total operating income	2,344.0	740.8
Net interest income	−41.9	0.1
Net fee and commission income	1,942.3	707.1
Loan loss provision	−40.9	176.6
Total administrative expenses, depreciation and amortization	1,216.8	388.0
Profit before tax	1,168.0	176.3
Profit for the year	774.0	139.9
Equity	**16,958**	**13,012**
Return on Equity (RoE) (Profit of the year / Equity)	4.6 %	1.1 %
Return on Investment (Profit of the year / Total Balance Sheet)	0.28 %	0.06 %
Cost-Income-Ratio – before loan loss provision (Sum of administrative expenses and depreciation and amortization / Total operating income)	51.91 %	52.32 %
Pre-tax profit margin (Profit before tax / Total operating income)	49.83 %	23.8 %
Tier 1 capital ratio	17.2 %	30.5 %
Total capital ratio	27.8 %	32.9 %

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MANAGEMENT REPORT AS OF DECEMBER 31, 2021

Business and General Conditions

ORGANIZATION AND LEGAL STRUCTURE

With the objective to create a single, EU headquartered, pan-European banking institution which supports lines of businesses across the J.P. Morgan firmwide franchise ("JPMorgan Chase & Co." or "the Group"), facilitating the provision of J.P. Morgan global capabilities to clients in the European Economic Area ("EEA"), but also to EMEA clients in the Private Bank and globally providing access to Euro liquidity and product for globally operating clients, J.P. Morgan Bank Luxembourg S.A. ("JPMBL") and the J.P. Morgan Bank Ireland plc ("JPMBI"), were merged into J.P. Morgan AG, as the acquiring legal entity effective January 22, 2022 (the "Merger"). 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).

J.P. Morgan SE (the "Bank" or "JPMSE"), with its registered office in Frankfurt am Main, is an indirectly wholly owned subsidiary of JPMorgan Chase & Co. with its registered office in Columbus, Ohio, in the United States of America. The Bank has a full banking license in accordance with Section 1 Para. 1 of the KWG [Kreditwesengesetz – German Banking Act] and conducts banking business with institutional clients, banks, corporate clients and clients from the public sector. The shares of J.P. Morgan SE are held directly by the J.P. Morgan International Finance Limited with its registered office in Newark, United States of America.

In fiscal year 2021, one new branch in Athens had been established. With the creation of J.P. Morgan SE, additional branches were added in Dublin, Luxembourg and Helsinki in 2022.

Until March 31, 2021, J.P. Morgan SE was managed by a four-person Management Board which was complemented by one additional member, responsible for outsourcing, operations and technology from April 1, 2021. In the context of the Merger, the Management Board was further expanded by two additional members effective January 22, 2022. The Management Board continued to be supervised by a six-member Supervisory Board until the end of November 2021. Ahead of the Merger in January 2022 and with the decision in the extraordinary shareholder meeting on December 1, 2021, the Supervisory Board was extended to a twelve-member Supervisory Board.

The Management Board usually meets twice a month, while the Supervisory Board meets at least four times a year. The Supervisory Board held thirteen meetings in 2021 and, so far, one meeting in 2022. The names of the members of the Management Board and the Supervisory Board are listed in the Notes in section "Information on Corporate Bodies".

The various business segments – Banking (consisting of Global Investment Banking, Payments and Lending), Markets, Securities Services and Commercial Banking (and Private Bank since the Merger in January 2022) – prepare detailed presentations for the meetings of the Management Board. These presentations are key to discuss business developments in the past month and developments in key performance indicators (KPIs) as well as in key risk indicators (KRIs) of the various segments. The Chief Financial Officer (CFO), the Chief Risk Officer (CRO), the Chief Compliance Officer and the Head of Internal Audit also provide their up-to-date reports. In addition, the implementation of the Group-wide Brexit strategy by J.P. Morgan SE which was successfully completed at the end of 2021, with regard to transfer of assets, staffing and capital

planning as well as the preparation of the Merger with regard to regulatory notification and approvals, contractual re-papering, technical readiness and legal entity due diligence was monitored during the meetings of the Management Board. The Board meetings are minuted by a member of the legal department.

The Supervisory Board receives an up-to-date summary of the topics discussed in the Management Board meetings, with a view to the current status of the discussion and resolutions of the Management Board in its regular meetings. The summary to the Supervisory Board contains the essential details of the course of business, new planned business activities, the financial development, the ICAAP results of the Bank, the status of the regulatory dialogue, the status of strategic projects as well as reports from the 2nd Line of Defense functions (risk and compliance). In addition, the internal audit department (3rd Line of Defense) informs the Supervisory Board of the audits carried out and their results on a quarterly basis.

The Risk Committee of the Supervisory Board met eight times in 2021 and so far four times in 2022. It 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"). The Risk Committee also monitors whether the terms and conditions in client business are in line with the Bank's business model and risk structure and examines whether the incentives set by the compensation systems consider the risk, capital and liquidity structure of the Bank.

The Audit Committee of the Supervisory Board usually meets five times a year, with the auditors participating at least twice a year to discuss the audit plan, the annual financial statements and the final results of the statutory audit report. The Audit Committee focusses 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. The Audit Committee reviews the whistleblowing system as well as complaint management in 2021, the Audit Committee met eight times and already four times in 2022.

The Remuneration Committee of the Supervisory Board met seven times in 2021 and twice so far in 2022 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, which met five times in 2021, is advising the Supervisory Board on the structure, size, composition and performance of the Bank's Management and

Supervisory Boards as well as about the knowledge, abilities and experience of the individual members of the Management Board and members of the Supervisory Board and of the respective body in its entirety and reports the results of the collective suitability to the Supervisory Board; the Nomination Committee achieves the compliance with the gender-diversity targets, and identifies and assesses candidates to fill vacancies for the Bank's Management Board and reviews and makes recommendations regarding the succession for the Management Board and Supervisory Board.

INTERNAL CONTROL SYSTEM

In 2021 the four segments, Banking, Markets, Securities Services and Commercial Bank, were managed by two members of the Management Board. This number has increased from two to four from January 24, 2022 onwards with one dedicated member for Markets Trading and one member representing the Private Bank segment. The segments are 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.

The Management Board has delegated the monitoring of operational business activities and the associated operational risks to the Local Operational Risk & Control Committee ("LORCC"). The LORCC, which is chaired jointly by the CFO and the Location Control Manager, acts across segments and is made up of representatives from each segment, the various control functions and the corporate functions. In its monthly meetings, the LORCC deals with the course of business operations, with errors or problems that have occurred, and with operational risks that may arise. 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. In addition, the LORCC has set up the following four sub-committees: Outsourcing Forum, Regulatory Change Forum, Change Advisory Forum, Technology Forum.

The Outsourcing Forum, chaired by the Board-appointed Outsourcing Manager, is an integral part of the JPMSE Outsourcing Governance Framework, which is responsible for monitoring the entirety of the outsourcing agreements and the associated risks. The Regulatory Change Forum, chaired by the MaRisk Compliance Officer and the Chief Compliance Officer, is responsible for monitoring regulatory and legal changes as well as the full implementation of those regulations which are classified as being relevant for J.P. Morgan SE. The Change Advisory Forum monitors the implementation of new products in the Bank's technology infrastructure and the monitoring and limitation of the associated risks.

The Management Board has also mandated the Risk Oversight Committee, which is chaired by the CRO and which consists of 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. In the light of expanded business activities and the implementation of the new ECB requirements for the "Internal Capital Adequacy Assessment Process" ("ICAAP"), the focus of the committee in 2021 laid on the expansion of risk management capabilities and governance – staff-wise and

methodologically – including the changes to the risk appetite and the associated limit structure to accommodate migrating business activities. The risk functions have been closely working with the CFO on this.

In addition, the Management Board has mandated the EU Asset & Liability Committee, which is chaired by the Treasurer of J.P. Morgan SE, to monitor the liquidity and refinancing risk as well as the interest rate risk in the banking book of the Bank.

In the light of the growing complexity of the Bank, the Management Board resolved to install two new committees, one focusing on all matters related to recovery and resolution and one dedicated to ICAAP-related matters. The latter only resumed its work in January 2022.

In addition to the outlined governance structure, J.P. Morgan SE has established a "three Lines of Defense" model, in which an independent risk management function is overseeing the segments and Corporate Functions, supplemented by an internal audit function.

SEGMENTS AND ESSENTIAL PRODUCTS AND PROCESSES

J.P. Morgan SE is an integral part of the Group and the strategic entity for the successful implementation of the Brexit strategy. In the past three years, the Bank has developed into the primary business unit for business activities in the areas of Investment Banking and Markets of the Corporate & Investment Bank for customers based in the EEA as well as for the management of significant risks in the Euro area. In 2021, the focus was on a controlled expansion of J.P. Morgan SE with regard to the implementation of our organizational structure and underlying processes, smooth client migration, transfer of customer portfolios, transfer of risk assets, capital planning and adequate staffing. In addition, J.P. Morgan SE continues to be the Group's central unit for Euro payments and acts as a depositary and global custodian bank for the German investment market.

Segment "Banking"

This segment comprises Global Investment Banking, Payments and Lending.

Global Investment Banking

Following the successful implementation of the Brexit plans at the start of the year, all regulated EEA client-facing activities across all Global Investment Banking businesses, "Mergers & Acquisitions ("M&A"), "Debt Capital Markets ("DCM") and "Equity Capital Markets ("ECM") are being undertaken from J.P. Morgan SE.

The client base served by the Global Investment Banking business includes corporates, governments, insurance companies and other financial institutions, private equity companies and family/start-up companies.

Payments

Payments is the business division within the Group covering Treasury Services and Trade & Working Capital, offering our customers solutions for payment services, working capital management, liquidity management as well as financing and hedging solutions along the whole value creation chain across different industry segments and markets.

Following the Merger, J.P. Morgan SE offers its range of Treasury Services payment and liquidity solutions not only in

Frankfurt, but also in Amsterdam, Dublin and Luxembourg, offering accounts and payments processing in 38 currencies, and focusing on offering open bank solutions.

The customer segment consists primarily of financial institutions, corporate customers and JPM Group-wide companies. While correspondent banks continue to prefer Frankfurt as booking location, we see Fintech companies, requiring access to clearing, as a rapidly growing customer segment in all four booking locations.

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 clearings, bit for high-value payments and for bulk payments, and is one of the leading banks in the area of clearing in TARGET2 and EURO1.

It is also our goal to build up our position as the leading Euro clearer in TARGET2 and EURO1 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 Treasury Services in the coming years.

In the area of trade and working capital, we offer our customers a large number of innovative working capital-oriented products in addition to traditional financing and hedging 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 area, 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 and working capital.

Lending

In 2021, J.P. Morgan SE continued to support its clients in the European Economic Area ("EEA"), including private and public corporates, financial institutions and private equity companies, by granting further loan commitments. The product range comprised bilateral loans, syndicated loans and bridge loans as well as club deals, asset-based lending and facility agent and security trustee services.

At the end of the December 2021, J.P. Morgan SE had outstanding loan commitments to clients in the amount of € 13.7 billion.

The size of the credit portfolio in J.P. Morgan SE is expected to remain at the 2021 level in the coming years.

Segment "Markets"

The financial year 2021 was another year of significant changes for the "Markets" business in J.P. Morgan SE, with the main focus being the completion of the migration of the market business impacted by the UK's exit from the EU ("Brexit"). The UK's exit from the EU ("Brexit") required adjustments to the JPM business model in order to maintain the Group's current product range and EEA customer base.

While the repapering of the contracts with the impacted clients, the operational activation of customers, the set-up of market infrastructure providers and the set-up of the Bank as

a primary dealer in selected EEA markets had been achieved in 2020, the primary focus in 2021 was the transfer of the respective trading books as well as the relocation of the identified front office and support staff into the Bank's branches in the EEA.

The full implementation of the Brexit program was completed in December 2021. J.P. Morgan SE is now the central risk management entity within the Group for products with a strong EU nexus and our Sales, Marketing and Trading activities are live and in business as usual mode.

The 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 ("SPV"), public sector entities and corporates.

J.P. Morgan SE is a primary client-facing entity for EEA clients and holds the Group's memberships of the EEA trading venues. At the end of 2021, the Bank employed Trading staff in Frankfurt and Paris as well as Markets Sales staff in Brussels, Frankfurt, Madrid, Milan, Paris and Stockholm.

An overview of the business areas in the "Markets" segment is provided below:

- Rates
- Fixed income financing
- Securitized Product Group
- Global Credit
- Commodities
- Currency & Emerging Markets
- Equities (Cash Equities, EDG, Prime Finance, Global Clearing).

Rates

Global Rates and Rates Exotics act as a market maker, providing prices and liquidity in G10-debt, OTC interest rate derivatives and exchange-traded futures and options worldwide via voice or electronic means. Rates Primary Frequent Borrower also allows for the origination and syndication of high grade public sector bonds in the primary debt market.

Fixed Income Financing

Fixed Income Financing engages in market making and enables customers as well as the Group's own trading desks to have access to secured investments financing using a wide variety of securities and types of collateral.

Securitized Product Group

The Securitized Product Group in J.P. Morgan SE underwrites, places, finances and makes markets in asset-backed securities, mortgage-backed securities and private and commercial mortgage loans.

Global Credit

Global Credit Trading acts as a market maker for credit derivatives and bonds for investment grade, high-yield and distressed products in the corporate bond market. The Global Credit Syndicate Desk is responsible for underwriting and distribution of high-grade and high-yield bonds, as well as emerging markets bonds to the primary market.

Commodities

Commodities engages in market making and offers hedging solutions to corporate and institutional customers across a wide range of commodity products. These products include, among others, Energy, Metals, and Agricultural Commodities as well as customer-specific products. Instruments traded

include swaps, forwards, vanilla and exotic options, indices and structured notes.

Currencies & Emerging Markets
Currencies & Emerging Markets also acts as a market maker and provides liquidity and risk management solutions in global currency markets and fixed income products from emerging markets.

Cash Equities
The Cash Equities brokerage business encompasses stock trading on behalf of customers and thus offers institutional investors access to the global stock markets. The focus is on the execution of physical cash securities (including stocks and exchange traded funds ("ETFs"). The business also trades futures on stocks, indices, ETFs as well as OTC derivatives for hedging purposes. The business focuses on executing client orders through algorithmic trading platforms and smart order routing.

Equity Derivatives Group
Equity Derivatives Group, as the second activity within Equities, engages in market making primarily on equities and equities related products. It thus provides liquidity in a variety of products, including linear equity products, listed and OTC equity derivatives, dividend products and convertible bonds in major European markets and in South Africa.

Prime Finance
Prime brokerage services include clearing, settlement and custody of client securities, securities lending and margin financing (both synthetic and cash). These services are provided primarily to hedge fund clients. The market making activities on "Delta One" products include futures, swaps and ETFs.

Global Clearing
Global Clearing business is offering the execution and clearing of orders for exchange-traded derivatives (futures & options) and clearing services for OTC derivatives for external and internal customers via a network of central counterparties ("CCP"). The range of services in Global Clearing also includes FX Prime Brokerage.

The Bank has memberships on all relevant European stock exchanges and with CCPs. For the majority of European CCPs, while having access to CCPs outside the EEA under indirect clearing agreements through the memberships of other sister companies within the Group.

Segment "Securities Services"
Following the Merger, J.P. Morgan SE continues to act as a regulated custodian in Germany, having offered global custody and custodian services for institutional clients since 1995, but the Group's global Securities Services business unit will offer its range of products and services through branches of J.P. Morgan SE in Amsterdam, Brussels, Copenhagen, Dublin, Helsinki, Luxembourg, Oslo and Stockholm, which had previously been branches of JPMBL and JPMBI.

In 2021, J.P. Morgan SE was safekeeping a total volume of € 384 billion for its institutional clients and with net fund assets of € 218 billion, the Bank belongs once again to one of the largest depositaries in Germany at the end of this year according to the Bundesverband Investment und Asset Management e.V. ("BVI").

As in the previous years, J.P. Morgan SE has given high priority to the implementation of product and process-related adjustments as part of its custody and depositary business. In addition, the planning and preparation of the cross-border

Merger of J.P. Morgan SE was a focus topic in 2021. With the Merger, we assume that the cooperation with the Group will also be simplified for our customers in the region. In the future only one legal entity, the J.P. Morgan SE, will function as the central contractual partner in the EEA. The Securities Services business unit will continue to offer all securities services already provided by the three existing European companies and provide them equally via branches in the same locations where Securities Services is already represented today.

With the Merger, the range of products in J.P. Morgan SE will expand and will include value-added services such as securities lending, collateral services, alternative fund services and transfer agency, which have so far been primarily provided by JPMBL.

This expanded focus will also enable us to continue to offer our business in the usual high quality, taking into account the increased customer expectations, and with a correspondingly unchanged high level of customer satisfaction. In addition, a further expansion of our reporting service is planned for this year; 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, in connection with automation and efficiency increases, among other things through Fintech solutions and strategic partnerships.

Segment "Commercial Banking"

Commercial Banking's ("CB") business in J.P. Morgan SE covers clients with revenues typically between USD 20 million and around USD 2 billion in two broad client segments: Middle Market Banking & Specialized Industries ("MMBSI"), with turnover typically between USD 20 to USD 500 million, and Corporate Client Banking & Specialized Industries ("CCBSI"), with turnover typically between USD 500 million to USD 2 billion. CB engages and introduces other LOBs to meet the needs of its clients. The product range covers the provision of Payments, FX, credit and trading solutions, and also traditional corporate and investment banking products, including DCM, ECM, M&A and derivatives.

New Product Areas

Since the management focus in 2021 was on the successful completion of the Group-wide Brexit strategy in order to establish J.P. Morgan SE as the central legal entity for the segments, "Banking" and "Markets", within the Corporate & Investment Bank for customers in the EEA as well as on the preparation of the Merger in January 2022, the Bank refrained from implementing any new products of significance.

MARKETS AND COMPETITIVE POSITION

Segment "Banking"

In 2021, in the area of Global Investment Banking which comprises "Mergers & Acquisitions" ("M&A"), "Debt Capital Markets" ("DCM") and "Equity Capital Markets" ("ECM") activities, the Group prevailed with a market share of 8.3 % according to Dealogic against strong competition from European and US investment banks and was ranked Number 1 with customers based in the European Union. With regard to Lending, J.P. Morgan was ranked Number 2 with a market share of 7.3 %.

Due to the flexibility of the booking locations and the very innovative product range, we see further growth in the area of Treasury Services. The volume in Euro clearing has grown continuously and the Bank has leading positions in both TAR-

GET2 and EURO1 in terms of value and volume. In the area of e-commerce payment transactions, we increasingly see new competitors. As a result of the Group's investments in the area of Trade and Working Capital, we also expect a significant increase in our market position over the next few years.

Segment "Markets"
In the last three years, the 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 and Equities according to external League Tables[1].

The strategic direction of the Bank's 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.

Given that J.P. Morgan SE can offer its target clients the full range of Markets products, we think that we are well positioned to support our clients and their specific needs as well as potential recruiting opportunities for key talent.

Segment "Securities Services"
According to BVI, JPMSE is one of the top 5 custodian banks in terms of assets under custody and has a market share of approximately 8 % of the entire German funds market, measured in terms of assets under custody and even a market share of 11 % in the segment of special funds under custody, which corresponds to the third place in the ranking.

Within key EEA countries, JPMSE is the 2nd largest custodian in Luxembourg (for local domiciled funds) and 4th in Ireland.

The main competitors include State Street, BNP Paribas, Northern Trust and BNY Mellon.

KEY LEGAL AND ECONOMIC INFLUENCE FACTORS

In comparison to 2020, the year when the COVID-19 pandemic started with a very uncertain outlook, the economic environment and its influencing factors were rather stable in 2021.

The EU economy was rebounding from the pandemic recession faster than expected as result of successful vaccination campaigns which allowed governments globally to lift restrictions. Economic growth in the EU resumed and continued throughout the first 9 months of the year 2021. The EU economy regained the pre-pandemic output level in the third quarter of 2021 and moved from recovery into expansion.

Besides the remaining uncertainty regarding the impact of new COVID-19 variants, new headwinds emerged as a threat to the recovering economy. Bottlenecks and disruptions in global supply continued to weigh in particular in its highly integrated manufacturing sector. Furthermore, inflation rates have increased rapidly in the United States and in EU countries towards the end of 2021 in recent months. To a large degree, the increase in inflation reflects a combination of pandemic-induced supply-demand mismatches, rising energy prices, particularly for natural gas, and policy-related developments (such as the expiration of last year's temporary value-added tax cut in Germany). This is set to weigh on consumption and investment.

[1] Coalition Proprietary Analytics

The COVID-19 pandemic has diverted public attention away from the fight against climate change. The European Green Deal which was closed in 2021 aims to make the European Union climate-neutral by 2050. With this objective, the EU takes a leading role in addressing the global climate emergency. Achieving the climate-neutrality goal requires massive investment and an unprecedented transformation of all sectors of the economy. Political thinking with regard to sustainability started to play a growing role how banks are regulated, while in parallel the financial industry also needs to accept its responsibility to actively contribute to supporting the various industries in doing business more sustainably.

Other geopolitical conflicts in Asia and the Middle East remained on the radar in 2021, but in our view had no significant impact on the global economy. As we know today, this assessment has dramatically changed at the end of February 2022 with the crisis involving Russia and Ukraine.

As a result of the COVID-19 pandemic outbreak in 2020, which forced the European Commission (the Commission) to re-prioritize the European Union (EU) legislative agenda for the year, 2021 was a year with a number of major legislative initiatives being re-scheduled from last year – such as the MiFID II review and the finalisation of Basel III implementation. The revised Capital Requirements Directive and Regulation, commonly referred to as CRD 5 and CRR 2, refined and continued to implement Basel III in the EU by making important amendments in a number of areas including large exposures, leverage ratio, liquidity, market risk, counterparty credit risk, as well as reporting and disclosure requirements. Furthermore, the move away from the London Interbank Offered Rate (LIBOR) at the end of 2021 was a global change that had the financial industry mobilizing ahead of the deadline.

Further topics that we have been dealing with since 2020 are increasing digitization and its effects on our business processes as well as IT security with a constantly growing threat from cybercrime. The COVID-19 pandemic and its consequences for organizations, employees, partners and customers encourage us to continue on this path for greater digitization and electronization internally, but also in our interactions with clients.

PERSONNEL DEVELOPMENT

The number of employees at JPMSE increased in 2021 from 626 to an average of 1.287 employees compared to the previous year[1]. The staff turnover rate was 13 %. Of the total number of employees, 7 % took advantage of flexible work arrangements.

In line with our business concept, we continue to focus on the quality of new hires in the selection process, and on the continuous training and promoting education programs for our staff. The Bank's human resources strategy focuses on the highest quality and diversity of employees, and provides a clear commitment to align the strategy to the needs of our employees.

The Bank's remuneration system is integrated into the remuneration structure for employees in the EMEA region ("EMEA Remuneration Policy").

BUSINESS DEVELOPMENT

2021 was a very successful year for J.P. Morgan SE. First and foremost the Bank was able to successfully complete the last of milestones of its Brexit strategy by becoming a central risk managing entity for products with a strong EU nexus.

[1] This does not include employees that have been seconded or placed on leave or are on parental leave.

Furthermore, 2021 has been a very successful year for the Bank with revenues in all segments exceeding the plan with Banking and Markets contributing more than 95% of the Bank's revenues.

All areas of the Global Investment Banking, i.e. M&A, DCM and ECM, as part of the Banking segment, were outperforming the 2021 Plan. While we saw record fees for M&A activities and the highest IPO activities in the last decade, record levels of High Yield Bonds and Leveraged Loans were achieved in 2021, fuelled by strong M&A activities. DCM showed a robust performance with some landmark transactions placed in Europe. In Payments we also saw strong growth, especially in net interest income in comparison to Plan. This development is also evidenced by our loan commitments which increased from € 10.5 billion at the end of 2020 to € 13.7 billion at the end of 2021.

In the Markets segment we saw strong performance above Plan across all business areas, both in income generation and expense management, as we continue to position ourselves as an operationally stable, with regard to order execution, securities processing, transfer of collateral, clearing of exchange-traded derivatives and other trade transactions without significant disruptions, and financially strong counterparty for our customers, continuing to support our clients throughout 2021.

Therefore, the positive business development in 2021 is ultimately reflected in a satisfactory pre-tax profit of € 1,168 million.

Earnings, Financial and Assets 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.

EARNINGS (IFRS)

As a result of the successful implementation of the Brexit strategy in the "Banking" and "Markets" segments, and due to the expansion of business activities in the Payments business division, J.P. Morgan SE succeeded in significantly increasing net fee and commission income in 2021. In the financial year 2021, the net fee and commission income was € 1,942 million, 175% up compared to the previous year. The net interest income shows a negative trend compared to the previous year and is reported at negative € 41.9 million, which is € 41.9 million lower than previous year. The balances at the Deutsche Bundesbank reported under the item cash and central bank balances and migrations of positions in Markets are to be seen as a decisive factor influencing net interest income. The planned profit before tax for the financial year 2021 was overachieved by more than 60% despite the political uncertainty and the ongoing COVID-19 pandemic and its effects on profit of the year.

The net result from financial assets and liabilities measured at fair value in the amount of € 442.5 million was in 2021 with € 409.3 million significantly above the prior year. This change is mainly due to the migration of risk positions in the "Markets" segment.

In financial year 2021, the moderating health and economic recovery (which supported the return to the normal scenario weighting scheme, see credit risk note 35) in relation to the COVID-19 pandemic led to a significantly positive difference in loan loss provisions from negative € 176.6 million in 2020 to an overall release of positive € 40.9 million in 2021, which reflects an decrease of € 217.4 million from previous year.

The total administrative expenses and depreciations rose significantly by around 214 % in 2021, which was mainly due to the build-up of additional resources and the transfer of employees to the branches of J.P. Morgan SE and other costs incurred as part of the Brexit strategy and the Merger of JPMBL and JPMBI into J.P. Morgan SE.

Profit before tax for the year increased significantly from € 176.3 million to € 1,168 million. The annual result in the financial year 2021 amounts to a profit after taxes of € 774.0 million.

This result means a Return on Equity of 4.6 % compared to 1.1 % in the prior year.

FINANCIAL POSITION (IFRS)

Principles and Objectives

The significant increase in trading assets and trading liabilities as a result of the migration of the risk positions in the trading area, the changes in balances at the Deutsche Bundesbank as well as the increase of Reverse Repo and Repo positions need to be mentioned as the main drivers of the balance sheet development of the financial year 2021. The balance sheet of J.P. Morgan SE continues to be impacted by the deposits of its institutional clients and banks as part of the Euro clearing business and the custodian business and continues to show a stable financial situation in 2021. We allow our customers in the "Securities Services" segment and the "Payments" business to access credit only by granting intraday lines and short-term overnight overdraft lines in case of incorrect disposition. In addition, the increase in the Lending business area also had an impact on the composition of the balance sheet.

The total balance sheet as of December 31, 2021 increased by 15 % compared to the balance sheet as of December 31, 2020. The main drivers were, on the one hand, the migration of risk positions in the trading area, which is reflected in the increase in trading assets and trading liabilities, and, on the other hand, the increase of the Reverse Repo business. This increase was partially compensated by lower central bank balances at the year-end.

J.P. Morgan SE was always provided with sufficient liquidity in 2021. The liquidity coverage ratio of 341.4 % as of December 31, 2021 is also significantly above the mandatory minimum rate of 100 % which has applied since January 1, 2018.

Capital Structure

The liable equity has increased compared to December 31, 2020 by the profit from prior year which was transferred to reserves and through the capital increase carried out in June 2021 in the form of a simple additional payment of € 3.2 billion by J.P. Morgan International Finance Limited (JPMIFL) as the sole shareholder. In addition, a capital increase of the Tier 2 capital was carried out in January and October 2021 by issuing a subordinated Tier 2 note to JPMIFL in the amount of € 1.6 billion and € 6.9 billion respectively. The subordinated Tier 2 note in the amount of € 1.6 billion issued in January 2021 has a maturity date of January 8, 2031 and an interest rate based on the EUR ESTR (reindexed on November 4, 2021) plus 0.80%

with a minimum interest rate of 0.00% and a monthly interest payment. The subordinated Tier 2 note in the amount of € 6.9 billion issued in October 2021 has a maturity date of October 8, 2031 and an interest rate based on the EUR ESTR plus 0.97% with a minimum interest rate of 0.00% and a monthly interest payment. Furthermore, there is a subordinated loan originally granted by JPMIFL in 2009 in the amount of € 150,000,000, which is terminated in January 2022. The loan is not repaid to the lender. Instead, the funds will be made available and held as a capital reserve which will be included in CET1 capital, thereby leaving the total capital unchanged. A further subordinated loan of € 35,790,432 (with an indefinite term) was repaid to JPMIFL in December 2021. The intention to repay the loan was driven by the LIBOR transition. As of December 31, 2021, this results in a Tier 1 capital ratio of 17.2% and a total capital ratio of 27.8% according to the CRR 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 equity was made up of the following components as of the reporting date of December 31, 2021:

Core capital (Tier 1):	€ 15,425 million	in share capital and reserves
Tier 2 capital:	€ 9,540 million	from subordinated loans and issued Tier 2 notes

Off-Balance Sheet Business

The irrevocable loan commitments totaling € 18.5 billion are related mainly to the transfer of the lending portfolio in 2019 and new business in lending activities. 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 Group. Furthermore, J.P. Morgan SE concluded a total return swap for a promissory note for risk hedging.

Against the J.P. Morgan Structured Products B.V. (JPMSP), 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 JPMSP. J.P. Morgan SE is committed to settle payments due to the holders of the guarantees if JPMSP 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 the Group's Brexit strategy. As of December 31, 2021, the fair value of the issued guarantee was € 1.3 billion; in the same period in 2020 it was € 626.3 million. Of this, J.P. Morgan SE as of December 31, 2021 holds € 1.1 billion in the portfolio and a further € 175.3 million were held by clients. The guaranteed amount on the balance sheet date is therefore € 175.3 million. In the same period in 2020, it was € 121.8 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 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, 2021, the commitment amounted to € 1.9 billion (December 31, 2020: € 1.2 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.

ASSET SITUATION (IFRS)

Loans and advances to customers increased mainly due to the expansion of business activities in the Markets segment by € 1,980 million to € 4,534 million. Claims on banks, including deposits with central banks, decreased by € 36,915 million, primarily due to lower treasury activities, to € 46,708 million (thereof deposits with central banks: € 38,235 million). Other assets increased by € 9,317 million to € 39,834 million primarily due to cash collateral pledged to counterparties and held by other bilateral trading partners.

Deposits from customers increased by € 4,618 million to € 18,481 million especially in the "Markets" and "Banking" business segments. Deposits from banks decreased by € 34,430 million, mainly due to the aforementioned lower treasury activities to € 48,553 million on the balance sheet date. Other reasons for the extension of the balance sheet are mainly related to the increase in trading book assets and liabilities of approx. € 34,060 million on the asset-side and € 29,200 million on the liability-side of the balance sheet which are linked to the implementation of the Brexit strategy and respective migration of risk positions.

The aforementioned developments increased the total balance sheet of J.P. Morgan SE by 15 % compared to the balance sheet date in the previous year, and stood at € 281,415 million as of December 31, 2021. As of December 31, 2021 the total capital ratio was 27.8 % with the average for 2021 being 27.5 %.

Reconciliation of Profit after Taxes from IFRS to HGB

€M	2021	2020
Profit of the year (IFRS)	774.0	139.9
Amortization of intangible assets	−43.5	−19.1
Risk valuation adjustment according to § 340e HGB	−37.1	−61.5
Loan loss provision	8.5	4.8
Changes in fair value of the plan assets	3.6	18.4
Trading Profit/Loss incl. reporting differences between net interest income and net trading result	36.2	−10.2
Taxes	−18.7	−12.0
Others	11.3	7.2
Profit of the year (HGB)	734.3	67.5

Reconciliation of Total Assets from IFRS to HGB

Total assets as of December 31, 2021 based on HGB are at € 232.7 billion compared to € 281.4 billion under IFRS and therefore € 48.7 billion lower. In addition to valuation differences, differences in presentation between the two accounting standards are accordingly the reason for these differences. With regards to assets, under HGB the reverse repo transactions (except reverse repo positions in Treasury and CPG)

amounting to € 119.7 billion are reclassified from loans and advances to banks and customers into Trading assets. The netting applied for Reverse Repo transactions under HGB would not apply compared to IFRS, amounting to € 81.5 billion. 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 € 5.5 billion. Furthermore, the more restrictive offsetting rules in accordance with IAS 32 lead to a corresponding increase in trading assets and liabilities under IFRS, amounting to € 96.8 billion on the asset side, and € 110.8 billion on the liabilities side. Moreover, the recognition of clearing derivatives leads to a gross-up of the balance sheet in accordance with IFRS, amounting to € 13.2 billion. Trust assets and trust liabilities are not shown in the balance sheet in accordance with IFRS compared to HGB, amounting to € 3.4 billion. Deferred taxes were not capitalized in the HGB financial statements, since after netting according to § 274 Para. 1 sentence 2 HGB the option to capitalize is not exercised.

Earnings, Financial and Asset Position (HGB)

EARNINGS (HGB)

Due to the successful implementation of the Brexit strategy in the "Banking" and "Markets" segments, J.P. Morgan SE was able to increase significantly its commission income in 2021. In the financial year, the commission income was € 1,787 million, up 175 % from the prior year. Compared with the previous year, interest income has shown a positive trend and at € 262.1 million is € 259.3 million higher than in the prior year. The decrease in balances with the Deutsche Bundesbank can be seen as a significant impact on interest earnings. Despite the political uncertainty and the ongoing COVID-19 pandemic, the budget figures for 2021 overachieved in terms of result from operational business activities.

The result of the trading portfolio in the amount of € 132.4 million was in 2021 with € 170.8 million significantly above the prior year. This change is mainly due to the migration of risk positions in the "Markets" business and the decrease in the value-at-risk discount.

In financial year 2021, the moderate health and economic recovery (which supported the return to the normal scenario weighting scheme, see credit risk note 35) in relation to the COVID-19 pandemic led to a significant decrease in loan loss provisions from € 171.8 million in 2020 to an overall release of € 35.8 million in 2021, which reflects a decrease of € 207.7 million from the previous year.

The total administrative expenses, depreciation and other operating expenses rose significantly by around 206 % in 2021, which was mainly driven by the buildup of additional resources and the transfer of employees to the branches of J.P. Morgan SE and other costs incurred as part of the Brexit strategy and the Merger of JPMBL and JPMBI into J.P. Morgan SE.

This increased earnings from normal business activities from € 116.0 million to € 1,147 million. The net income for the financial year 2021 amounts to € 734.3 million.

FINANCIAL POSITION (HGB)

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,

2021 significantly increased from € 150.1 billion to € 232.7 billion compared to the balance sheet as of December 31, 2020. The main drivers were, on the one hand, the increase in the positions in the trading portfolio and, on the other hand, the decrease in deposits at the Deutsche Bundesbank.

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.

Off-Balance Sheet Business

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

ASSET SITUATION (HGB)

Receivables from customers decreased by € 1,096 million to € 6,997 million primarily driven by the "Markets" segment. Receivables from banks, including the deposits with central banks reported under cash reserves, decreased by € 28,779 million to € 61,253 million (thereof deposits with central banks: € 38,235 million), mainly due to the liquidity need of the operating business segments and lower treasury activities. Liabilities to customers decreased by € 1,713 million to € 14,888 million particularly in the "Markets" segment which were partially compensated by increases in the "Payments" business division. Liabilities to banks decreased by € 11,373 million to € 52,176 million mainly due to the aforementioned lower 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. € 110 billion on the asset-side and € 83 billion on the liability-side of the balance sheet which are linked to the finalization of the migration of risk positions as part of the Brexit strategy.

The total balance sheet of J.P. Morgan SE has increased by around 55 % compared to the balance sheet of the prior year, and stood at € 232,717 million as of December 31, 2021.

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 2021 for the development of the profit of the year have been overachieved despite uncertainties driven by the COVID-19 pandemic. The capital measures taken in 2021 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.

Financial and Non-financial Performance Indicators

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	2021	2020
Total operating income	2,344.0	740.8
Net interest income	−41.9	0.1
Net fee and commission income	1,942.3	707.1
Loan loss provision	−40.9	176.6
Total administrative expenses, depreciation and amortization	1,216.8	388.0
Profit before tax	1,168.0	176.3
Profit of the year	774.0	139.9
Equity	**16,958**	**13,012**
Return on equity (RoE) (Profit of the year / Equity)	4.6 %	1.1 %
Return on investment (Profit of the year / Total Balance Sheet)	0.28 %	0.06 %
Cost-Income-Ratio[1] (Sum of administrative expenses and depreciation and amortization / Total operating income)	51.91 %	52.37 %
Pre-tax profit margin (Profit before tax / Total operating income)	49.83 %	23.80 %
Tier 1 capital ratio	17.2 %	30.5 %
Total capital ratio	27.8 %	32.9 %

[1] Indicator before loan loss provision

The profit for the year reported an increase from € 139.9 million to € 774.0 million in 2021. The return on equity (RoE) increased from 1.1 % in the previous year to 4.6 % in 2021. The cost-income ratio decreased from 52.4 % in the previous year to 51.9 %. Due to the expanded business model as part of the Brexit strategy and the capital increases that have been carried out, we are reporting a total capital ratio of 27.8 % as of December 31, 2021.

NON-FINANCIAL PERFORMANCE INDICATORS

The non-financial performance indicators that measure the business volume of J.P. Morgan SE developed overall positively again in 2021.

We continue to see strong growth in the area of hight-value payments and complex cash management structures. Due to the COVID-19 pandemic, our customers are increasingly focusing on digitization when selecting their partners. An increase of 8.8 % in assets under custody is another signal of trust that our customers have in J.P. Morgan SE.

In the Markets segment, the increase in business volume has been remarkable, but which is primarily due to the transfer of customer relationships which continued in 2021 as well as due to changes in the risk management model as part of the Group's Brexit strategy which we have successfully completed at the end of 2021.

While the number of customer complaints has increased by 183 %, this increase had been in line with our expectations given a significantly broader client base in Banking and Markets in comparison to 2020 as well as to heightened standards when it comes to our definition of client complaints. Overall we are pleased that complaints remained at a low level. This also applies to operational losses. Although we saw an increase of 110 %, one needs to compare these numbers to the increase in business volumes across segments up to more than 700 %.

From the point of view of the Management Board, these facts and the continuously high straight-through-process rate are clear indicators of the scalability of the global operating model of the J.P. Morgan Group thanks to a high degree of automation, the set-up of Centres of Operational Excellence and thanks to our commitment to our clients.

	2021	2020
Number of payment instructions – High-Value	7.4 million	6.3 million
Number of payment instructions – Low Value	369 million	203 million
Straight-Through-Processing Rate (High Value)	98.0 %	98.0 %
Assets under Custody (in € billion)	384	353
Number of transactions – Global Rates[1]	1,800,000	241,000
Number of transactions – Global Credit[1]	302,000	145,000
Number of transactions – Global Equities[1]	167 million	23 million
Number of transactions through CCPs	224 million	244 million
Customer complaints	85	30
Markets – Percentage of customer contracts signed	91 %	87 %
Operational losses (€ million)	2.1	1.0
Gender Diversity (VP-Level)	36 %	34 %

[1] rounded

"Operational Excellence" remains our guiding principle and is directly linked to our efforts to continuously improve our technology platform, the internal control systems and the continuous training of our employees. It is important to us that we perform an in-depth analysis of our operational errors, learn from the outcome and draw the necessary conclusions for the future. For this reason, we are particularly committed to an open "risk and error culture".

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. Guided by the firmwide DEI framework, the Management Board works tirelessly 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. Information on the JPMSE diversity strategy can be found in the J.P. Morgan SE Non-Financial Disclosure (see Annex "Non-Financial-Disclosure" of this Annual Report).

To track and measure progress, as of January 1, 2020, the Firm re-established four 5-year firmwide diversity goals. Most relevant for J.P. Morgan SE is the overall population goal for women at Vice-President and Managing Director grade. These goals focus on representation across hires, promotions, terminations and other movement to allow managers to determine the best way to increase underrepresented talent relative to their respective goals.

STATEMENT BY COMPANY MANAGEMENT

In line with the Firm's approach, in 2017, the Supervisory Board established a 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 key management levels below the Management Board in 2017. The targets and progress will be reviewed in June 2022.

BUSINESS PRINCIPLES "HOW WE DO 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:

- Exceptional Client Service
- Operational Excellence
- A Commitment to Integrity, Fairness and Responsibility
- A Great Team and Winning Culture.

Relationships with Related Companies and Persons

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
- Purchasing and supplying corporate services.

All transactions have been performed on normal market terms.

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".

Outlook

SIGNIFICANT OPPORTUNITIES AND RISKS FOR THE UPCOMING FINANCIAL YEARS

Two major forces, COVID-19 pandemic and the war in the Ukraine, are currently shaping the economic outlook not just in Europe, but globally.

On COVID, restrictions continue to ease even as Omicron cases pick up. Germany, which has been cautious, is removing almost all restrictions at the federal level, with only the possibility of local restrictions if local healthcare systems become very stretched. That seems less likely given the lower virulence of Omicron and high vaccination rates. Although we observe a similar development with regard to Omicron cases and hospitalization rates in some European countries, such as France and Italy, other European countries show declining infection rates. Overall, mobility has yet to pick up, but the conditions for a further recovery in contact-intensive and travel services is in place. Although some uncertainties and concerns remain regarding the emergence of new, more dangerous variants and the deteriorating protection of the current

vaccine especially towards the 4th quarter 2022, the general conditions for an ongoing and sustainable economic recovery at the start of 2022 have been quite positive.

The military action against Ukraine, however, which Russia started on February 24, 2022, and which continued through the month of March and April without the expectation of an immediate end, led to EU-wide as well as US sanctions against Russia with focus on Russian banks, corporates and individuals, but also against the primary and secondary market in government bonds and other securities.

While the full economic ramifications of the conflict, including potential effects on global growth, can't yet be measured, some of the consequences of the conflict are becoming clearer, mainly in the form of higher commodity and energy prices which are pushing up inflationary pressures. Multiple scenarios with different degree of severity are possible, and we continue to monitor the political development and to assess the economic impact very closely as part of the risk management in J.P. Morgan SE, but also in the context of the global crisis management of the J.P. Morgan Group. Key focus will be consumer confidence, since households could cut back on spendings, as well as business investments which are likely to be affected with suppliers' delivery times deteriorating again.

In order to offset the effects of higher prices and sanctions, a combination of short-term national fiscal policy actions and ongoing effective monetary and financial policy measures of central banks and governments may be required. The lessons learnt from the current crisis are also likely to change the European approach, since vulnerabilities, when it comes to trade relationships and security, have become obvious. This may require significant investment programmes, both public and private, where international banks will play an important role in raising capital not just with European investors, but globally.

Despite challenging macroeconomic conditions, especially from the geopolitical backdrop, we expect that sustainability will remain a megatrend which will continue to shape the economy and the financial industry. The growing demand for climate and sustainability solutions has been demonstrated by rising levels of sustainable financing in the market. Climate change remains the primary focus of many ESG strategies, and we expect investors to increasingly focus on credible transition strategies in highly-exposed sectors such as oil & gas, electric power and automobile. Climate change impacts every industry sector, including the financial industry. We therefore see new business opportunities across industries for J.P. Morgan SE to support our clients' strategies for transitioning to a lower-carbon economy and for positioning themselves to capitalize on opportunities to advance sustainable solutions. In J.P. Morgan SE, this strategic transformation process is supported by an ESG coordination office that reports directly to the Bank's CEO, set up in early 2021.

Importantly, climate change and the transition to a low carbon economy create risks for financial institutions and their clients. Understanding and managing the impact of climate risk will therefore remain a key focus area of the Bank.

In addition to climate and the environment, we expect Diversity, Equity & Inclusion to become increasingly strategic for organizations to attract talent and deliver for clients and our community.

Transparency about our ESG strategy and performance will also remain a focus as stakeholders' ESG information needs increase and disclosure requirements in Europe and beyond continue to evolve. Therefore, J.P. Morgan SE is enhancing its ESG disclosures this year and going forward by including a specific Non-Financial Disclosure as an annex to this Annual Report.

The cybersecurity outlook for J.P. Morgan SE and the financial sector for 2022 will be driven, in large part, by the continued socioeconomic volatility that businesses continue to face as a result of the pandemic. Throughout 2022, 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. In addition, 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 2022. And it is evident to everyone, with the war in Ukraine, that grave damage could be inflicted if cyber is widely used as a tool of war. We believe that J.P. Morgan Group – as Jamie Dimon stated in his Shareholder Letter 2021 – has some of the best cyber protections in place, as well as the best talent to monitor and guard our information.

Following the successful implementation of the Brexit program by the end of 2021 and the execution of the Merger and the subsequent creation of J.P. Morgan SE, we will focus on the further integration of Payments activities which are currently offered to EEA clients from other JPM affiliates into J.P. Morgan SE as the primary legal entity of the Corporate & Investment Bank for customers based in the EEA, an expansion of product offerings to our clients across all segments with a strong ESG nexus and on other strategic business initiatives targeting new client segments.

With regard to the 2022 earnings situation of J.P. Morgan SE, we are anticipating a significant increase in our interest and commission income in the range of 80 % in comparison to 2021, primarily as a result of the Merger with the expanded business activities related to Securities Services and Payments and the new segment of the Private Bank, but also based on further expected revenue growth in Markets. The planned growth of profit before tax is expected to be in the range of 26 %, hence at a lower pace than the increase in our operating income, since some of the incoming business activities have a structurally less favorable cost-income ratio. Ultimately we target an efficiency ratio which is below 70 %.

With regard to our capital structure, the Merger has resulted in an increase of the Bank's Tier 1 Capital of around € 5 billion, standing at around € 21 billion at the end of January 2022, as well as an increase of our Tier 2 Capital of around € 3 billion, standing at around € 13 billion at the end of January 2022. With a total own funds of around € 34 billion at the end of January 2022, J.P. Morgan SE has a strong capital base to support its growth strategy across all segments.

We expect our Common Equity Tier 1 ratio (CET1 ratio) as well as the Total Capital Ratio to be stable throughout the year compared to 2021, offering a comfortable capital buffer and adequate flexibility in pursuing our strategic goals and seizing new business opportunities.

Regarding the four segments within J.P. Morgan SE, we see the following business development:

For the "Banking" segment, we expect the interest and commission income to grow by more than 10% in comparison to 2021 with the growth in Payments compensating for the slight decline in Global Investment Banking given last year's outstanding performance. For the Payments business, we see, despite a changing market environment, again a good basis for continuing our growth path in terms of customer acquisition and payment volumes through a combination of market consolidation and the continuous expansion of our product offerings. For the Lending business, we assume that we continue to support our clients at the level which is comparable to 2021.

The "Markets" segment in J.P. Morgan SE has started the new financial year 2022 with a full range of products for its target clients in the EEA. It is our expectation that we will further strengthen our market position in 2022 with operating income to be up by more than 30 %. It is the objective in Markets to improve the client experience through innovation using digital portals, offering reliable liquidity in all market conditions and delivering intelligent, targeted services.

As result of the Merger the "Securities Services" segment in J.P. Morgan SE will look very differently in comparison to the business in J.P. Morgan AG in 2021. Contributing 19 % of total operating income with the range of Securities Services products contracted in nine different locations in the EEA, it is an important pillar of our service offering to EEA clients of the Corporate & Investment Bank within J.P. Morgan SE. In our view, the year 2022 in Securities Services will also be characterized by strong competition fuelled by significantly more volatility in the financial markets, which may affect the result in the Securities Services division. Nevertheless, we are working both internally and with our customers on a comprehensive digitization and automation efforts and are planning further optimizations in our infrastructure and our product range. Additionally, we are looking for opportunities to expand into new customer segments in certain EEA locations and increase and broaden business from existing customer relationships.

Private Bank is a new segment in JPMSE following the Merger with JPMBL with a contribution of 11 % to total operating income in J.P. Morgan SE. The Private Bank has defined a clear multi-year growth focusing on clients' acquisition and clients' deepening (increase in the existing clients' share of wallet). To achieve the growth targets, the Private Bank focuses on increasing the advisors population in the core EMEA markets leveraging the branches of JPMSE, improving the client and advisors experience via digital tools, upgraded systems and simplified processes while leveraging its products palette (Investments, Credit, Deposits and Custody). The impact of the war in the Ukraine will result in an increase in credit reserves. However, the situation in Russia should have a limited impact on the overall growth plan of the Private Bank in J.P. Morgan SE as the Russia market represents only 8 % of the Total Client Positions as of end 2021.

The "Commercial Banking" segment has also grown as a result of the Merger with the operating income expected to double in comparison to 2021 in J.P. Morgan AG. In order to support future growth plans the CCBSI 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.

Overall we are closely monitoring the situation in the Ukraine, and re-assessing our current plan assumptions as the Russia/Ukraine conflict evolves. Without doubt, the evolving situation has led to unease and intensified anxiety in global markets, with this being particularly reflected in commodity markets. While the full economic ramifications of the conflict and sanctions on Russia, including the potential effects on global growth, can't yet be measured, they will – at a minimum – slow the global economy. Thanks to the well-diversified business model of J.P. Morgan SE with a potentially varying sensitivity of segments to the economic consequences of the ongoing war situation, we remain optimistic to achieve our 2022 targets.

Of much greater importance, however, is the extreme suffering of the people of Ukraine. The human cost is yet to be determined. J.P. Morgan Group has pledged support to the relief efforts and will continue to do so, hoping for a return to peace in the region soon.

2022 will also bring about a busy regulatory agenda in the European Union with focus on market data through the proposed amendments to the Markets in Financial Instruments Regulation (MiFIR), the implementation of the previously adopted so-called MiFID Quick Fix reform, further discussions on the Review of the Clearing Thresholds under the European Market Infrastructure Regulation (EMIR) and the planned amendments to the Capital Requirement Regulation (CRR) and Capital Requirements Directive (CRD). Furthermore we expect to see the formal adoption of the first harmonized European legislation for Markets in Crypto-Assets (MICA) as well as Digital Operational Resiliency (DORA). With the EU and the UK following their own regulatory change initiatives, growing differences between various elements of the EU and UK frameworks are expected to create an additional layer of complexity for market participants active in both markets which we will need to manage for the benefit of our clients which we serve.

Risk Report

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 businesses, and the associated risks, in a manner that balances serving the interests of its clients, customers and investors and protects 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 structures 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.

The Brexit Legal Entity strategy resulted in the expansion and build-out of both J.P. Morgan AG and JPMBL and their multiple branches in the EEA, resulting in considerable overlap in several locations. The Eurobank Program has been formed to merge these entities (along with JPMBI) into a single pan-European entity, J.P. Morgan SE. This simplified Legal Entity structure across the Eurozone reduces governance, regulatory overhead and costs associated with running multiple standalone banks. The Merger was successfully completed on January 22, 2022. The Risk Management footprint is expected to exceed 130 employees distributed across J.P. Morgan SE Head Office and the branches.

J.P. Morgan SE Risk Management has remained focused on serving its stakeholders. The Risk Management continuously monitors ongoing negative economic impacts arising from the pandemic or any prolongation or worsening of the COVID-19 pandemic, including because of additional waves or variants of the COVID-19 disease or the emergence of other diseases that have similar outcomes, which could have significant adverse effects on J.P. Morgan SE's businesses, results of operations and financial condition.

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.

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 on market developments for close monitoring.

The current outlook for 2022 should be viewed against the backdrop of the global and EU economies, the COVID-19 pandemic, 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 will 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.

RISK GOVERNANCE AND OVERSIGHT

The risk management governance and oversight framework involves understanding drivers of risks, types of risks, and impacts of risks. J.P. Morgan SE's risk governance operates by means of Three Lines of Defense which are composed of the first line of defense consisting of the revenue-generating units and their aligned operations, technology, and control management areas, the second line of defense describing the Independent Risk Management (IRM), and third line of defense which is Internal Audit. The entire entity (with the exception of Internal Audit) is subject to the IRM risk governance structure.

Drivers of risks include the economic environment, regulatory and government policy, competitor and market evolution, business decisions, process and judgment error, deliberate wrongdoing, dysfunctional markets, and natural disasters.

Types of risks are categories by which risks manifest themselves. The Firm's and the entity's 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 response 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.

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 reputation damage, loss of clients and customers, and regulatory and enforcement actions.

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 2022–2024, 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 demonstrated by the involvement of risk function in the business strategy process. Risk function is involved in any update on the business strategy and assesses necessary changes to the Risk Appetite and Risk Strategy 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 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 has developed a Risk Appetite Framework that sets out and operationalizes its Risk Strategy. By limiting and managing the risks, 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.

J.P. Morgan SE Risk Organization

J.P. Morgan SE has an Independent Risk Management 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.

J.P. Morgan SE relies upon each of its LOB and Corporate functions giving rise to risk to operate within the parameters identified by the IRM function, and within its own management-identified risk and control standards. Each LOB including Treasury & Chief Investment Office (T/CIO) are J.P. Morgan SE's first line of defense and own the identification of risks, along with the design and execution of controls to manage those risks. The first line of defense is responsible for the adherence to applicable laws, rules and regulations

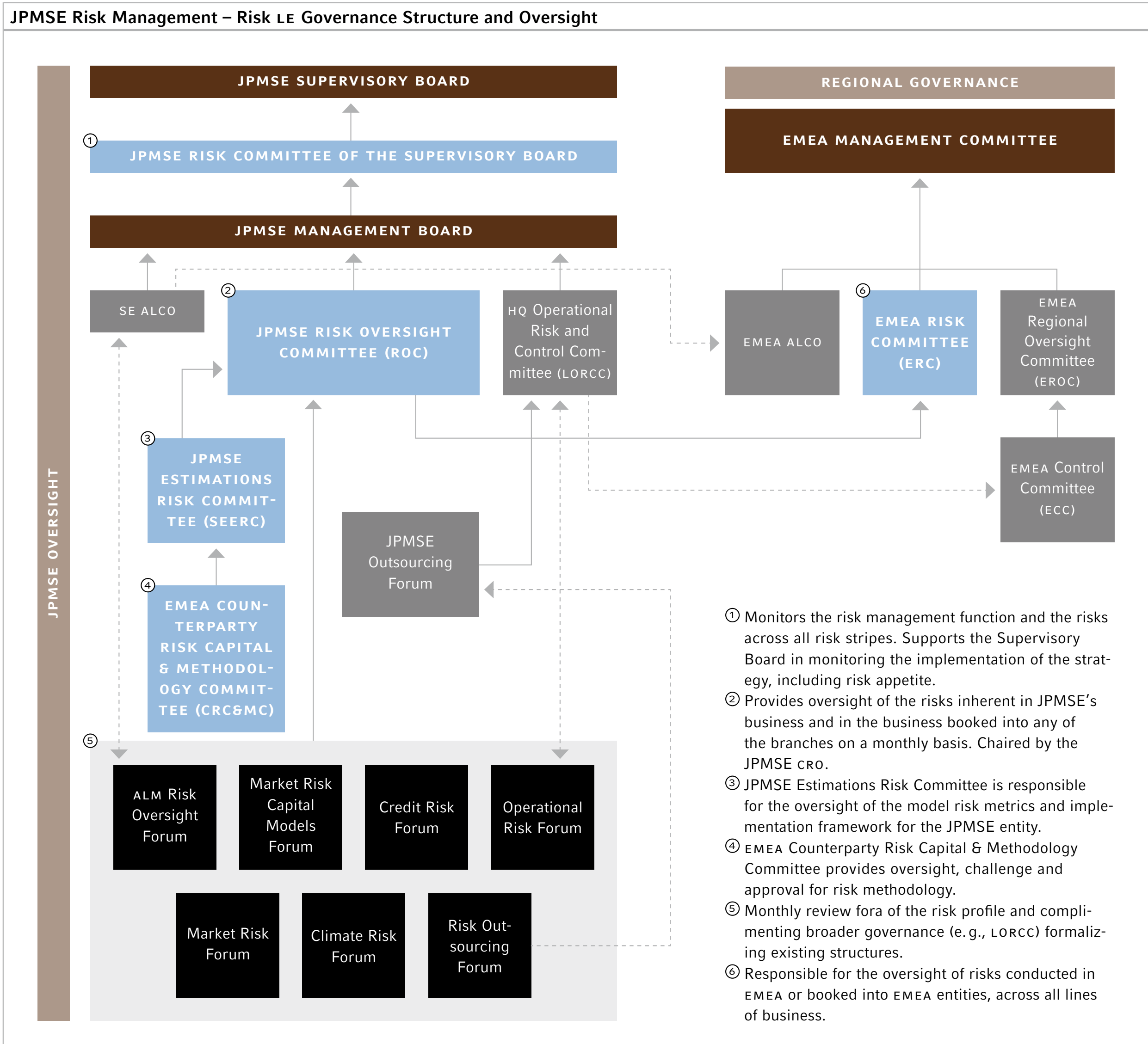
[1] JPMSE Chief Risk Officer is a member.
[2] Includes LE Risk Reporting, RM&C Control Management and Climate Risk.
[3] Includes Market Risk Quantitative Research.
[4] Includes Tech & Cyber Operational Risk Management.

and for the implementation of the risk management structure (which may include policies, standards, limits, thresholds and controls) established by IRM.

The IRM function is independent of the businesses and forms the second line of defense. The IRM function sets and oversees the risk management structure for risk governance, and independently assesses and challenges the first line of defense risk management practices. IRM is also responsible for its own adherence to applicable laws, rules and regulations and for the implementation of policies and standards established by IRM with respect to its own processes. The IRM sets and oversees the various standards for the risk management governance, including risk policy, frameworks, guidelines, identification, measurement, assessment, testing, limit setting (e.g., risk appetite, thresholds, etc.), monitoring and reporting, and conducts independent challenge of adherence to such standards.

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.

JPMSE Risk Management – Risk LE Governance Structure and Oversight



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.
④ EMEA Counterparty Risk Capital & Methodology Committee provides oversight, challenge and approval for risk methodology.
⑤ Monthly review fora of the risk profile and complimenting broader governance (e.g., LORCC) formalizing existing structures.
⑥ Responsible for the oversight of risks conducted in EMEA or booked into EMEA entities, across all lines of business.

■ Risk Specific Governance Committe
■ Non-Risk Governance Committee
■ Risk Forum

← Formal escalation
← - - Information through representation

The Internal Audit function operates independently and performs independent testing and evaluation of processes and controls across the entity as the third line of defense. 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.

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 ICAAP process, 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.

J.P. MORGAN SE RISK MANAGEMENT FRAMEWORK

Risk identification

Part of J.P. Morgan SE's risk management framework is the ongoing 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 previous materiality thresholds which applied to J.P. Morgan AG have been recalibrated to consider the size, business model and complexity of the merged entity – J.P. Morgan SE – as of January 2022.

As per the risk inventory dated December 31, 2021, 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
- Strategic risk including capital risk, business risk, and liquidity risk.

J.P. Morgan SE is currently working on integrating "ESG" into the risk identification, measurement and monitoring processes of the entity and the Firm.

The materiality assessment follows a gross approach (i.e. without taking into account actions designed to mitigate the

risk) 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.

Risk appetite
J.P. Morgan SE has developed a Risk Appetite Framework that sets out and operationalizes its Risk Strategy. 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 has been added. The protocol is tailored to J.P. Morgan SE's own business profile, governance, regional footprint and scale of activities.

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 and policies 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. Risk Capacity 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 owed to third parties which impact capital. Risk capacity therefore represents the upper boundary of risk appetite. 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 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.

Risk measurement and reporting
Risk measurement and reporting in J.P. Morgan SE are performed by risk category on a daily (credit, market, and liquidity risk), monthly (IRRBB, Country and Conduct Risk) or quarterly cycle (operational, 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 monthly meetings, the Management Board receives a detailed 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.

Recovery and Resolution planning

The Bank Recovery and Resolution Directive (BRRD) was adopted in 2014 in response to the financial crisis of 2008, which has 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 occurs, 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 2021, J.P. Morgan AG (hereinafter JPMAG) submitted the 2020 Recovery Plan to the European Central Bank (ECB), 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 Plan is prepared also in accordance with the relevant European Commission Delegated Regulations, the Guidelines of the European Banking Authority (EBA) and addresses the feedback provided by the ECB European Central Bank on the previous Plan. In addition, the 2020 JPMAG Recovery Plan complies with the ECB letter on the respect to recovery planning expectations in light of COVID-19 pandemic.

In particular, the overall recovery capacity of JPMAG has been assessed against a severe COVID-19 stress scenario, showing how JPMAG would be able to withstand a severe shock both from a capital and a liquidity perspective. The 2020 JPMAG Recovery Plan aligns to the methodology and framework adopted in the JPMorgan Chase & Co. Global Recovery Plan and other recovery planning 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 banks in an orderly manner, therefore an orderly cross-border resolution mechanism has been set via the BRRD, providing the resolution authorities with comprehensive powers and resolution tools to intervene when a bank meets the conditions for resolution. The Single Resolution Board (SRB), in cooperation with BaFin as the National Resolution Authority (NRA), is responsible for preparing JPMAG's resolution plans detailing how JPMAG could be resolved, while ensuring taxpayers avoid carrying the burden.

The Resolution Plan includes also a resolvability assessment of JPMAG, to identify and to address any impediments to the resolution of the institution and to set its Minimum Requirements

for own funds and Eligible Liabilities (MREL). The purpose of MREL is to ensure that a bank 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. As part of the SRB's Multi-Annual Work Program 2021–2023, JPMAG is taking relevant steps to implement SRB's Expectations for Banks to become resolvable by 2023 and to improve the operationalization of its resolution plan.

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 process consists of several building blocks which fit together to ensure that the Bank is sufficiently capitalized to cover the risks that it is exposed to on an ongoing basis.

– 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 assessed for materiality based on defined materiality thresholds. Further details can be found in the section "Risk Identification".
– Risk quantification: Risk measuring methods and models are used to quantify regulatory and economic capital requirements for all material risks with the exception of risks that cannot be adequately covered by capital, e.g., specific liquidity risks.
– Capital resources: The available capital resources represent the risk bearing capacity. 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 the entity is willing to take to achieve its strategic objectives. Threshold breaches are subject to a dedicated governance framework triggering management actions aimed at maintaining capital adequacy. Further details can be found in the section "Risk Appetite".
– Capital planning: Capital planning takes into account risk appetite thresholds in order to ensure capital adequacy on an ongoing and a forward-looking basis.
– Stress testing: Adverse scenarios are used in the capital planning to assess the resiliency of the Bank and test its risk bearing capacity. 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.
– Reverse stress testing: Reverse stress testing is carried out annually, as part of the ICAAP, to assess scenarios and circumstances that would render J.P. Morgan SE's business model unviable thus enabling the implementation of appropriate measures.

- Capital adequacy assessment: Capital adequacy is monitored and reported on an ongoing basis. The monitoring and assessment are done for the current period as well as the medium-term perspective. Should an immediate or potential future capital adequacy issue be identified, the appropriate measures are implemented. J.P. Morgan SE's Management Board produces and signs a Capital Adequacy Statement (CAS) annually. Furthermore, J.P. Morgan SE submits the results of the ICAAP, signed by the Management Board, to the supervisory authorities as part of the monitoring by the ECB.

Normative Perspective

J.P. Morgan SE can, from a capital adequacy perspective, comfortably execute its business strategy for 2022–2024. According to its capital plan, J.P. Morgan SE's Tier 1 ratio is not expected to fall below 18 % in the next three years with a total capital ratio of about 28 % at year-end 2024.

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, with the latter replacing the mark-to-market method since June 2021 in line with CRR 2.
  - 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 risks, Equity risks, and Commodity risks 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.
- 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 whereby the latter has replaced the mark-to-market method after June 2021 in line with CRR 2.
- 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 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 the Eurobank.

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, 2021 utilization is 46 % compared to 29 % a year earlier. The economic capital demand increased by +60 % in 2021 mainly due to position migrations within the context of the Brexit. Over the same period, the internal capital increased by € 4.1 billion mainly driven by a Tier 1 capital injection. The economic capital demand is calculated by the responsible risk owners 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 not take into account inter-risk diversification (i.e. between risk types). All risk type-specific capital demands are added up to J.P. Morgan SE's total economic capital demand.

€M	Q4 2021	Q4 2020
Internal Capital Usage under the Economic Perspective	46 %	29 %
Total Internal Capital	16,973	12,917
Total Risk Capital Demand	5,997	3,757
Credit Risk	2,438	1,141
Market Risk	1,602	1,186
IRRBB	41	30
Operational Risk	851	771
Business Risk	1,041	630
Pension Risk	24	0

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 for J.P. Morgan SE is determined using the information collected as part of a scenario analysis process. The risk scenarios quantified during the scenario analysis process are derived from the Risk Inventory and therefore are a representation of the most material (partial) risks within J.P. Morgan SE. The lower and upper bound of an exceptional but plausible loss calculated during the scenario analysis process is an input into the 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 deviations and calculates busi-

ness risk factors by determining the 99.9th quantile from the historical distributions. 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.

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 underlying 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 our 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.

RISK CATEGORIES

The following paragraphs provide details of the individual risk types. The 2021 Risk Management Report is a consolidated report that is aligned with International Financial Reporting Standard 7 (IFRS 7) Financial Instruments: Disclosures. Key sections under 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.

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 clearing), 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 and geographic concentration.

During the course of the year, Expected Credit Losses assigned to loans and other lending-related commitments rose to € 150.5 million at the end of March and went down materially to € 111.8 million at the end of September, before reaching to € 128.3 million by year-end. At year-end, allowance for credit losses of non-performing loan (NPL) was € 24.0 million; while recovery for the year totalled € 17.3 million, across two of the NPL positions.

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 approval
- setting industry and geographical portfolio 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 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 and 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 COVID-19 pandemic are captured in macroeconomic scenarios which in turn are reflected in the calculation of ECLS. The influence of the pandemic at the end of 2021 on the ECL was only limited.

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 significant Stage 3 exposures, J.P. Morgan SE considers several counterparty specific scenarios as a base for calculation of the allowance. For Stage 3 customers below a threshold value, the ECL is determined on a collective basis, using statistical risk parameters, the appropriateness of which is separately checked and approved. 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.

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 modeled as the product of the probability of impairment of the facility (Stage 1) and the expected LGD in case of impairment (Stage 2). The modeled 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 modeled 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.

The portfolio based component of the ECL is derived using a weighted average of five internally developed macroeconomic scenarios over the R&S horizon, followed by a single year straight-line interpolation to revert to long run historical information for periods beyond this forecast period. The five macroeconomic scenarios consist of a central, relative adverse, extreme adverse, relative upside and extreme upside scenario, and are regularly 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, 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.

In addition, 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 intrinsic to this crisis, within the portfolio. A credit risk report is prepared and a forum held on a monthly basis, attended by the J.P. Morgan SE Head 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 Head 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 2021. As at year end 2021, the credit portfolio consists of € 35.2 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 € 17.8 billion of TCP (committed facilities and utilizations under advised lines), € 14.5 billion of DRE and € 2.9 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 table below.

The credit portfolio is considered well diversified by industry as at December 31, 2021. Asset Managers, Technology, Media and Telecom and Consumer and Retail represent 20.5%, 18.5%, and 8.6% of the portfolio, respectively.

The breakdown of the credit portfolio by geography is shown in the upper table on p. 42. Geographic concentrations in the portfolio are monitored and reported on a monthly basis. The credit portfolio is considered well diversified as at December 31, 2021. Spain, France, and Germany represent the largest country concentrations with 19.6 %, 15.0 %, and 9.2 % of the credit portfolio, respectively.

The lower table on p. 42 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 75.2% of the portfolio being classified investment grade and 24.8% sub-investment grade as at December 31, 2021. Non-performing exposure represents less than 1.5% of the credit portfolio and 6 clients were considered in default as at December 31, 2021.

€M	2021		2020	
	Exposure	% of portfolio	Exposure	% of portfolio
Asset Managers	7,198	20.5 %	4,728	26.6 %
Technology, Media & Telecom	6,521	18.5 %	1,616	9.1 %
Consumer and Retail	3,028	8.6 %	2,240	12.6 %
Banks and Financial Cos	2,556	7.3 %	656	3.7 %
Utilities	1,988	5.7 %	1,156	6.5 %
Industrials	1,637	4.7 %	1,059	6.1 %
Oil & Gas	1,467	4.2 %	1,217	6.8 %
Central Govt	1,447	4.1 %	–	–
Real Estate	1,289	3.7 %	747	4.2 %
Other Industries	8,024	22.8 %	4,359	24.6 %
Total	**35,157**	**100.0 %**	**17,778**	**100.0 %**

€M	2021					2020	
	TCP	DRE	SRE	Total Exposure	% of portfolio	Exposure	% of portfolio
Spain	6,107	724	43	6,875	19.6 %	1,865	10.5 %
Funds Global[1]	88	6,277	437	6,803	19.4 %	4,435	25.0 %
France	2,961	1,324	980	5,265	15.0 %	2.905	16.3 %
Germany	1,462	1,387	394	3,244	9.2 %	2,185	12.3 %
United States	1,839	734	–	2,572	7.3 %	1,479	8.3 %
Sweden	1,395	200	700	1,602	4.6 %	–	–
Belgium	699	181	621	1,501	4.3 %	651	3.7 %
Netherlands	345	626	100	972	2.8 %	497	2.8 %
United Kingdom	789	87	–	876	2.5 %	589	3.3 %
Other	2,149	2,923	375	5,447	15.5 %	3,172.00	17.8 %
Total	**17,834**	**14,463**	**2,860**	**35,157**	**100.0 %**	**17,778**	**100.0 %**

[1] 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

€M	2021		2020	
Internal Rating	**Exposure**	**% of portfolio**	**Exposure**	**% of portfolio**
AAA/Aaa to AA–/Aa3	5,942	16.9 %	3,059	17.2 %
A+/A1 to A–/A3	6,518	18.5 %	3,582	20.2 %
BBB+/Baa1 to BBB–/Baa3	13,980	39.8 %	6,158	34.6 %
BB+/Ba1 to B–/B3	6,347	18.1 %	3,371	19.0 %
CCC+/Caa1 and below	1,711	4.9 %	1,275	7,2 %
NR[1]	658	1.9 %	334	1.9 %
Total	**35,157**	**100.0 %**	**17,778**	**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).

Russia-Ukraine Conflict

Credit Risk Management has monitored 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.

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

The VaR as of December 31, 2021 for J.P. Morgan SE is € 7.12 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 2021 was primarily driven by the Credit Crisis scenario.

Brexit trade migration to J.P. Morgan SE, for products with significant EEA nexus, has completed in 2021, following which J.P. Morgan SE has become 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

95 % 10Q VaR	As of Dec 31st		2021			2020		
€M	2021	2020	Avg.	Min.	Max.	Avg.	Min.	Max.
VaR by Risk Type – Risk Type Explained								
Fixed Income	7	6	6	2	24	1	0	9
Foreign Exchange	0	0	0	0	2	0	0	2
Equities	3	0	2	0	5	0	0	1
Credit	2	8	3	1	9	1	0	10
Commodities and Other	0	0	0	0	0	0	0	0
Total VaR	**7**	**10**	**6**	**2**	**27**	**1**	**0**	**13**

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 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.

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, 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 2021 and 2020 year-end. The change in stress loss between year-end 2020 and 2021 was predominantly driven by activities from Global Rates & Rates Exotics business migrated to J.P. Morgan SE in the 2021 period.

€M	December 31, 2021	December 31, 2020
Worst-Case-Stress Loss	−323.6	−207.4

As of December 31, 2021, the worst case scenario was Credit Crisis with a € 323.6 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 behavior such as hedging and re-hedging, is not modeled. The Credit Crisis scenario models an orthodox surge in credit spreads, contagion into other risky assets including equities, non-US dollar currencies and commodities and inflows into the safer G10 interest rate products. The catalyst for this scenario is not a default of a specific corporation, government, or asset complex, but the expectation that borrowing costs will sharply increase for all but the highest quality government issuers.

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 take 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 J.P. Morgan SE Risk Oversight Committee, EMEA Risk Committee (ERC), the Firmwide Risk Executive Market Risk (FRE MR) and the Global Legal Entity MR Head.

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 Market Risk Officer (MRO) are limit approvers of VaR & Stress limits for the legal entity in aggregate.
- J.P. Morgan SE's members of the Management Board (Markets) and Market Risk Officer (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 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, IR and equities-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 take 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.

Russia-Ukraine Conflict

Market Risk Management has monitored the Russia-Ukraine conflict very closely and its potential impact to J.P. Morgan SE, since early 2022 before the unfolding of market events. J.P. Morgan SE's market risk footprint directly related to Russian exposure is limited.

Market Risk performs a series of macro stress testing scenarios with various perturbations in the financial markets, to stress the market risk positions in J.P. Morgan SE and monitors the sensitivity of positions to potential further deterioration in the geopolitical environment and assesses the spill over to risky assets. Active monitoring of potential indirect vulnerable names is being performed to dynamically control concentration risk within J.P. Morgan SE.

Market Risk continues to assess and monitors closely the risk impact from the development of the Russia-Ukraine conflict through a comprehensive set of market risk controls and risk metrics. Frequent updates are provided to the J.P. Morgan SE Risk Oversight Committee and European regulators, including the European Central Bank.

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. IRR 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 EU Asset and Liability Committee (J.P. Morgan SE 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 managed through ALM Risk Management. ALM Risk Management is responsible for, but not limited to:

- Measuring and monitoring IRR and establishing limits, and
- Creating and maintaining governance over IRR assumptions.

Risk Identification and Measurement

The J.P. Morgan SE Treasurer manages IRRBB exposure by identifying, measuring, modelling and monitoring IRR 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 IRR as appropriate, and ensure compliance with internal and regulatory requirements. LOBs are responsible for developing and monitoring the appropriateness of LOB-specific IRR modelling assumptions.

Measures to manage IRR include:

- Earnings-at-Risk (EaR), which estimates the interest rate exposure for a given interest rate scenario. It is presented as a sensitivity to a baseline scenario, which includes net interest income and certain interest rate-sensitive fees.
- 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 Interest Rate Risk on 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/GL/2018/02), and scenarios recommended in the 2016 BCBS IRRBB guidance. These scenarios include parallel shifts as well as steeper and flatter 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 as a result of 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.

The impact of a 200bps parallel rates increase and decrease on the economic value and net interest income of J.P. Morgan SE has been estimated as at December 31, 2021; the results for Economic Value Sensitivity (EVS) and EaR for JPMAG are presented in the table below.

€M		
Scenario	EVS [1]	EaR [2]
+200 bps	147	383
−200 bps	−82	−71

[1] as per modelling assumptions prescribed in the EBA guidelines
[2] −200 bps includes the interest rate floor as defined in the EBA guidelines.

At December 31, 2021, 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 JPMSE 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 IRR 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.

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 oversight

The Bank has a liquidity risk oversight function whose primary objective is to provide independent assessment, measurement, monitoring, and control of liquidity risk across the entity. Liquidity Risk Oversight's responsibilities include:

- Defining, monitoring and reporting liquidity risk metrics
- 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 as well as regulatory defined liquidity stress tests
- Approving or escalating for review new or updated liquidity stress assumptions, and
- Monitoring liquidity positions, balance sheet variances and funding activities.

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, and
- manage an optimal funding mix and availability of liquidity sources.

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.

In the context of liquidity management, the Treasury and CIO is responsible for:

- 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.

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. At December 31, 2021, 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:

	31/12/2021	31/12/2020	31/12/2019
Liquidity Coverage Ratio	341 %	147 %	222 %
Net Stable Funding Ratio	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, 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 Oversight ("LRO").

Intraday liquidity alerts may initiate a defined response involving collaboration from various teams representing mainly

EMEA hub cash management, EMEA Treasury front office, LRO, 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
- 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 modeled 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.

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 below 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.

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

December 2021 €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	38,235	–	–	–	–	38,235
Loans and advances to banks	8,420	51	2	–	–	8,473
Loans and advances to customers	942	241	1,616	700	1,035	4,534
Securities purchased under agreements to resell or borrowed	35,240	7,229	2,112	187	3	44,770
Financial assets held for trading	143,357	1	51	1,653	242	145,304
Debtors	39,556	–	–	–	–	39,556
Tangible fixed assets	166	–	–	–	–	166
Net defined benefit plan assets	110	–	–	–	–	110
Current tax assets	48	–	–	–	–	48
Deferred tax assets	52	–	–	–	–	52
Other assets	168	–	–	–	–	168
Total	**266,292**	**7,522**	**3,781**	**2,540**	**1,281**	**281,415**

December 2021 €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 by banks	14,025	6,600	3,500	24,427	–	48,553
Customer accounts	18,431	–	–	–	50	18,481
Securities sold under repurchase agreements or loaned	21,211	1,564	1,857	–	–	24,632
Financial liabilities held for trading	144,454	–	–	–	–	144,454
Financial liabilities designated at fair value through profit or loss	3	13	29	1,127	58	1,230
Trade creditors	14,428	–	–	–	–	14,428
Amounts owed to JPMorgan Chase undertakings	48	–	–	–	–	48
Provisions for liabilities	78	–	–	–	–	78
Tax liabilities	41	–	–	–	–	41
Other liabilities	2,974	–	–	–	–	2,974
Subordinated Debt	–	–	–	–	9,540	9,540
Total	**215,692**	**8,177**	**5,386**	**25,555**	**9,648**	**264,458**

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 Firm's control), 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

To monitor and control operational risk, J.P. Morgan SE utilizes the Firm's Compliance, Conduct, and Operational Risk ("CCOR") Management Framework.

Operational Risk Governance

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 CCOR Framework and the evaluation of the effectiveness of their control environments to determine where targeted remediation efforts may be required.

The Location Operational Risk and Control Committee ("LORCC") receives reports on quality and stability of pro-

cesses, 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 CRO.

The CCOR Management Framework is included in the Risk Governance and Oversight Policy. In addition, the J.P. Morgan SE CCOR Framework is reviewed and approved by the 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

The Firm 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. The Firm'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 perform an independent assessment of operational risks inherent within the LOBs and Corporate, which includes evaluating the effectiveness of the control environments and reporting the results to risk senior management and the Management Board.

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.

Operational risk scenarios focus on exceptional but plausible operational risk events which may or may not have previously impacted J.P. Morgan SE. Such operational risk events result from inadequate or failed internal processes or systems, human factors, or due to external events. They include legal risk and regulatory fines and exclude business strategy and reputational risk. 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 operational risk measurement includes operational risk capital and operational risk loss projections under both baseline and stressed conditions.

Operational Risk Losses

The increased activities in various different LOBs within Markets following the migration post Brexit, as well as an increase of Year-end volumes, in line with global trend in the Markets business have led to high market volatility which triggered a spike in trading, operational activities, and increased losses affecting J.P. Morgan SE's financials.

As of December 31, 2021, operational risk losses increased by approximately € 2 million (70 %) year on year, predominantly driven by increases in "Execution, Delivery and Process Management" and losses that mainly occurred due to payment errors.

Operational Risk events in €	31/12/2021	31/12/2020
Business Disruption, Asset Damage and Workplace Safety		174,236
Customer and Client Management	−14,119	81,715
Execution, Delivery and Process Management	1,970,653	647,114
Market Practices	4,447	
Risk Management Failure	−90,504	
Other	1,268,443	426.407
Total	**3,138,919**	**1,329,472**

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 leveraged as one of the key criteria in the independent monitoring and testing of the LOBs and Corporate's compliance with laws, rules and regulations. Through monitoring and testing, operational risk and compliance independently identify 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 ORMs 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

Escalation of risks is a fundamental expectation for all employees at the Entity. Risks identified by Operational risk and Compliance are escalated to the J.P. Morgan SE Risk Oversight Committee (ROC) and the Frankfurt Location Operational risk and Control Committee, as needed.

Operational risk and Compliance has established standards 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 Management Board and Supervisory Board.

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 Control (CTC) functions are responsible for governance and oversight of the Firm's Information Security Program. In partnership with the Firm's LOBs and Corporate, the Cybersecurity and Technology Control 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 dedicated members who provide governance, oversight and local coordination of Cybersecurity-related topics for the entity. J.P. Morgan SE CTC manages and monitors a set of entity-specific controls and metrics to ensure appropriate ongoing monitoring and awareness of Cybersecurity-related risks.

The Independent Risk Management (IRM) function provides oversight of the activities designed to identify, assess, measure, and mitigate cybersecurity risk. J.P. Morgan SE Technology and Cybersecurity ORM as part of the IRM also holds the regulated role of the Information Security Officer.

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 has a cybersecurity incident response plan ("IRP") designed to enable the Firm to respond to attempted cybersecurity incidents, coordinate such responses with law enforcement and other government agencies, and notify clients and customers, as applicable. Among other key focus areas, the IRP is designed to mitigate the risk of insider trading connected to a cybersecurity incident and includes various escalation points.

Due to the impact of COVID-19, the Firm increased the use of remote access and video conferencing solutions provided by third parties to facilitate remote work. As a result, the Firm deployed additional precautionary measures and controls to mitigate cybersecurity risks and those measures and controls remain in place.

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 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. The risk of payment fraud normalized in 2021 since the heightened levels experienced during earlier stages of the COVID-19 pandemic. 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 trainings.

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 which until March 31, 2021 directly reported to the J.P. Morgan SE CFO. The responsibilities were transitioned 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 activities, including the failure to exercise the applicable standard of care (such as the duties of loyalty or care), to act in the best interest of 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.

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 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 inaction by an employee or employees could lead to unfair client or customer outcomes, impact the integrity of the markets in which the entity operates, 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 law everywhere the Firm 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 the Firm operates, agreements with clients and customers, and products and services offered by the Firm and 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.

Legal serves on and advises various committees (including new business initiative and reputation risk committees) and advises the LOBs and Corporate on potential reputation risk issues.

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
- 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 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. The 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. Also tiering of model is subject to the MRGR approval. When reviewing a model, the MRGR analyses 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 environment is significantly different from the historical macroeconomic environments upon which the models were trained, as the Firm has experienced during the early stages of the COVID-19 pandemic. This uncertainty may necessitate a greater degree of judgment and analytics to inform adjustments to model outputs than in typical periods.

Capital risk

Capital risk is the risk that J.P. Morgan SE has an insufficient level and 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 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 on future business activities, the Management Board considers the implications on J.P. Morgan SE's capital.

Capital Management Oversight

J.P. Morgan SE has a Capital Management Oversight function, within the Risk Management function, whose primary objective is to provide independent oversight of capital risk across the entity. Capital Management Oversight's responsibilities include:

- 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

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
- Ensure continued operation in the event the parent company stress or resolution.

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 regular updates on the capital position and projections and has oversight of decisions related to capital usage and capital strategy.

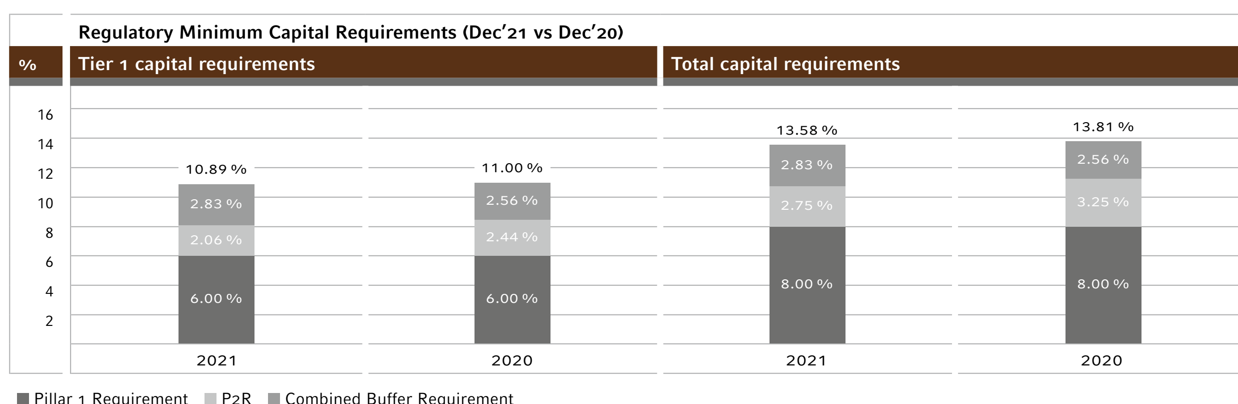
The quarterly ICAAP aims to ensure that J.P. Morgan SE is adequately capitalized in relation to its risk profile and risk appetite through the economic cycle and under a range of severe but plausible stress scenarios. The quarterly ICAAP results are reviewed by the ICAAP Steering Committee, the Risk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

Contingency Capital Plan

J.P. Morgan SE's contingency capital plan establishes the capital management framework for the entity and 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

The minimum regulatory capital requirements decreased overall between December 2020 and December 2021. J.P. Morgan SE became an Other Systemic Important institution in 2020 and was, for the first time, assigned an O-SII buffer of 0.25 % in January 2021. This led to the increase in the Combined Buffer Requirement in 2021 which was however offset by a decrease in the Pillar 2 requirement (SREP add-on) from 3.25 % in 2020 to 2.75 % as from December 2021. Throughout 2021, the entity enjoyed a comfortable capital surplus



over the regulatory minimum requirements and internally set targets and risk appetite. The chart below shows the minimum Tier 1 and Total capital requirements J.P. Morgan SE had to comply with as at December 2021 in comparison to December 2020.

In addition to the above requirements, the ECB 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.

Regulatory Capital and Ratios

The regulatory capital for J.P. Morgan SE increased by € 11.3 billion in 2021 compared to 2020. This was driven by an injection of CET1 capital to the amount of € 3.2 billion as well as Tier 2 capital issuances totaling € 8.6 billion in 2021 to support growth in business activities. During this period, the capital requirements increased significantly with risk weighted assets (RWAs) increasing from € 41.5 billion to € 89.8 billion. The significant increase in RWAs reflects the migration of businesses and risk positions from the JPM UK entities into J.P. Morgan SE as the entity completed the execution of its Brexit Strategy.

Throughout the year 2021, regulatory capital ratios and leverage ratio were comfortably above minimum requirements and internal targets. The table on the next page shows the RWAs and capital ratio development from 2020 to 2021.

J.P. Morgan SE was also subject to a minimum requirements for own funds and eligible liabilities (MREL) which ensures that banks have sufficient loss absorption and recapitalization capacity to make resolution credible. The MREL requirements under CRR 2 rules in 2021 consisted of an RWA-based MREL and a Leverage Exposure based MREL which must both be met in parallel. The RWA-based MREL required J.P. Morgan SE to hold own funds and eligible liabilities of at least 17.23 % of RWAs while the Leverage exposure-based MREL required it to

		Actuals
€M	31/12/2021	31/12/2020
Credit Risk (incl. Counterparty Credit Risk)[1]	47,829	27,821
CVA	5,259	2,049
Market Risk	32,244	10,402
Operational Risk	4,513	1,221
Total Risk Weighted Assets	**89,845**	**41,492**
Total Pillar 1 Requirement	7,188	3,319
P2R and Combined Buffer Requirements	5,009	2,409
Total Own Funds Requirement	**12,197**	**5,729**
Total CET1/Tier 1	**15,425**	**12,643**
Total Tier 2	**9,540**	**1,026**
Total Capital Resources	**24,965**	**13,668**
CET1/Tier 1 Capital Ratio	17.2 %	30.5 %
Total Capital Ratio	27.8 %	32.9 %
Leverage Ratio	7.5 %	10.1 %

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

	Actuals
€M	31/12/2021
MREL eligible resources	24,965
Regulatory MREL requirements (RWA-based)	15,476
Regulatory MREL requirements (LRE-based)	11,096
MREL surplus (+)/shortage (–) with respect to most binding requirement	**9,489**
Regulatory MREL requirements (RWA-based) in %	17.23 %
Regulatory MREL requirements (LRE-based) in %	5.4 %

hold own funds and eligible liabilities of at least 5.4 % of its leverage exposure amount. Throughout 2021, MREL requirements were met and exceeded, facilitated by MREL issuances of € 8.6 billion.

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.

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 deviations between planned and actual P&L figures and computes a business risk factor by determining the 99.9th quantile from the empirical distribution. The business risk factor is 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 2022–2024. 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.

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.

Risk Governance

J.P. Morgan SE manages pension risk with a dedicated pension governance. 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.

Risk Measurement

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.

Risks manifesting across various risk types

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:

- 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
- Deposits are measured as the cash balances placed with central and commercial banks
- 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
- Credit derivatives protection purchased and sold is reported based on the underlying reference entity and is measured at the notional amount of protection purchased or sold, net of the fair value of the recognized derivative receivable or payable. Credit derivatives protection purchased and sold in market making activities is measured on a net basis, as such

activities often result in selling and purchasing protection related to the same underlying reference entity; this reflects 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.

Reputation risk

Reputation risk is the risk that an action or inaction may negatively impact perception of the J.P. Morgan SE's integrity and reduce confidence in the entity's competence by various constituents, including clients, counterparties, customers, investors, regulators, employees, communities or the broader public. Damage to J.P. Morgan SE's reputation can therefore cause significant harm to J.P. Morgan SE's business and prospects, and can arise from numerous sources, including:

- Employee misconduct, including discriminatory behavior or harassment with respect to clients, customers or employees, or actions that are contrary to J.P. Morgan SE's goal of fostering a diverse and inclusive workplace
- security breaches, including as a result of cyber attacks
- failure to safeguard client, customer or employee information
- failure to manage risks associated with its business activities or those of its clients, including those that may be unpopular among one or more constituencies
- failure to fully discharge publicly-announced commitments to support social and sustainability initiatives
- non-compliance with laws, rules, and regulations
- operational failures
- litigation or regulatory fines, penalties or other sanctions
- actions taken in executing regulatory and governmental requirements during a global or regional health emergency
- regulatory investigations or enforcement actions, or resolutions of these matters, and
- failure or perceived failure to comply with laws, rules or regulations by J.P. Morgan SE or its clients, customers, counterparties or other parties, including newly-acquired businesses, companies in which JPMorgan Chase has made principal investments, parties to joint ventures with J.P. Morgan SE, and vendors with which J.P. Morgan SE does business.

Reputation risk is the responsibility of each LOB, function, and employee within the entity. Reputation of the entity, and not just business benefits and regulatory requirements, should

be considered when deciding whether to pursue any new product, transaction, client relationship, jurisdiction, business process or any other matter.

The RRO is the conduit through which transactions or matters are raised to the relevant Reputation Risk Committee (RRC) or other forums for the appropriate escalation and determination of reputation risk.

Organization and management

Reputation Risk Management establishes the governance framework for managing reputation risk across the entity. J.P. Morgan SE manages reputation risk on the basis of the Firmwide approach. As reputation risk is inherently difficult to identify, manage, and quantify, an independent reputation risk management governance function is critical. Reputation risk management includes the following activities:

- Establishing a Firmwide Reputation Risk Governance policy and standards consistent with the reputation risk framework
- Managing the governance infrastructure and processes that support consistent identification, escalation, management and monitoring of reputation risk issues Firmwide
- Providing guidance to LOB Reputation Risk Offices ("RRO"), as appropriate
- The LOB RRO is the conduit through which the Firmwide Reputation Risk Governance framework is managed in the region.

The types of events that give rise to reputation risk are wide-ranging and could be introduced in various ways, including by employees, clients, customers, and counterparties. These events could result in financial losses, litigation and regulatory fines, as well as other damages to the Firm and J.P. Morgan SE.

Governance and oversight

The Firm's Reputation Risk Governance policy establishes the principles for managing reputation risk. J.P. Morgan SE has adopted these 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 and the entity when deciding whether to offer a new product, engage in a transaction or client relationship, enter a new jurisdiction, initiate a business process or other matters. Increasingly, sustainability, social responsibility and environmental impacts are important considerations in assessing reputation risk, and are considered as part of reputation risk governance.

Legal entity matters requiring reputation risk assessment and review as required by the Firmwide Reputation Risk Standards will be escalated to the relevant LOB RRO. Should any RRC or any member consider that the inherent reputation risk is of such a degree to warrant it, or if the LOB RRC does not reach consensus for a particular matter, the matter may be escalated to the FRE of Reputation Risk.

Climate Risk

J.P. Morgan SE's approach to climate risk management is driven by the Firmwide Climate Risk Management Framework which sets the principles for the climate risk management.

Organization and management

The key principle underpinning the approach to managing climate risk is that climate risk is a risk driver that is being integrated into the existing risk types and is not being treated as a standalone risk type. This means that climate change can manifest through, and magnify, existing risks types namely market risk, strategic risk, credit and investment risk, and operational risk. Therefore, climate risk drivers can be cap-

tured through existing quantitative and qualitative taxonomies and monitored through existing risk appetite frameworks.

Climate change could manifest as a financial risk to J.P. Morgan SE either through changes in the physical climate or from the process of transitioning to a low-carbon economy, including changes in climate policy or in the regulation of financial institutions with respect to risks posed by climate change.

Climate-related physical risks include acute weather events, such as hurricanes and floods, and chronic shifts in the climate, such as altered distribution and intensity of rainfall, prolonged droughts or flooding, increased frequency of wildfires, rising sea levels, or a rising heat index. Climate-related physical risks could have adverse financial and other impacts on the Firm and J.P. Morgan SE, both directly on its business and operations and as a result of impacts to its clients and customers, including:

- declines in asset values, including due to the destruction or degradation of property
- reduced availability of insurance
- significant interruptions to business operations, including supply chain disruption, and
- systemic changes to geographies, regional economies and sectors, and any resulting population migration or unemployment.

Transition risks arise from the process of adjusting to a low-carbon economy. In addition to possible changes in climate policy and financial regulation, potential transition risks may include economic and other changes engendered by the development of low-carbon technological advances (e.g., electric vehicles and renewable energy) and/or changes in consumer preferences towards low-carbon goods and services. Transition risks could be further accelerated by the occurrence of changes in the physical climate. The possible adverse impacts of transition risks to both J.P. Morgan SE and its clients and customers include:

- sudden devaluation of assets, including unanticipated write-downs ("stranded assets")
- increased operational and compliance costs driven by changes in climate policy and/or regulations
- negative consequences to business models, and the need to make changes in response to those consequences, and
- damage to J.P. Morgan SE's reputation, including as a result of any perception that its business practices are contrary to public policy or stakeholder preferences.

Both physical risks and transition risks could have negative impacts on the revenues, financial condition or creditworthiness of J.P. Morgan SE's clients and customers, and on its exposure to those clients and customers.

Climate Risk Oversight and ECB Climate Stress Testing

The Firm is developing an approach to identify and assess the financial risks from climate change, which can also be leveraged at Legal Entity level. To that end, the Firm has established a central Firmwide Risk Executive function for Climate Risk, responsible for developing a unified Climate Risk Framework that can be leveraged by the legal entity. J.P. Morgan SE is currently undertaking the risk identification alongside the Firmwide team and will look at operationalizing the result in the risk reporting and decision making, and enhancing of risk management strategy, risk appetite and risk management frameworks.

J.P. Morgan SE's climate risk reporting includes the exposure for both credit and market risk to quantify the susceptibility to

transition and physical risks. Identification of carbon-intensive sectors and high vulnerability sectors leverages a standard Firmwide industry classification.

As a significant institution, J.P. Morgan SE participates in the ECB Climate Stress Testing 2022. According to the European Central bank, "the Climate Stress Test is a learning exercise for banks and supervisors alike. It aims to identify vulnerabilities, best practices and challenges banks face when managing climate-related risk".[1]

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 2021:

€M	2021	2020	2019
RWA Overall	**89,845**	**41,492**	**17,923**
Total Capital	24,965	13,668	5,165
Tier 1 Capital ratio	17.2 %	30.5 %	27.8 %
Total Capital ratio	27.8 %	32.9 %	28.8 %
Leverage Ratio	7.5 %	10.1 %	7.3 %
Liquidity Coverage Ratio	341 %	147 %	222 %
Risk capital demand Economic Perspective	5,997	3,757	1,382
Risk capital Economic Perspective	16,973	12,917	5,038

Internal Control System

GENERAL REMARKS

Please refer to the explanations provided in the risk report for a presentation of the risks and the measures for limiting 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 internal control system consists of two areas, 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 and external, independent elements. Among other factors, the integrated measures include a monthly control process covering all Bank's activities, during which the balance sheet as at that date and the income statement are examined to

[1] https://www.bankingsupervision.europa.eu/press/pr/date/2022/html/ssm.pr220127~bd20df4d3a.en.html

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 process-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.

IT USE

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

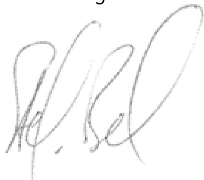
KEY REGULATIONS AND CONTROL ACTIVITIES TO ENSURE DUE, ORDERLY AND RELIABLE ACCOUNTING

The rules and measures of the internal control system 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 J.P. Morgan 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 Group's "Accounting Policies" department. Here, too, stipulations are made with regard to the 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 respectively in the IFRS separate financial statements.

Frankfurt am Main, April 29, 2022

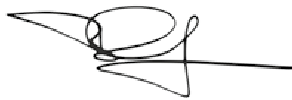
J.P. Morgan SE
Frankfurt am Main
The Management Board



STEFAN BEHR

NICHOLAS CONRON

GUNNAR REGIER



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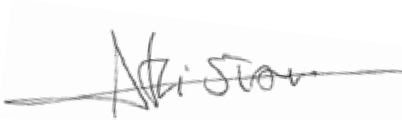

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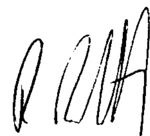

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Stand-alone Financial Statements of J.P. Morgan SE (former J.P. Morgan AG) in Accordance with the International Financial Reporting Standards for the Year ended December 31, 2021

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

€T	Note	2021	2020
Income statement			
Interest income calculated using the effective interest method	6	476,022	276,296
Other interest income	6	1,644,138	71,857
Interest expense	6	2,162,010	348,058
Net interest income (+)/expense (–)		**−41,850**	**95**
Fee and commission income	7	2,515,204	773,839
Fee and commission expense	7	572,912	66,711
Net fee and commission income		**1,942,292**	**707,128**
Net income from financial assets and liabilities measured at fair value through profit and loss	8	442,508	33,201
Other revenue		1,070	404
Total operating income		**2,344,020**	**740,828**
Loan loss provision	35	−40,863	176,556
Administrative expenses	9	1,206,024	379,982
Depreciation and amortization	18	10,817	8,007
Total operating expenses		**1,175,978**	**564,545**
Profit or loss before tax		**1,168,042**	**176,283**
Income tax expense	10	393,999	36,359
Profit for the year		**774,043**	**139,924**
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Remeasurement gains (+)/losses (–) on defined benefit plans		6,673	20,113
Net credit risk-related gains (+)/losses (–) on financial liabilities designated at FVTPL		0	−1,145
Related tax	10	−2,143	−6,063
Items that are or may be reclassified subsequently to profit or loss			
Change in fair value of financial assets (FVTOCI)			
Unrealized gains (+)/losses (–) recognized in the reporting period		6,778	25,850
Realized gains (–)/losses (+) reclassified to profit or loss in the reporting period		−11,818	57,985
Related tax	10	1,609	−26,769
Total other comprehensive income		**1,099**	**69,971**
Total comprehensive income for the year		**775,142**	**209,895**

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

J.P. MORGAN SE BALANCE SHEET

€T	Note	December 31, 2021	December 31, 2020
Assets			
Cash and central bank balances	12	38,234,989	81,131,159
Loans and advances to banks	13	8,473,322	2,492,473
Loans and advances to customers	14	4,533,917	2,554,058
Securities purchased under agreements to resell or borrowed	15	44,770,067	15,943,986
Investment securities	16	–	54,911
Trading assets	17	145,303,607	111,243,513
Property and equipment	18	165,748	159,066
Deferred tax assets	10	51,685	29,194
Current tax asset		47,788	39,799
Other assets[1]	19	39,834,131	30,517,538
Total assets[1]		**281,415,254**	**244,165,697**
Liabilities			
Deposits from banks	22	48,552,533	82,982,716
Deposits from customers	23	18,480,965	13,862,725
Securities sold under repurchase agreements or loaned	15	24,632,228	6,841,193
Trading liabilities	17	144,453,679	115,254,075
Financial liabilities designated at fair value through profit or loss	25	1,229,928	21,715
Provisions	24	77,971	82,649
Current tax liabilities		40,709	33,767
Other liabilities[1]	26	17,449,663	11,048,777
Subordinated liabilities	27	9,540,000	1,025,790
Total liabilities[1]		**264,457,676**	**231,153,407**
Equity			
Subscribed capital	28	1,867,200	1,867,200
Capital reserves	28	13,918,734	10,748,588
Retained earnings	28	1,088,517	314,474
Other reserves	28	83,127	82,028
Total equity		**16,957,578**	**13,012,290**
Total liabilities and equity[1]		**281,415,254**	**244,165,697**

Rounding differences may occur in the tables (€, %, etc.).
[1] Adjustment of prior-year figures (see note 5.19.)

J.P. MORGAN SE
STATEMENT OF CHANGES IN EQUITY

€T	Note	Subscribed capital	Total Capital Reserves	Total Retained Earnings	OCI	Total
Balance as of January 1, 2020		**1,867,200**	**3,090,157**	**173,770**	**12,057**	**5,143,184**
Profit for the year				139,924		139,924
Other comprehensive income for the year						
Actuarial gain on pension schemes					13,684	13,684
FV-changes of loans FVOCI					57,067	57,067
DVA on long-term debt under the fair value option					−780	−780
Total comprehensive income for the year		**–**	**–**	**139,924**	**69,971**	**209,895**
Capital injections	28		7,725,155			7,725,155
Transfer of businesses and employees from JPMC-entities			−66,725			−66,725
Reclass of Debt FVO OCI				780		780
Other changes			1			1
Balance as of December 31, 2020		**1,867,200**	**10,748,588**	**314,474**	**82,028**	**13,012,290**
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
DVA on long-term debt under the fair value option					–	–
Total comprehensive income for the year		**–**	**–**	**774,043**	**1,099**	**775,142**
Capital injections	28		3,197,809			3,197,809
Transfer of businesses and employees from JPMC-entities			−27,663			−27,663
Reclass of Debt FVO OCI				–		–
Other changes			–			–
Balance as of December 31, 2021		**1,867,200**	**13,918,734**	**1,088,517**	**83,127**	**16,957,578**

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

J.P. MORGAN SE CASH FLOW STATEMENT

€T	Note	2021	2020
Profit before tax		**1,168,042**	**176,283**
Non-cash movements	29	240,000	347,645
Changes in operating assets[1]	29	−80,071,706	−123,223,369
Changes in operating liabilities[1]	29	24,497,766	170,854,555
Cash flows from operating activities		**−54,165,898**	**48,155,114**
Income taxes paid	10	−387,058	−72,523
Net cash generated from operating activities		**−54,552,956**	**48,082,591**
Cash flow from investing activities			
Disposals and purchases of tangible fixed assets	18	−17,493	−128,322
Other investing activities	29	–	–
Net cash used in investing activities		**−17,493**	**−128,322**
Cash flow from financing activities			
Increase of share capital (Contributions to capital reserves)	28	3,170,146	7,658,431
Change in amounts owed to JPMorgan Chase undertakings	28	−7,292	−73,861
Change in subordinated liabilities with JPMorgan Chase undertakings	27	8,514,210	840,000
Lease liabilities	32	−2,785	−2,862
Net cash generated from financing activities		**11,674,279**	**8,421,708**
Net increase (+)/decrease (–) in cash and cash equivalents		**−42,896,170**	**56,375,977**
Cash and cash equivalents at the beginning of the year	12	81,131,159	24,755,182
Cash and cash equivalents at the end of the year		**38,234,989**	**81,131,159**
Cash and balances at central banks	12	38,234,989	81,131,159
Cash and cash equivalents		**38,234,989**	**81,131,159**

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

[1] Prior period amounts adjusted (refer to note 5.19.)

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1. General information

J.P. Morgan SE (hereafter – the "Bank" or the "Company"), with registered offices 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 (formerly HRB 16861 for J.P. Morgan AG), which is active in the European Economic Area (EEA) in the main business segments of Banking (consisting of Global Investment Banking, Payments and Lending), Markets, Securities Services and Commercial Bank. The business year 2021 was shaped by the implementation of the Brexit strategy in particular in the "Banking" and "Markets" Segments of J.P. Morgan SE, which were successfully completed in the financial year 2021. The J.P. Morgan SE is an intermediate 100 % subsidiary of JPMorgan Chase & Co. with registered office in Columbus, Ohio, 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 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 in the United States of America.

2. Basis of preparation

The stand-alone financial statements for the year ended December 31, 2021 have been prepared in accordance with the International Financial Reporting Standards ("IFRS") as applicable in the EU by the Bank.

The Standards have been applied in preparing the financial statements for the year ended December 31, 2021, the comparative information presented in these financial statements for the year ended December 31, 2020.

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 § 340l 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 (FVTPL) 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.

3. Accounting and reporting developments

STANDARDS AND CHANGES TO STANDARDS ADOPTED DURING THE YEAR ENDED DECEMBER 31, 2021

On January 1, 2021, the Bank adopted amendments to IFRS 9, "Financial Instruments", IAS 39, "Financial Instruments: Recognition and Measurement", IFRS 7, "Financial Instruments: Disclosures", IFRS 4, "Insurance Contracts" and IFRS 16, "Leases" as Phase 2 of the IASB's project addressing the potential effects from the reform of the Interbank Offered Rate ("IBOR") on financial reporting.

For the year ended December 31, 2021, the Bank has applied the practical expedients offered under the amendments. For this purpose, the portfolios were analyzed with regard to IBOR relevance, whereby no material effects on the Bank's annual financial statements were found. Although the bank has a significant IBOR exposure, consisting in particular of financial instruments, the transition to the amended IFRS standards had no material impact on the bank's financial statements.

FUTURE STANDARDS AND CHANGES TO STANDARDS NOT YET IMPLEMENTED DURING THE YEAR ENDED DECEMBER 31, 2021

The forthcoming IFRS amendments have been issued however not yet effective or adopted as of December 31, 2021. The future application of these standards is not expected to result in any material effects.

Future Standards / Amendments	Application in periods beginning on or after	Effective date	EU adoption Regulation as of	Published on
Amendments to IAS 37 – Onerous Contracts – Cost of Fulfilling a Contract	1/1/2022	1/1/2022	28/06/2021	2/7/2022
Amendments to IAS 16 – Property, Plant and Equipment: Proceeds before Intended Use	1/1/2022	1/1/2021	13/1/2021	14/1/2021
Annual Improvements to IFRS 2018–2020	1/1/2022	1/1/2022	28/06/2021	2/7/2022
Reference to Conceptual Framework (Amendments to IFRS 3)	1/1/2022	1/1/2022	28/06/2021	2/7/2022
Classification of Liabilities as Current or Non-current (Amendments to IAS 1)	1/1/2023	open	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
Disclosure of Accounting Policies – Amendments to IAS 1 and IFRS Practice Statement 2	1/1/2023	open	open	open
Definition of Accounting Estimates – Amendments to IAS 8	1/1/2023	open	open	open
Deferred Tax related to Assets and Liabilities arising from a Single Transaction – Amendments to IAS 12	1/1/2023	open	open	open

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 Company 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 Company'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 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., Columbus/Ohio, 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. 1 No. 3 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 and used as the presentation currency of the Company.

5.4. FINANCIAL INSTRUMENTS

5.4.1. Financial assets and financial liabilities

1. 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 financial assets 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 global clearing business which are related to the clearing of trades 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 (FVTPL). Derivatives are generally measured at fair value through profit or loss. The same applies for equity instruments, unless equity instruments which are not held for trading are optionally measured at FVOCI. The classification of debt instruments 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.

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 JPMorgan 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 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, 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.

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 fair value through profit or loss ("FVTPL"), 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 FVTPL 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 FVTPL 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 Corporate and Investment Banking portfolios are managed on a fair value basis, these financial assets are therefore measured at FVTPL.

Financial instruments measured at FVTPL 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.

The Company manages debt and equity securities as well as derivatives being part of a hedging relationship on a unified basis. 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 profits.

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 FVTPL are recognized immediately in profit or loss.

Changes in the fair value of financial liabilities designated as measured at FVTPL 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 one debt security to be measured at FVTPL to significantly reduce measurement or recognition inconsistency (i.e. an accounting mismatch), as this financial asset is managed together with a derivative, which is measured at FVTPL.

The Company has designated certificates of indebtedness (Schuldscheindarlehen) to be measured at FVTPL to significantly reduce measurement and recognition inconsistency (i.e. an accounting mismatch), as these financial liabilities are managed together with either B2B reverse repos or derivatives, which are measured at FVTPL.

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 FVTPL. 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 Company 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.

5.4.4. Impairment of financial assets and lending-related commitments

Instruments in scope of Traditional Credit Products (TCP) include loans, lending-related commitments, and other lending products stemming from extensions of credit to borrowers. The Company 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 a two-year period with a forecast based on reasonable and supportable forward-looking information, a one-year 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.

Determining the appropriateness of the ECL allowance is complex and requires judgment by the management board about the effect 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. 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 asset.

For 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 required by interest rate benchmark reform by adjusting their effective interest rate. No immediate gain or loss is recognized. Refer to note 3 and note 37 for more details.

5.4.6. 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.

5.4.7. 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.

5.5. FEE AND COMMISSION INCOME AND EXPENSE

The Company earns fees and commissions from providing investment banking, lending and deposit-related services, brokerage 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.

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 Company 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 operating 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 measured at FVTPL. 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. 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.

5.17. PENSIONS AND OTHER POST-RETIREMENT BENEFITS

The Company 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 excess of the present value of obligations is capitalized taking into account the so-called asset ceiling. Any shortfall in plan liabilities is netted as a liability. 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.

5.18. 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.

5.19. ADJUSTMENT OF PRIOR-YEAR FIGURES

In the reporting period, the Bank has adjusted the treatment of receivables and payables arising out of transactions that failed to settle, where all receivables and payables with the counterparty are designated in the same currency. As a result, the IFRS balance sheet presents fails receivables and payables net by counterparty and currency, on the basis that the criteria for offsetting under IAS 32 are met. The relevant items were also adjusted retrospectively to ensure proper presentation of the results. The retrospective application, of the above adjustment as of December 31, 2020 decreased the Other assets and Other liabilities by € 452,454 thousand.

Furthermore, in the reporting period, the Bank has additionally reported off balance sheet commitments where 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 Bank to pay a pro-rata share of the losses incurred by the organization as a result of the default of another member. For some CCPs, the Bank 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, 2021, the commitment amounted to € 1.9 billion (31/12/2020: € 1.2 billion). These commitments were reported for the first time for the financial year 2021. 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.

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 – 31/12/2021	1/1 – 31/12/2020
Interest and similar income		
Loans and advances to banks	8,088	15,753
Loans and advances to customers	48,341	56,537
Securities purchased under agreements to resell	0	660
Positive interest from financial liabilities	407,446	189,102
Other	12,146	14,244
Total interest income calculated using the effective interest method	**476,022**	**276,296**
Loans and advances to banks	5,267	487
Loans and advances to customers	12,721	4,346
Securities purchased under agreements to resell	487,031	19,357
Trading assets	272,989	22,091
Investment securities	469	1,198
Securities borrowed	63,964	0
Positive interest from financial liabilities	801,699	24,378
Total interest and similar income	**2,120,160**	**348,153**
Interest expense and similar charges		
Deposits from banks	366	60,093
Deposits from customers	1,396	1,259
Securities sold under repurchase agreements or loaned	481,279	10,169
Securities loaned	23,035	194
Trading liabilities	297,385	19,088
Subordinated liabilities & LTD	16,616	2,533
Negative interest on financial assets	1,338,285	250,531
Other interest expense	3,649	4,191
Total interest expense and similar charges	**2,162,010**	**348,058**
Net interest income/(expense)	**−41,850**	**95**

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 – 31/12/2021	1/1 – 31/12/2020
Interest income from Financial assets measured at amortized cost	446,634	225,036
Interest income from Financial assets measured at FVOCI	29,387	51,260
Interest expense from Financial liabilities measured at amortized cost	−53,640	−283,562

Total interest income has increased by € 1,772,007 thousand over the comparison period. This increase is primarily caused by an increase in positive interest from financial liabilities by € 995,665 thousand and an increase in securities purchased under repurchase agreements or loaned by € 467,674 thousand.

Of the total positive interest from financial liabilities in the amount of € 823,725 thousand, € 481,279 thousand is related to liabilities from repo transactions, € 297,385 thousand is related to trading liabilities and € 23,035 thousand is related to securities loaned.

Total interest expense has increased by € 1,813,952 thousand over the comparison period. This increase is primarily caused by an increase in negative interest on financial assets by € 1,087,754 thousand and an increase in securities sold under repurchase agreements or loaned by € 471,110 thousand.

Of the total negative interest on financial assets in the amount of € 911,015 thousand, € 487,031 thousand is related to reverse repo transactions, € 272,989 thousand is related to trading assets and € 63,964 thousand is related to securities borrowed.

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 – 31/12/2021	1/1 – 31/12/2020
Investment banking fee	789,782	9,143
Lending- and deposit-related	86,483	59,024
Commissions & other fees	1,638,939	705,672
Total fee and commission income	**2,515,204**	**773,839**
Fee and commission expense	**572,912**	**66,711**
Net fee and commission income	**1,942,292**	**707,128**

Net fee and commission income increased by 275 % in comparison to the previous year. The expanded business and increasing commission income from the markets business contributed to this increase. The total of € 1,638,939 thousand Commission & other fees includes commission fees in the markets business in the amount of € 1,031,788 thousand and banking business in the amount of € 422,924 thousand. The increase in commission expense is primarily related to Investment Banking transactions and the related offsetting of recognized commissions to other group entities.

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

This item contains the net gain or loss from financial instruments in the held-for-trading category, the net gain or loss from financial instruments in the mandatorily fair value P&L category, and the net gain or loss from financial instruments in the fair value option category.

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

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

€T	1/1 – 31/12/2021	1/1 – 31/12/2020
Profit or loss from financial instruments – held for trading	784,210	32,963
Profit or loss from financial instruments – mandatorily Fair Value P&L	11,477	2,573
Profit or loss from financial assets – Fair Value option	–105	–393
Profit or loss from financial liabilities – Fair Value option	–353,074	–1,942
Total	**442,508**	**33,201**

The increase in profit from financial instruments – held for trading is essentially due to risk migrations business.

The increase in loss from financial liabilities – Fair Value Option relates mainly to increase in Long Term debt positions in Global Equity business.

9. Administrative & other expenses

€T	1/1 – 31/12/2021	1/1 – 31/12/2020
Administrative expenses		
Wages and salaries	368,466	145,164
Social security costs	85,166	24,636
Other pension and benefits costs	26,506	8,339
Share-based awards	134,926	38,520
Other administrative cost	590,959	163,323
Total administrative expenses	**1,206,024**	**379,982**

The increase in administrative expenses is essentially due to an increase of resources and related wages and salaries, transfer of employees to J.P. Morgan SE's branches and cost incurred related to the Brexit strategy and the Merger. The increase of other administrative cost mainly results from increased intercompany recharge (+ € 284.2 million) due to the expansion of business activities in particular in Segments of Markets and Banking and the usage of the respective infrastructure and increased consulting fees (+ € 22.5 million).

The share-based awards are further described in note 21.

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.

Income tax refund claims are only recognized as tax claims to the extent that there is a legal right to offset against current tax liabilities of the period or previous periods and a net settlement is intended. Current tax is valued at the tax rate valid on the balance sheet date.

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 – 31/12/2021	1/1 – 31/12/2020
Current tax expense for the year	**416,961**	**52,367**
Current year	413,710	54,163
Adjustments in respect of previous years	3,251	−1,796
Deferred tax credit for the year	**−22,962**	**−16,008**
Origination and reversal of temporary differences	−22,492	−16,008
Effect of changes in tax law and/or tax rate	−545	0
Recognition of previously unrecognized tax losses	0	0
Other	75	0
Total income tax expense	**393,999**	**36,359**

As at December 31, 2021 the tax rate for Germany was 31.9 % (in 2020: 31.9 %). For the foreign branches the applicable statutory tax rates were applied, mainly ranging from 21 % to 30 %.

10.2. AMOUNTS RECOGNIZED IN OCI

The table below shows current and deferred taxes:

€T			2021			2020
	Before tax	Tax	Net of tax	Before tax	Tax	Net of tax
Items that will not be reclassified to income statement	**6,673**	**−2,143**	**4,530**	**18,968**	**−6,063**	**12,905**
Remeasurement gains (+)/losses (–) on defined benefit plans	6,673	−2,143	4,530	20,113	−6,429	13,684
Net credit risk-related gains (+)/losses (–) on financial liabilities designated at FVTPL, before tax	0	0	0	−1,145	366	−779
Items that are or may be reclassified subsequently to income statement						
Change in fair value of financial assets at FVTOCI	−5,040	1,609	−3,431	83,836	−26,769	57,067
Unrealized gains (+)/losses (–) recognized in the reporting period, before tax	6,778	−2,164	4,614	25,850	−8,254	17,596
Realized gains (–)/losses (+) reclassified to profit or loss in the reporting period, before tax	−11,818	3,773	−8,045	57,986	−18,515	39,471
Total	**1,633**	**−534**	**1,099**	**102,804**	**−32,832**	**69,972**

10.3. RECONCILIATION OF EFFECTIVE TAX RATE

€T	2021	2020
Profit before tax	**1,168,042**	**176,283**
Tax using tax rate of 31.9 %	372,956	56,287
Effect of non-tax-deductible expenses	51,676	3,476
Recognition of taxes from prior periods	−2,843	−1,796
Effect of tax rates in foreign branches	−32,652	−19,069
Other	4,862	−2,539
Total income tax expense	**393,999**	**36,359**

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:

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		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**

2020					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	3,847	−3,847	0	14,337	14,337	14,337	0
Lease liabilities	−7,069	7,918	0	0	849	7,079	−6,230
Financial assets valued at FVOCI	−3,372	8,012	−26,769	0	−22,129	0	−22,129
Special and mutual funds related to pension assets	8,265	1,232	0	0	9,497	21,751	−12,254
Trading assets/liabilities	−152	−19,513	0	0	−19,665	20,462	−40,127
Allowance for expected credit losses	10,319	15,919	0	0	26,238	26,238	0
Defined benefit plans	−848	−5,293	−6,429	0	−12,570	32,086	−44,656
Other	20,691	11,579	366	0	32,636	34,662	−2,025
Total assets (+)/liabilities (–), before set off	**31,681**	**16,008**	**−32,832**	**14,337**	**29,194**	**156,614**	**−127,420**
Set off of tax						−127,420	127,420
Net tax assets (+)/liabilities (–)						**29,194**	**0**

Numbers for 2020 have been adjusted with respect to the gross/net presentation of deferred taxes. This didn't have any effect on the net balance of deferred taxes.

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, 2021 €T	Note	Mandatorily at FVTPL	Designated as at FVTPL	FVOCI	Amortized cost	Total carrying amount
Cash and central bank balances	12				38,234,989	38,234,989
Loans and advances to banks	13	29,468		42,902	8,400,952	8,473,322
Loans and advances to customers	14	1,079,494		1,685,381	1,769,042	4,533,917
Securities purchased under agreements to resell or borrowed	15	43,388,551			1,381,516	44,770,067
Investment securities	16					0
Trading assets	17	145,303,607				145,303,607
Other assets excluding the net defined benefit plan assets and assets related to early retirement	19				39,720,271	39,720,271
Total financial assets		**189,801,120**	**0**	**1,728,283**	**89,506,770**	**281,036,173**
Deposits from banks	22		0		48,552,533	48,552,533
Deposits from customers	23		0		18,480,965	18,480,965
Securities sold under repurchase agreements or loaned	15		24,632,228			24,632,228
Trading liabilities	17	144,453,679				144,453,679
Financial liabilities designated at fair value through profit or loss	25		1,229,928			1,229,928
Other liabilities excluding deferred income	26				17,438,371	17,438,371
Subordinated liabilities	27				9,540,000	9,540,000
Total financial liabilities		**144,453,679**	**25,862,156**	**0**	**94,011,869**	**264,327,704**

December 31, 2020 €T	Note	Mandatorily at FVTPL	Designated as at FVTPL	FVOCI	Amortized cost	Total carrying amount
Cash and central bank balances	12		0	0	81,131,159	81,131,159
Loans and advances to banks	13	9,841	0	6,898	2,475,735	2,492,473
Loans and advances to customers	14	21,043	0	1,950,564	582,451	2,554,058
Securities purchased under agreements to resell or borrowed	15	14,803,520	0	0	1,140,466	15,943,986
Investment securities	16		54,911	0	0	54,911
Trading assets	17	111,243,513	0	0	0	111,243,513
Other assets excluding the net defined benefit plan assets and assets related to early retirement	19	0	0	0	30,417,945	30,417,945
Total financial assets		**126,077,917**	**54,911**	**1,957,462**	**115,747,756**	**243,838,045**
Deposits from banks	22		50,739	0	82,931,977	82,982,716
Deposits from customers	23		13,003	0	13,849,722	13,862,725
Securities sold under repurchase agreements or loaned	15		6,841,193	0	0	6,841,193
Trading liabilities	17	115,254,075	0	0	0	115,254,075
Financial liabilities designated at fair value through profit or loss	25		21,715	0	0	21,715
Other liabilities excluding deferred income	26		0	0	11,044,769	11,044,769
Subordinated liabilities	27		0	0	1,025,790	1,025,790
Total financial liabilities		**115,254,075**	**6,926,650**	**0**	**108,852,258**	**231,032,983**

12. Cash and central bank balances

See accounting policy in note 5.14.

€T	31/12/2021	31/12/2020
Central bank balances	38,234,989	81,131,159

The decrease compared to the previous year results from reduced liquidity requirements of the lines of business as well as a reduction of activities in Treasury.

13. Loans and advances to banks

See accounting policy in note 5.4. and note 35.

€T	31/12/2021	31/12/2020
Loans and advances to banks at FVOCI	42,902	6,898
Loans and advances to banks at amortized cost	8,400,974	2,475,744
Less impairment loss allowance	−22	−9
Loans and advances to banks at FVTPL	29,468	9,841
Total loans and advances to banks	**8,473,322**	**2,492,473**

The size of the loan portfolio increased by € 5,980,849 thousand to € 8,473,322 thousand mainly due to intercompany interest bearing balances due from other commercial banks and depository.

14. Loans and advances to customers

The Bank's loan portfolio is within the lending segment. Wholesale loans include loans made to a variety of customers, such as large corporates and institutional clients.

€T	31/12/2021	31/12/2020
Loans and advances to customers at FVOCI	1,685,381	1,950,564
Loans and advances to customers at amortized cost	1,777,364	595,568
Less impairment loss allowance	−8,322	−13,117
Loans and advances to customers at FVTPL	1,079,494	21,043
Total loans and advances to customers	**4,533,917**	**2,554,058**

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	31/12/2021	31/12/2020
Securities purchased under agreements to resell	43,900,617	15,392,737
Securities borrowed	869,450	551,249
Securities purchased under agreements to resell or borrowed	**44,770,067**	**15,943,986**
Securities sold under agreements to repurchase	24,062,738	6,673,240
Securities loaned	569,490	167,953
Securities sold under repurchase agreements or loaned	**24,632,228**	**6,841,193**

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 Company'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 Company 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 Company'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.

16. Investment securities

INVESTMENT SECURITIES DESIGNATED AS AT FVTPL

€T	31/12/2021	31/12/2020
Government bonds	0	54,911

During the second quarter of 2021, J.P. Morgan SE sold the one remaining government bond in the amount of € 54,911 thousand.

The Group has recognized the following changes in fair value of investment securities designated as at FVTPL:

€T	31/12/2021	31/12/2020
Government bonds: Change in fair value attributable to credit risk	0	−387

17. Trading assets and liabilities

SUMMARY

	Trading assets		Trading liabilities	
€T	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Non-derivatives	22,322,253	13,630,227	14,207,522	18,566,283
Derivatives	122,981,354	97,613,286	130,246,157	96,687,792
Total	**145,303,607**	**111,243,513**	**144,453,679**	**115,254,075**

TRADING ASSETS

€T	31/12/2021	31/12/2020
Equity instruments	3,566,688	42,651
Debt instruments	17,687,733	13,576,656
Derivatives	122,981,354	97,613,286
Others	1,067,832	10,920
Total trading assets	**145,303,607**	**111,243,513**

TRADING LIABILITIES

€T	31/12/2021	31/12/2020
Equity instruments	425,402	208,328
Debt instruments	13,782,087	18,357,647
Derivatives	130,246,157	96,687,792
Others	33	308
Total trading liabilities	**144,453,679**	**115,254,075**

The increase in trading assets (€ 34,060,094 thousand) and trading liabilities (€ 29,199,604 thousand) is mainly driven by the migration of positions to J.P. Morgan SE throughout the year (primarily in Global Rates, Global Credit Trading and Global Equities).

The following table breaks down the notional amount and the fair value of the derivative financial instruments according to type and scope.

			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**

			2020
€T	Notional amount	Positive market values	Negative market values
Interest rate	2,065,145,017	75,694,656	74,775,543
Equity	407,618,022	5,477,179	5,413,357
Foreign exchange	1,398,268,002	11,444,864	11,433,813
Credit	182,221,646	3,988,577	4,057,336
Commodity	20,060,110	1,008,009	1,007,744
Total derivatives	**4,073,312,797**	**97,613,286**	**96,687,792**

18. Property and equipment

Property and equipment, including leasehold improvements, are carried at their cost less accumulated depreciation and amortization.

The Bank calculates the depreciation using the straight-line method over the estimated useful life of an asset.

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. Right-of-use assets are amortized using the straight-line-method over the earliest of the two periods of the end of the useful life of the ROU asset or the lease term.

For IT equipment and furniture, the useful life is directed by the official depreciation tables of the financial administration. Low-value assets with acquisition costs of € 800 or less (without value-added tax) are fully depreciated in the year of acquisition.

In 2020, land and building was acquired in Paris which serves the business operations of the branch located in Paris. The purchase price was € 121,717 thousand. The building is being depreciated in a straight line basis for 27 years.

The table below provides the details of changes in property and equipment and ROU-assets of the Bank in 2021 and 2020:

	Right-of-use assets		IT equipment		Fixtures and furniture		Land and building		Total property and equipment	
€T	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Carrying amount at January 1	**19,511**	**22,142**	**772**	**1,036**	**17,983**	**15,579**	**120,800**	**0**	**159,066**	**38,758**
Acquisition cost at January 1	**28,999**	**28,184**	**3,004**	**3,746**	**30,010**	**25,387**	**121,717**	**0**	**183,730**	**57,317**
Additions	2,156	1,560	761	571	3,333	5,240	11,243	121,717	17,493	129,089
Disposals	−1,173	−751	−1,706	−7	−35	−1,924	0	0	−2,914	−2,682
Reclasses	0	6	64	−1,307	−2,746	1,307	2,682	0	0	6
Acquisition cost at December 31	**29,983**	**28,999**	**2,122**	**3,004**	**30,563**	**30,010**	**135,642**	**121,717**	**198,310**	**183,730**
Accumulated depreciation at January 1	**9,488**	**6,042**	**2,232**	**2,710**	**12,027**	**9,808**	**917**	**0**	**24,664**	**18,560**
Depreciation for the year	4,623	3,919	408	249	3,406	2,922	2,380	917	10,817	8,007
Disposals	−1,173	−473	−1,706	−7	−44	−1,423	0	0	−2,923	−1,903
Reclasses	5	0	64	−720	−64	720	0	0	5	0
Accumulated depreciation at December 31	**12,943**	**9,488**	**998**	**2,232**	**15,326**	**12,027**	**3,297**	**917**	**32,563**	**24,664**
Book value at December 31	**17,040**	**19,511**	**1,125**	**772**	**15,237**	**17,983**	**132,346**	**120,800**	**165,747**	**159,066**

19. Other assets

€T	2021	2020
Trade receivables[1]	13,552,089	7,377,304
Other receivables (Collateral)	26,003,424	22,966,997
Net defined benefit plan assets	110,204	95,935
Prepayments and accrued income	164,758	73,644
Assets – early retirement	3,658	3,658
Total other assets[1]	**39,834,131**	**30,517,538**

[1] Prior-year figure adjusted (see note 5.19.)

Trade receivables mainly consist of unsettled trades. The Company makes an adjustment to receivables and payables arising out of transactions that fail to settle, where all receivables and payables with the counterparty are designated in the same currency. On the basis that the criteria for offsetting under IAS 32 are met, then the IFRS balance sheet presents failed receivables and payables net by counterparty and currency.

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.

The total amount of non-current assets is € 113,862 thousand, which is related to net defined benefit plan assets and early retirement scheme assets.

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 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 payouts 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. Financing is based on the basic monthly salary. The payout is based on the investment returns. 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. The plans are funded through performance-based compensation.
- In addition to the aforementioned plans, there are defined benefit plans in the branches in Milan, Oslo and Paris. The volume of foreign pension plans is immaterial in an overall comparison.

The changes in the net assets/liabilities of all defined benefit plans are presented in the table below:

€T	2021	2020
Defined benefit plan obligations at the beginning of the year	**213,326**	**193,638**
Service cost	**3,336**	**1,953**
Current service cost	3,336	1,953
Past service cost	0	0
Gain (–)/Loss (+) on settlements	0	0
Interest expense	**1,443**	**1,950**
Cash flows	**−8,234**	**−10,350**
Benefit payments from plan assets[1]	−1,027	−1,097
Benefit payments from employer[2]	−7,207	−9,253
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	**1,605**	**14,034**
Increase due to plan combinations	1,605	14,034
Remeasurements	**1,051**	**12,101**
Effect of changes in demographic assumptions	0	0
Effect of changes in financial assumptions	−5,790	6,056
Effect of experience adjustments	6,841	6,045
Defined benefit plan obligations at the end of the year	**212,527**	**213,326**
Defined benefit plan assets at the beginning of the year	**303,111**	**256,645**
Interest income	**2,125**	**2,671**
Cash flows	**2,040**	**530**
Employer contributions[3]	10,274	10,880
Benefit payments from plan assets[1]	−1,027	−1,097
Benefit payments from employer[2]	−7,207	−9,253
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	**7,909**	**27,611**
Actual return on plan assets excluding amounts (excluding interest income)	7,909	27,611
Other significant events	**0**	**15,654**
Increase due to business transfers		15,654
Effect of changes in foreign exchange rates	**0**	**0**
Defined benefit plan assets at the end of the year	**315,185**	**303,111**
Net defined benefit assets at the end of the year	**110,203**	**95,935**
Net defined benefit liabilities at the end of the year	**7,545**	**6,150**

[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 three plans, all defined benefit plans were overfunded at the end of 2021. 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	2021	2020
Service cost		
Current service cost	3,336	1,953
Past service cost	0	0
Gain (–)/Loss (+) on settlements	0	0
Total service cost	**3,336**	**1,953**
Net interest cost		
Interest expense on deferred benefit plan obligations	1,443	1,950
Interest income on plan assets	−2,125	−2,671
Interest expense on asset ceiling effect	0	0
Total net interest cost	**−682**	**−721**

The table below provides the details of amounts recognized in other comprehensive income:

€T	2021	2020
Remeasurements		
Effect of changes in demographic assumptions	0	0
Effect of changes in financial assumptions	−5,790	6,056
Effect of experience adjustments	6,841	6,045
Return on plan assets excluding amount recognized in interest income	−7,909	−27,611
Total remeasurements	**−6,858**	**−15,510**

Plan assets include shares in investment funds (2021: € 301,730 thousand; 2020: € 289,117 thousand) and qualifying insurance policies (2021: € 13,455 thousand; 2020: € 13,994 thousand).

The Bank estimates the following effect of its defined benefit plans on its future cash flows:

€T	2021	2020
Expected total benefit payments	**104,432**	**100,960**
Year 1	9,153	9,084
Year 2	9,435	8,974
Year 3	10,327	9,301
Year 4	10,448	10,089
Year 5	10,962	10,395
Next 5 years	54,107	53,117

The weighted average duration of the defined benefit obligations was estimated as 10.03 years for 2020 and 9.19 years for 2021.

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 applicable to each plan
- Salary increase rate: the rate at which the salary of the participants of the defined benefit plans are 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 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 weighted-average assumptions:

%	31/12/2021	31/12/2020
Discount rate	1.00 %	0.70 %
Salary increase rate	3.00 %	3.00 %
Pensions-in-payment increase rate	1.75 %	1.75 %

In assessing the defined benefit cost, the Bank used the following weighted-average assumptions:

%	2021	2020
Discount rate	0.70 %	1.00 %
Salary increase rate	3.00 %	3.00 %
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	31/12/2021	31/12/2020
Discount rate: −25 basis points	213,119	216,027
Discount rate: +25 basis points	203,706	205,643
Salary increase rate: −50 basis points	123,492	131,872
Salary increase rate: +50 basis points	124,221	132,928
Pensions-in-payment increase rate: −25 basis points	123,386	132,001
Pensions-in-payment increase rate: +25 basis points	131,377	140,307
Post-retirement mortality assumption and life expectancy: +1 year	134,159	143,498

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 2021, 2020 and 2019, 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 usu-

ally 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 2020 and 2021.

	2021		2020	
	Number of units	Weighted average fair value, €	Number of units	Weighted average fair value, €
Outstanding at January 1	927,974	98.19	256,849	78.31
Granted	819,093	118.43	475,120	105.79
Vested	−750,396	100.21	−587,716	110.42
Canceled	−292,995	110.83	−8,686	91.31
Transferred	611,153	109.16	792,407	90.63
Outstanding at December 31	1,314,829	109.16	927,974	90.63

The Bank recognized the following non-cash compensation expense related to RSU plans in its statement of comprehensive income.

€T	2021	2020
RSU Expense	134,926	38,520

22. Deposits from banks

€T	2021	2020
Investment Banking and Corporate Banking	4,954,905	8,220,164
Commercial Banking	37,298	15,770
Corporate Treasury	35,396,733	53,386,290
Markets	8,101,788	21,323,368
Securities Services	61,809	37,124
Total deposits from banks	**48,552,533**	**82,982,716**

The change in deposits from banks compared to the previous year reflects the placings of Euro excess cash by treasury.

23. Deposits from customers

€T	2021	2020
Investment Banking and Corporate Banking	4,357,182	3,124,979
Commercial Banking	860,940	594,372
Markets	7,302,657	3,759,691
Securities Services	5,960,186	6,383,683
Total deposits from customers	**18,480,965**	**13,862,725**

24. Provisions

PROVISIONS

€T	2021	2020
Provisions for pensions and similar obligations	7,545	6,150
Provisions for undrawn contractually committed facilities	69,186	76,122
Other provisions	1,239	377
Total	**77,971**	**82,649**

Further details on provisions for undrawn contractually committed facilities are provided in note 35 to the financial statements.

PROVISIONS FOR PENSIONS AND SIMILAR OBLIGATIONS

We refer to note 20 for further information on pensions.

OTHER PROVISIONS

€T	2021	2020
Balance at January 1	**377**	**350**
Provisions made during the year	1,239	27
Provisions used during the year	350	0
Provisions reversed during the year	27	0
Unwind of discount	0	0
Balance at December 31	**1,239**	**377**
Non-current	0	0
Current	1,239	377

25. Financial liabilities designated at FVTPL

Debit valuation adjustments ("DVA") represent the adjustment, relative to the relevant benchmark interest rate, necessary to reflect the credit quality of the Company in the valuation of liabilities measured at fair value. The Company 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.

DVA on financial liabilities that the Company has designated as measured at FVTPL reflect changes (subsequent to the issuance of the liability) in the Company'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 DVA, carrying amount and contractual amounts due at maturity of the Company's financial liabilities designated as measured at FVTPL:

€T	Cumulative DVA	Carrying amount of financial liabilities designated at FVTPL	Contractual amount of financial liabilities due at maturity [1]
December 31, 2021			
DVA recognized in OCI	0	1,229,928	1,229,928
Total DVA on financial liabilities designated at FVTPL	**0**	**1,229,928**	**1,229,928**
December 31, 2020			
DVA recognized in OCI	−780	21,715	21,715
Total DVA on financial liabilities designated at FVTPL	**−780**	**21,715**	**21,715**

[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 securities sold under agreements to repurchase of € 24.1 billion (2020: € 6.7 billion) and securities loaned of € 0.6 billion (2020: € 0.2 billion) that the Company has designated as measured at FVTPL as the collateral arrangements fully cover the secured liabilities. As a result, there was no adjustment for the Company's own credit risk for these agreements.

There were no DVA gains/losses recognized in other comprehensive income on financial liabilities that were derecognized during the period (2020: Nil).

26. Other liabilities

€T	2021	2020
Lease liabilities	19,385	22,170
Trade payables [1]	14,427,806	10,286,952
Amounts owed to JPMorgan Chase undertakings	48,343	55,634
Accruals and deferred income	448,187	206,750
Others	2,505,942	477,271
Total [1]	**17,449,663**	**11,048,777**

[1] Prior-year figure adjusted (see note 5.19.)

Trade payables predominantly consist of unsettled trades, brokerage fees payables incurred in respect of assets transferred but not netted. The Bank makes an adjustment for liabilities arising from unsettled transactions when all liabilities to the counterparty are expressed in the same currency. If the netting criteria according to IAS 32 are met, failed liabilities are shown on a net basis by counterparty and currency on the IFRS balance sheet.

The increase in Others compared to the previous year is mainly due to variation margin recognized in global equities business (+ € 1.9 billion).

27. Subordinated liabilities

The following table provides an overview of the subordinated liabilities. The € 35,790,432 subordinated liability which was transferred to the Company in the course of the Merger with J.P. Morgan Beteiligungs- und Verwaltungsgesellschaft mbH was repaid on December 31, 2021 driven by the LIBOR transition.

Lender	Issued	Dated	Interest	2021 €T	2020 €T
J.P. Morgan International Finance Limited	February 2, 1998	unlimited term	6M Libor + 50 bps	0	35,790
J.P. Morgan International Finance Limited	December 21, 2009	December 21, 2039	3M Euribor	150,000	150,000
J.P. Morgan International Finance Limited	December 3, 2020	December 3, 2030	€STR + 83 bps	840,000	840,000
J.P. Morgan International Finance Limited	January 8, 2021	January 8, 2031	€STR + 80 bps	1,630,000	0
J.P. Morgan International Finance Limited	October 8, 2021	October 8, 2031	€STR + 97 bps	6,920,000	0
Total				**9,540,000**	**1,025,790**

28. Capital and capital reserves

28.1. SUBSCRIBED CAPITAL, CAPITAL RESERVES AND RETAINED EARNINGS

The subscribed capital of J.P. Morgan SE is divided into 160 million ordinary no par value registered shares. The shares can only be transferred with the Company’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.

The subscribed capital has not changed, since the last increase which occurred in September 2019 when it was increased from € 160,000 thousand by € 1,707,200 thousand to € 1,867,200 thousand by reclassification from capital reserves to subscribed capital, while no new shares have been issued. As a result of this change, the calculated nominal value per share has increased from € 1.00 to € 11.67.

The capital reserve amounted to € 10,748,588 thousand as of January 1, 2021 and since then it has been increased by € 3,197,809 thousand through a capital injection by J.P. Morgan International Finance Limited in June 2021.

The remaining changes of the capital reserve were related to the transfer of business activities and employees from other J.P. Morgan-Group entities. As a result, the capital reserve amounted to € 13,918,734 thousand as of December 31, 2021.

Retained earnings consist of net income of prior years as well as the current reporting year that was not distributed as dividends.

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 € 14,773.1 million as of December 31, 2021 (31/12/2020: € 10,811.7 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 Risk Oversight Committee and the J.P. Morgan SE Management Board.

28.4. CAPITAL REQUIREMENTS

The minimum regulatory capital requirements decreased overall between December 2020 and December 2021. J.P. Morgan SE became an Other Systemic Important institution in 2020 and was, for the first time, assigned an O-SII buffer of 0.25 % in January 2021. This led to the increase in the Combined Buffer Requirement in 2021 which was however offset by a decrease in the Pillar 2 requirement (SREP add-on) from 3.25 % in 2020 to 2.75 % as from December 2021. Throughout 2021, the entity enjoyed a comfortable capital surplus over the regulatory minimum requirements and internally set targets and risk appetite.

In addition to the above requirements, the ECB 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) of 2.00 % which must be met entirely with CET1 capital. Although not legally binding, the ECB expects JPMSE 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.

The overview below of the composition of J.P. Morgan SE´s capital shows the figures on both "with transitional provisions" (currently used) and "fully loaded".

Position	with transitional provisions		fully loaded[3]	
€M	31/12/2021	31/12/2020	31/12/2021	31/12/2020
Equity as shown in balance sheet	16,958	13,012	16,958	13,012
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	–	–	–	–
Surplus in plan assets	–107	–90	–107	–90
Deferred tax assets from loss carry forwards	–	–		
Shortfall due to expected loss	–2	–	–2	–
Prudential valuation	–635	–111	–635	–111
First loss positions from securitizations	–	–	–	–
Deferred tax assets from temporary differences which exceed the 10% threshold	–	–	–	–
Unrecognized gains	–	–	–	–
Others and rounding[1]	–789	–	–789	–
Common Equity Tier 1	15,425	12,811	15,425	12,811
Additional Equity Tier 1	–	–	–	–
Tier 1 capital	15,425	12,811	15,425	12,811
Tier 2 capital	9,540	1,026	9,540	1,026
Regulatory Capital	24,965	13,837	24,965	13,837
Risk-weighted assets	89,845	41,367	89,845	41,367
of which credit risk[2]	53,088	29,755	53,088	29,755
of which market risk	32,244	10,392	32,244	10,392
of which operational risk	4,513	1,220	4,513	1,220
Common Equity Tier 1 ratio (%)	17.17%	30.97%	17.17%	30.97%
Tier 1 ratio (%)	17.17%	30.97%	17.17%	30.97%
Total capital ratio (%)	27.79%	33.45%	27.79%	33.45%

[1] Others includes audited profit and OCI updates on account of financial statement as of December 2021 not considered in the regulatory capital submission for COREP Reporting Q4 2021.
[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 € 15.4 billion, compared to € 12.8 billion as at December 31, 2020. This increase of € 2.6 billion was mainly from capital injections (€ 3.2 billion) offset by increased capital deductions attributed to prudential valuations (€ 0.5 billion). The Common Equity Tier 1 ratio was at 17.17 % as of reporting date, compared to 30.97 % as at December 2020. The decrease in Common Equity Tier 1 ratio is attributed to increased risk weighted assets on account of trade migration as part of Firm's Brexit Strategies from UK affiliated entities during 2021. Total Regulatory capital was higher due to the above-mentioned increase in Tier 1 capital and to the issue of a Tier 2 capital instrument (nominal volume of € 8.5 billion) during 2021. The total capital ratio was 27.79 % as at the reporting date. The changes in regulatory capital ratios were supported by the increase in risk-weighted assets along with previously mentioned capital increase.

Risk-weighted assets were € 89.8 billion at the reporting date, € 48.5 billion above the previous year's level. The surge was across Credit Risk and Market Risk strips on account of trade migrations during the year along with increase in Operational Risk due to a change in approach as approved with the regulator i.e. to apply forecast relevant indicators rather than historical indicator values.

29. Notes to the cash flow statement

€T	2021	2020
Profit before income tax	**1,168,042**	**176,283**
Adjustments for:		
Non-cash movements (Loan loss provision)	−12,212	176,556
Depreciation of tangible fixed assets	10,817	8,007
Share-based payments	134,926	38,520
Interest received	355,422	183,269
Interest paid	−371,255	−132,998
Other non-cash movements	140,395	1,458
Operating cash flows before changes in operating assets and liabilities	**1,408,042**	**523,928**
Changes in operating assets		
Increase in loans and advances to banks	−5,980,862	−387,521
Increase in loans and advances to customers	−1,971,819	−834,717
Decrease / Increase in securities purchased under agreements to resell or borrowed	−28,826,081	−12,037,218
Change in investment securities	54,911	809
Increase / Decrease in trading assets	−34,023,311	−87,284,530
Increase / Decrease in current tax assets	−39,799	0
Increase/Decrease in debtors and other assets, excluding changes in prepayments and accrued income [2]	−9,225,479	−22,587,297
Decrease in prepayments and accrued income	−91,076	−53,096
Total	**−80,071,706**	**−123,223,369**
Changes in operating liabilities		
Increase in deposits from banks	−34,430,183	63,228,141
Increase / Decrease in deposits from customers	4,618,065	5,344,799
Increase in securities sold under repurchase agreements	17,389,498	5,117,980
Increase / Decrease in securities loaned	401,537	167,953
Increase in trade creditors [2]	6,207,472	5,224,240
Increase in trading liabilities	29,134,170	91,325,863
Increase in financial liabilities designated at FVTPL	21,715	0
Decrease / Increase in other liabilities [1]	−31,006	423,864
Total	**24,497,766**	**170,854,555**
Cash generated from (+) / used in (–) operating activities	**−54,165,898**	**48,155,114**

[1] 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.
[2] Prior period amounts adjusted (refer to note 5.19.)

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 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 correlation – Foreign exchange correlation – Interest rate – foreign exchange ("FX") correlation **Commodity derivatives specific inputs include:** – Commodity volatility – Forward commodity price	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

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, 2021 and 2020, by major product category and fair value hierarchy.

At 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 designated at fair value through profit or loss				
Debt and equity instruments	–	0	–	0
Financial assets held at FVOCI				
Loans	–	–	1,728,283	1,728,283
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**

December 31, 2020 €T	Level 1	Level 2	Level 3	Total
Securities financing agreements				
Securities purchased under agreements to resell	–	14,252,271	–	14,252,271
Securities borrowed	–	551,249	–	551,249
Financial assets at fair value through profit and loss				
Debt and equity instruments	3,570,638	9,837,463	157,689	13,565,790
Derivative receivables	19,027	95,901,034	1,693,225	97,613,286
Loans	–	75,321	20,000	95,321
Financial assets designated at fair value through profit or loss				
Debt and equity instruments	–	54,911	0	54,911
Financial assets held at FVOCI				
Loans	–	–	1,957,462	1,957,462
Total financial assets	**3,589,665**	**120,672,249**	**3,828,376**	**128,090,290**
Securities financing agreements				
Securities sold under agreements to repurchase	–	6,673,240	–	6,673,240
Securities loaned	–	167,953	–	167,953
Financial liabilities at fair value through profit and loss				
Debt and equity instruments	13,512,887	5,053,036	360	18,566,283
Derivative payables	19,628	94,873,713	1,794,452	96,687,793
Financial liabilities designated at fair value through profit or loss				
Debt and equity instruments	0	19,275	2,440	21,715
Long term debt – FVO				
Other financial liabilities	–	50,773	12,968	63,741
Total financial liabilities	**13,532,515**	**106,837,990**	**1,810,220**	**122,180,725**

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 confidence interval that resulted from the valuation of 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, 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	31.96 €– 31.96 €	31.96 €
Loans at fair value						30.00 €– 106.50 €	92.93 €
				Market comparables	Price	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 %
Derivatives	**2,515,221**	**−2,583,227**	**−68,006**				
Net interest rate derivatives				Option pricing	Constant pre-payment rate	0.00 %– 15.00 %	0.88 %
Net credit derivatives					Credit spread	6 bps–123 bps	41 bps
				Discounted cash flows	Recovery rate	20.00 %– 40.00 %	27.00 %
Net equity derivatives					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 %
				Option pricing	Equity forward	63.00 % – 105.00 %	98.00 %

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
					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	0	−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.

December 31, 2020

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	**2,135,151**	**−2,800**	**2,132,351**				
Corporate debt securities and other				Market comparables	Price	87.07 € – 95.73 €	94.05 €
Residential mortgage-backed securities and loans				Discounted cash flows	Yield	1.94 % – 14.91 %	2.81 %
					Prepayment speed	1.00 % – 12.00 %	6.95 %
					Conditional default rate	0.25 % – 1.00 %	0.43 %
					Loss severity	30.00 % – 70.00 %	58.85 %
ABS				Market comparables	Price	40.00 € – 41.12 €	41.12 €
Loans at fair value				Market comparables	Price	25.00 € – 75.00 €	67.85 €
Loans at FVOCI				Discounted cash flows	Grid CDS curve spreads	5 bps – 1,443 bps	202bps
					Utilization given default	9.00 % – 100.00 %	74.00 %
					CDS recovery rate	20.00 % – 75.00 %	40.00 %
					Loan recovery rate	20.00 % – 90.00 %	52.00 %
Derivatives	**1,693,225**	**−1,794,452**	**−101,227**				
Net interest rate derivatives				Option pricing	Interest rate volatility	48 bps – 48 bps	48 bps
					Interest rate correlation	0.10 % – 0.10 %	0.10 %
					Constant pre-payment rate	0.00 % – 25.00 %	2.86 %
Net credit derivatives				Discounted cash flows	Credit spread	33 bps – 55 bps	45 bps
					Recovery rate	35.00 % – 35.00 %	35.00 %
Net foreign exchange derivatives				Option pricing	Interest rate – FX correlation	−0.20 % – 0.20 %	−0.04 %

December 31, 2020							
Product/Instrument (continued)	Asset €T	Liability €T	Net fair value €T	Principal valuation technique	Unobservable input[1]	Range of input values	Weighted average
					Equity volatility	5.00 % – 119.00 %	25.00 %
					Equity correlation	17.00 % – 97.00 %	54.00 %
					Equity – FX correlation	−70.00 % – 59.00 %	−24.00 %
Net equity derivatives				Option pricing	Equity forward	61.00 % – 102.00 %	91.00 %
					Commodity Forward	113.40 €/LB – 181.75 €/LB	147.60 €/LB
					Commodity volatility	5.99 % – 36.08 %	21.03 %
Net commodity derivatives				Option pricing	Commodity correlation	0.00 % – 95.00 %	47.50 %
					Equity volatility	5.00 % – 119.00 %	25.00 %
					Equity correlation	17.00 % – 97.00 %	54.00 %
					Equity – FX correlation	−70.00 % – 59.00 %	−24.00 %
Other financial liabilities	–	−12,968	−12,968	Option pricing	Equity forward	61.00 % – 102.00 %	91.00 %
Total	**3,828,376**	**−1,810,220**	**2,018,156**				

[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.

FAIR VALUE FINANCIAL INSTRUMENTS VALUED USING TECHNIQUES THAT INCORPORATE SIGNIFICANT UNOBSERVABLE INPUTS

The potential impact as at December 31, 2021 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, 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
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.

Sensitivity analysis of valuations using unobservable inputs			Fair Value	Favorable change	Unfavorable change
At December 31, 2020 €T	Asset	Liability	Net	Statement of comprehensive income	
Corporate debt securities and other	157,689	−2,800	154,889	914	−914
Loans	20,000	0	20,000	288	−288
Total debt and equity instruments and loans	**177,689**	**−2,800**	**174,889**	**1,202**	**−1,202**
Derivatives[1]	1,693,225	−1,794,452	−101,227	32	−32
Other financial liabilities[1]	0	−12,968	−12,968	0	0
Loans at FVOCI	1,957,462	0	1,957,462	3,351	−3,351
Total	**3,828,376**	**−1,810,220**	**2,018,156**	**4,585**	**−4,585**

[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, 2021:

Financial assets €T	Loans at FVOCI	Debt and equity instruments and loans	Derivative receivables	Total financial assets
At January 1, 2021	**1,957,462**	**177,689**	**1,693,225**	**3,828,376**
Total gains/(losses) recognized in profit or loss	0	3,706	143,255	146,961
Total gains/(losses) recognized in other comprehensive income	0	0	0	0
Purchases	0	477,784	2,006,682	2,484,466
Sales	0	−160,575	−4,370	−164,945
Issuances	850,568	0	0	850,568
Settlements	−1,079,746	−17,943	−965,681	−2,063,370
Transfers into level 3	0	56,020	255,202	311,222
Transfers out of level 3	0	−171,032	−613,092	−784,125
At December 31, 2021	**1,728,283**	**365,649**	**2,515,221**	**4,609,153**
Change in unrealized gains related to financial instruments held at December 31, 2021	**0**	**−6,044**	**487,033**	**480,989**

Financial liabilities €T	Debt and equity instruments	Derivative payables	Financial liabilities designated at FVTPL	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**

Movement in assets and liabilities in level 3 during the year ended December 31, 2020:

Financial assets €T	Loans at FVOCI	Debt and equity instruments and loans	Derivative receivables	Total financial assets
At January 1, 2020	**1,425,403**	**76,256**	**561,472**	**2,063,131**
Total gains/(losses) recognized in profit or loss	0	−1,789	799,932	798,143
Total gains/(losses) recognized in other comprehensive income	0	0	0	0
Purchases	0	182,682	614,653	797,335
Sales	0	−3,195	−13,074	−16,269
Issuances	1,230,029	0	0	1,230,029
Settlements	−697,970	−74,258	−486,813	−1,259,041
Transfers into level 3	0	−144	461,231	461,087
Transfers out of level 3	0	−1,863	−244,176	−246,039
At December 31, 2020	**1,957,462**	**177,689**	**1,693,225**	**3,828,376**
Change in unrealized gains related to financial instruments held at December 31, 2020	**0**	**−6,610**	**756,278**	**749,668**

Financial liabilities €T	Debt and equity instruments	Derivative payables	Financial liabilities designated at FVTPL	Total financial liabilities
At January 1, 2020	**512**	**624,907**	**13,719**	**639,137**
Total (gains)/loss recognized in profit or loss	−203	815,891	−624	815,064
Total (gains)/loss recognized in other comprehensive income	0	0	0	0
Purchases	0	−12,869	0	−12,869
Sales	51	628,318	0	628,369
Issuances	0	0	2,314	2,314
Settlements	0	−464,673	0	−464,673
Transfers into level 3	0	453,165	0	453,165
Transfers out of level 3	0	−250,286	0	−250,286
At December 31, 2020	**360**	**1,794,452**	**15,408**	**1,810,220**
Change in unrealized losses related to financial instruments held at December 31, 2020	**−161**	**712,885**	**1,058**	**713,782**

TRANSFERS BETWEEN LEVELS FOR INSTRUMENTS CARRIED AT FAIR VALUE ON A RECURRING BASIS

For the years ended December 31, 2021 and December 31, 2020 there were no significant transfers between levels 1 and 2.

During the year ended December 31, 2021, transfers into and out of level 3 included the following:

- € 0.6 billion of assets and € 0.7 billion of liabilities transferred out of level 3 driven by an increase in observability of parameters for swaps and equity options
- € 0.3 billion of assets and € 0.2 billion of liabilities transferred into level 3 driven by decrease in observability of parameters for swaps and equity options
- € 0.1 billion of assets and € 0.1 billion of liabilities transferred out of level 3 driven by an increase in observability of parameters for quoted market prices
- € 0.1 billion of assets transferred into level 3 driven by decrease in observability of parameters for quoted market prices.

During the year ended December 31, 2020, transfers into and out of level 3 included the following:

- € 0.1 billion of assets and € 0.1 billion of liabilities transferred out of level 3 driven by an increase in observability of parameters for swaps
- € 0.2 billion of assets and € 0.2 billion of liabilities transferred out of level 3 driven by an increase in observability of parameters for equity options
- € 0.4 billion of assets and € 0.4 billion of liabilities transferred into level 3 driven by decrease in observability of parameters for equity options.

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	2021	2020
At January 1	127	11
New transactions	−7,774	421
Amounts recognized in the consolidated income statement during the year	−21,004	−304
At December 31	**−28,651**	**127**

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 and generally negligible credit risk. 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 € 89.5 billion (2020: € 115.8 billion) of current financial assets and € 94.0 billion (2020: € 108.9 billion) of current financial liabilities that are not measured at fair value, including loans and advances to customers of € 1.8 billion (2020: € 0.6 billion).

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, 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	**94,023,160**	**–**	**94,023,160**	**–**	**94,023,160**
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	9,540,000		9,540,000		9,540,000

At December 31, 2020					Estimated fair value hierarchy
€T	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value
Financial assets	**115,751,414**	**82,207,758**	**33,543,665**	**–**	**115,751,423**
Cash and central bank balances	81,131,159	81,131,159			81,131,159
Loans and advances to banks	2,475,735	1,076,599	1,399,145		2,475,744
Loans and advances to customers	582,451		582,451		582,451
Securities purchased under agreements to resell	1,140,466		1,140,466		1,140,466
Other assets[1]	30,421,603		30,421,603		30,421,603
Financial liabilities	**108,856,267**	**–**	**108,856,267**	**–**	**108,856,267**
Deposits from banks	82,982,716		82,982,716		82,982,716
Deposits from customers	13,798,984		13,798,984		13,798,984
Other liabilities[1]	11,048,777		11,048,777		11,048,777
Subordinated liabilities	1,025,790		1,025,790		1,025,790

[1] Figures adjusted (see note 5.19.)

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	31/12/2021	31/12/2020
Derivatives CVA	66,766	39,252
Derivatives FVA	37,367	15,693

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, 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	**378,953,156**	**−175,327,395**	**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	–	869,450	−552,071	−310,212	7,167
Financial assets at fair value through profit and loss[2]	241,267,279	−95,963,672	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	**354,746,901**	**−170,003,260**	**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	–	569,490	−401,507	−2,649	165,334
Financial liabilities at fair value through profit and loss[2]	236,323,145	−90,639,537	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 (2020: € 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 (2020: € 10,255 million).
[2] Included within the "amounts offset", there are the respective collateral payable and receivables with specific clearing counterparties.

At December 31, 2020	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	**164,399,116**	**−29,779,403**	**134,619,714**	**−75,873,495**	**−13,432,319**	**45,313,900**
Securities purchased under agreements to resell[1]	31,972,399	−16,579,662	15,392,737	−4,619,106	−7,568,373	3,205,258
Securities borrowing[1]	551,249	–	551,249	−162,715	−385,630	2,905
Financial assets at fair value through profit and loss[2]	124,045,710	−12,747,287	111,298,424	−71,091,674	−5,478,317	34,728,433
Trade receivables[3]	7,829,758	−452,454	7,377,304	0	0	7,377,304
Financial liabilities	**163,118,378**	**−30,714,443**	**132,403,935**	**−76,048,200**	**−21,138,650**	**35,217,085**
Securities sold under agreements to repurchase[1]	23,252,902	−16,579,662	6,673,240	−4,806,946	−231,440	1,634,854
Securities lending[1]	167,953	–	167,953	−149,580	−13,039	5,334
Financial liabilities at fair value through profit and loss[2]	128,958,117	−13,682,327	115,275,790	−71,091,674	−20,894,171	23,289,945
Trade payables[3]	10,739,406	−452,454	10,286,952	0	0	10,286,952

[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 (2020: € 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 (2020: € 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 5.19.)

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 J.P. Morgan 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, then 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, 2021 and December 31, 2020, 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 (Athens, Vienna and Copenhagen) where the entity operates.

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 Company is a lessee is presented below:

€T	Real Estate	Vehicles	Other
Balance as of January 1, 2020	**20,786**	**1,000**	**356**
Depreciation of ROU assets for the period[1]	3,045	802	72
Balance as of December 31, 2020	**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**

[1] The classification was changed for one lease contract from other to real estate.

See the Maturity Analysis of lease liabilities as follows:

€T	2021	2020
Lease liabilities – Maturity Analysis – contractual undiscounted cash flows		
Undiscounted lease liabilities at December 31		
Up to three months	2,044	1,167
More than three months up to one year	5,517	3,361
More than one year up to five years	18,885	15,499
More than five years	6,474	9,437
Total undiscounted lease liabilities	**32,919**	**29,464**
Imputed interest discount on leases	13,529	7,294
Lease liabilities included in the statement of financial position at December 31	**19,390**	**22,170**

€T	1/1–31/12/2021	1/1–31/12/2020
Interest expense on lease liabilities	370	378
Variable lease expense (i.e., for variable lease payments not included in lease liability)[1]	11	20
Short-term lease expense[1]	0	0
Low-value lease expense[1]	12	12
Other information		
Total cash outflow for leases	5,306	4,482
Additions to right-of-use assets	2,156	1,560

[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 € 17,106,147 thousand.

CONTINUING INVOLVEMENT IN FINANCIAL ASSETS THAT HAVE BEEN DERECOGNIZED

Within the reporting period, the Bank has not transferred any financial assets that it has derecognized entirely even though it may have continuing involvement in them.

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	31/12/2021	31/12/2020
Trading assets pledged	17,106,147	13,693,733
Securities purchased under agreements to resell at amortized cost	1,381,516	1,140,466

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	31/12/2021	31/12/2020
Collateral permitted to be sold or repledged, delivered, or otherwise used	146,897,384	44,052,068
of which: Collateral sold, repledged, delivered or otherwise used	120,158,079	24,271,190

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). In 2020, all intercompany exposures had formerly been considered Non-TCP, but have been segmented based on product type, irrespective of whether the borrower is third party or intercompany. In other words, TCP and Non-TCP both have intercompany positions.

Enhancement in modelling methodology

In 2020, the Bank enhanced its statistical model methodology used for collective assessment to better estimate expected credit losses. Key model enhancements included:

- Expansion of forecasting during the reasonable and supportable period from using three forward looking scenarios (central, adverse and upside) to five forward looking scenarios (central, relative upside, extreme upside, relative adverse and extreme adverse).
- Introduction of large loan uncertainty (LLU), 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.
- The estimated impact of COVID-19 is incorporated into ECL through MEVs and forward-looking scenarios.

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, 2021 and December 31, 2020 respectively. Balances are provided at amortized cost unless stated otherwise:

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**

December 31, 2020 Gross carrying amount €T	TCP	Non-TCP	Total
Assets			
Cash and balances at central banks	0	81,131,159	81,131,159
Loans and advances to banks – at amortized cost	1,357,231	1,118,513	2,475,744
Loans and advances to banks – at FVOCI	6,898	0	6,898
Loans and advances to customers – at amortized cost	595,568	0	595,568
Loans and advances to customers – at FVOCI	1,950,564	0	1,950,564
Securities purchased under agreements to resell or borrowed	0	1,140,466	1,140,466
Debtors	0	30,796,755	30,796,755
Accrued income	0	70,779	70,779
Total financial assets measured at amortized cost and FVOCI	**3,910,261**	**114,257,673**	**118,167,934**

Off-balance sheet lending-related commitments, which are categorized as TCP of € 17,548,553 thousand (2020: € 11,649,801 thousand), 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 € 69,186 thousand (2020: € 76,122 thousand) (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 except for certain fee receivables (i.e. fee receivables with institutional clients which follow a different billing and collection cycle) that are classified in Stage 2 at 90 days past due. 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 % as of December 31, 2021 could imply an increase to modeled ECLs of approximately € 204,450 thousand.

The purpose of this sensitivity analysis is to provide an indication of the isolated impact of a hypothetical alternative judgment on modeled ECLs 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, 2021 and December 31, 2020, 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, 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

December 31, 2020			
€T	Current Staging	ECL – All performing loans in Stage 1	Impact of change in staging on the statement of comprehensive income
	130,819	109,203	21,616

December 31, 2020			
€T	Current Staging	ECL – All performing loans in Stage 2	Impact of change in staging on the statement of comprehensive income
	130,819	158,771	−27,952

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 (as described above in the paragraph "Enhancement in modelling methodology").

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:

Macroeconomic Variables (MEVs)			Baseline scenario
Baseline average macroeconomic variables used in the calculation of ECL	Actual 2020	Actual 2021	Projected 2022
France GDP Q/Q % growth	3.51 %	5.55 %	2.75 %
Germany GDP Q/Q % growth	−1.98 %	2.85 %	4.75 %
JPM Emerging Markets Bond Index Global (EMBIG) spread	411.76	319.29	350.00
S&P500 Index	3,155.12	4,319.48	4,825.65
NASDAQ Composite Index	10,178.20	14,514.52	16,338.98

The following table provides an overview of the main underlying macroeconomic parameters in the optimistic and in the pessimistic scenarios:

2021	Optimistic scenarios		Pessimistic scenarios	
Baseline average macroeconomic variables used in the calculation of ECL	**Relative Upside**	**Extreme Upside**	**Relative Adverse**	**Extreme Adverse**
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

2020	Optimistic scenarios		Pessimistic scenarios	
Baseline average macroeconomic variables used in the calculation of ECL	**Relative Upside**	**Extreme Upside**	**Relative Adverse**	**Extreme Adverse**
France GDP Q/Q % growth	3.83 %	4.18 %	2.62 %	2.17 %
Germany GDP Q/Q % growth	−1.56 %	−1.11 %	−3.14 %	−3.74 %
JPM Emerging Markets Bond Index Global (EMBIG) spread	405.53	405.53	444.59	491.59
S&P500 Index	3,187.38	3,231.45	2,967.05	2,834.84
NASDAQ Composite Index	10,340.23	10,505.11	9,515.86	9,021.24

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 ECL calculation, which is provided by a central group-wide unit, 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 but no management overlays were applied in determining the ECL of the Bank.

There have not been any significant changes in estimation techniques or assumptions made during the 2021 reporting period.

Management adjustments

A working group that was newly set up in 2020 and 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 2021 reporting period except changes in scenario weights (return to the normal scenario weighting scheme). Impact of change in scenario weight adjustment is € 29,418 thousand.

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 (€ 22 thousand for YE 2021) 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, 2021 and December 31, 2020. The Bank recognizes no ECL on these balances as the ECL related to these exposures is assessed as immaterial.

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 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, 2021, the commitment amounted to € 1.9 billion (31/12/2020: € 1.2 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, 2021 and December 31, 2020, 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

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	**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**

2020				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, 2020	**22**	**0**	**0**	**22**	**96,890**	**0**	**0**	**96,890**
New loans originated or purchased	535	4,221	0	4,756	488,683	55,548	0	544,232
Loans derecognized or repaid	−3	0	−2	−5	−8,708	−88	−10	−8,806
Existing loans including credit quality changes	1,809	−517	0	1,291	−6,765	0	−3,076	−9,841
Changes in macroeconomic variables ("MEV")	276	0	0	276	0	0	0	0
Stage transfers	−2,099	560	1,814	276	−27,728	18,330	9,398	0
Other	−2	−2	2	−2	−36,888	88	10	−36,789
Model Update	−213	−592	0	−805	237,791	1,129,322	0	1,367,114
Qualitative Management Adjustment	371	6,943	0	7,315	0	0	0	0
Total changes	675	10,613	1,814	13,103	646,387	1,203,200	6,322	1,855,909
At December 31, 2020	**697**	**10,613**	**1,814**	**13,125**	**743,277**	**1,203,200**	**6,322**	**1,952,799**

Main drivers for the ECL decreases on existing facilities are the reduction of the management adjustments due to a return to the normal scenario weighting scheme and MEV changes on Stage 1 driven by more severe MEV forecasts in the adverse and extreme adverse scenarios projected for the next 12 months.

The changes in the gross carrying amount of the receivables measured at amortized cost were mainly due to newly issued claims.

b) Loans and advances at FVOCI

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	−99,436	−95,761	−72,621	−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**	**1,274,162**	**367,077**	**87,045**	**1,728,284**

2020				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, 2020	**934**	**3,615**	**0**	**4,549**	**1,285,916**	**139,487**	**0**	**1,425,403**
New loans originated or purchased	4,272	1,296	8,089	13,657	538,715	248,995	126,561	914,272
Loans derecognized or repaid	−288	−265	0	−552	−687,289	−10,680	0	−697,970
Existing loans including credit quality changes	2,365	−641	977	2,701	329,327	43,300	3,066	375,694
Changes in macroeconomic variables ("MEV")	5,239	4,346	0	9,585	0	0	0	0
Stage transfers	−7,393	9,830	5,691	8,127	−237,322	214,108	23,214	0
Other	−277	−306	1,101	518	−75,993	−11,788	6,824	−80,957
Model Update	1,312	−952	0	361	154,327	−165,171	0	−10,845
Qualitative Management Adjustment	5,751	17,838	0	23,589	0	0	0	0
Total changes	10,981	31,147	15,858	57,985	21,764	318,765	159,666	500,195
Fair value adjustment	0	0	0	0	31,864	0	0	31,864
Deferred fees adjustment	0	0	0	0	0	0	0	0
At December 31, 2020	**11,915**	**34,762**	**15,858**	**62,534**	**1,339,544**	**458,252**	**159,666**	**1,957,462**

Changes in the gross carrying amount of the receivables measured at FVOCI contributed to changes in the ECL in the 2021 financial year as follows:

- The reduction in newly granted and repaid receivables as well as decrease in existing receivables led to decrease in the gross book value of the receivables.
- Overall reduction in ECL is driven mainly by the reduction in Management Adjustments driven by changes in scenario weights (return to the normal scenario weighting scheme).

c) Loan Commitments and Financial Guarantees

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**

2020				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, 2020	**6,206**	**4,656**	**4,664**	**15,527**	**13,048,976**	**384,382**	**31,785**	**13,465,142**
New loan commitments and financial guarantees	1,379	1,413	0	2,792	1,389,566	133,440	0	1,523,006
Loan commitments and financial guarantees drawn	−215	−294	0	−509	−1,024,258	−13,712	0	−1,037,970
Existing loan commitments and financial guarantees including credit quality changes	2,477	11,568	−567	13,478	3,607,898	496,950	−4,895	4,099,953
Changes in macroeconomic variables ("MEV")	21,399	3,708	0	25,107	0	0	0	0
Stage transfers	−4,391	6,993	689	3,292	−667,070	664,859	2,211	0
Other	−2,925	−521	−1,495	−4,941	−6,357,646	−160,271	−9,521	−6,527,438
Model Update	3,878	17,499	0	21,377	203,495	−76,388	0	127,107
Qualitative Management Adjustment	0	0	0	0	0	0	0	0
Total changes	21,603	40,365	−1,372	60,595	−2,848,016	1,044,877	−12,204	−1,815,342
At December 31, 2020	**27,809**	**45,021**	**3,292**	**76,122**	**10,200,960**	**1,429,259**	**19,581**	**11,649,801**

Changes in the notional amount of loan commitments and financial guarantees contributed to changes to the ECL in the reporting period 2021 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 reduction in ECL is driven mainly by the reduction in management adjustments driven by changes in scenario weights (return to the normal scenario weighting scheme).

2. Non-traditional credit products (Non-TCP)

Non-TCPs include all other instruments measured at amortized cost and subject to the impairment provisions according to "IFRS 9". The Bank hasn't recorded any ECL for Non-TCP, 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 if 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, 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	0	0	0	38,234,989
Loans and advances to banks	8,473,322	0	0	−11,093	8,462,229
Loans and advances to customers	4,533,917	0	0	−978,721	3,555,196
Securities purchased under agreements to resell	43,900,617	0	−15,445,569	−25,836,863	2,618,184
Securities borrowed	869,450	0	−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
Financial assets designated at fair value through profit or loss	0	0	0	0	0
Debtors	39,555,512	0	−403,296	0	39,152,217
Accrued income	161,880	0	0	0	161,880
Total	**281,033,293**	**21,254,421**	**−114,614,932**	**−37,466,897**	**150,205,886**

December 31, 2020			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	81,131,159	0	0	0	81,131,159
Loans and advances to banks	2,492,473	0	0	0	2,492,473
Loans and advances to customers	2,554,058	0	0	−682,198	1,871,860
Securities purchased under agreements to resell	15,392,737	0	−4,619,106	−7,568,373	3,205,258
Securities borrowed	551,249	0	−162,715	−385,630	2,905
Financial assets at fair value through profit and loss	111,243,513	−13,619,307	−71,091,674	−5,478,317	21,054,215
Financial assets designated at fair value through profit or loss	54,911	−54,911	0	0	0
Debtors	30,796,755	0	−452,454	0	30,344,301
Accrued income	70,779	0	0	0	70,779
Total	**244,287,635**	**−13,674,219**	**−76,325,949**	**−14,114,517**	**140,172,951**

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 a 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 € 25,574,011 thousand (2020: € 13,056,463 thousand). Refer to note 40.

Loans and advances to customers

The table below shows the Bank's credit exposure and contractual maturity profile for gross loans and advances to customers 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.

Maturity profile of TCP financial assets (IFRS 7, Paragraph 35M)

Maturity €T	2021	2020
5 years or more	277,002	107,785
5 years or less but over 1 year	1,986,149	2,071,244
1 year or less but over 3 months	621,874	1,425,443
3 months or less	1,906,292	305,789
Total	**4,791,317**	**3,910,261**

Ratings profile (IFRS 7, Paragraph 35M)

At December 31, 2021					Stages	
Rating grades €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
				–	–	–
Gross carrying amount			**2,993,523**	**60,122**	**9,388**	**3,063,033**

At December 31, 2021				Stages		
Rating grades (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.

At December 31, 2020			Stages			
Rating grades €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	306,051	–	–	306,051
3+	A+	A1	–	1,135,459	–	1,135,459
3	A	A2	237,234	8,744	–	245,978
3–	A–	A3	2,007	6	–	2,013
4+	BBB+	Baa1	125,518	22	–	125,540
4	BBB	Baa2	1,087	–	–	1,087
4–	BBB–	Baa3	17,336	–	–	17,336
Non-investment-grade						
5+	BB+	Ba1	79	–	–	79
5	BB	Ba2	12,164	4	–	12,168
5–	BB–	Ba3	14,085	2	–	14,087
6+	B+	B1	18,173	–	–	18,173
6	B	B2	–	4,872	–	4,872
6–	B–	B3	4,557	–	–	4,557
7	CCC+	Caa1	–	–	–	–
8	CC	Ca	4,986	54,091	–	59,077
9	C/D	C	–	–	6,322	6,322
Gross carrying amount			**743,277**	**1,203,200**	**6,322**	**1,952,799**

At December 31, 2020			Stages			
Rating grades (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	–	167,047	–	167,047
2	AA	Aa2	136,117	–	–	136,117
2–	AA–	Aa3	10,634	–	–	10,634
3+	A+	A1	150,135	–	–	150,135
3	A	A2	68,021	–	–	68,021
3–	A–	A3	30,616	–	–	30,616
4+	BBB+	Baa1	46,604	–65	–	46,539
4	BBB	Baa2	67,990	16	–	68,006
4–	BBB–	Baa3	227,826	–	–	227,826
Non-investment-grade						
5+	BB+	Ba1	155,316	–	–	155,316
5	BB	Ba2	194,044	–	–	194,044
5–	BB–	Ba3	114,655	565	–	115,220
6+	B+	B1	29,419	26,666	–	56,085
6	B	B2	1,121	19,943	–	21,064
6–	B–	B3	12,025	61,920	–	73,946
7	CCC+	Caa1	64,000	68,769	–	132,770
8	CC	Ca	–843	113,390	–	112,547
9	C/D	C	–	–	–	–
10	D	C	–	–	159,666	159,666
Gross carrying amount (interim value)			**1,307,680**	**458,252**	**159,666**	**1,925,598**
Fair value adjustment[1]						**31,864**
Gross carrying amount						**1,957,462**
Total gross carrying amount						**3,910,261**

[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, 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	–	–	1,098
1	AAA	Aaa	–	–	–	–
2	AA	Aa2	146,493	–	–	146,493
2–	AA–	Aa3	34,995	–	–	34,995
3+	A+	A1	799,008	–	–	799,008
3	A	A2	3,755,382	46	–	3,755,428
3–	A–	A3	356,405	127	–	356,532
4+	BBB+	Baa1	1,634,825	423	–	1,635,248
4	BBB	Baa2	2,905,213	505	–	2,905,718
4–	BBB–	Baa3	2,641,568	–	–	2,641,568
Non-investment-grade						
5+	BB+	Ba1	1,596,136	213,619	–	1,809,755
5	BB	Ba2	518,718		–	518,718
5–	BB–	Ba3	705,504	24,126	–	729,630
6+	B+	B1	308,931	4,790	–	313,721
6	B	B2	363,485	3,836	–	367,321
6–	B–	B3	512,003	178,383	–	690,386
7	CCC+	Caa1	212,859	118,335	–	331,194
8	CC	Ca	29,469	336,862	–	366,331
9	C/D	C	–	–	145,409	145,409
10	D	C	–	–	–	–
						–
Notional amount			**16,522,092**	**881,052**	**145,409**	**17,548,553**
Loss allowance						69,187
Notional amount (Net of ECL)						**17,479,366**

At December 31, 2020			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	699	–	–	699
1	AAA	Aaa	9,477	–	–	9,477
2	AA	Aa2	646,511	–	–	646,511
2–	AA–	Aa3	24,448	–	–	24,448
3+	A+	A1	128,233	–	–	128,233
3	A	A2	2,739,781	4,300	–	2,744,082
3–	A–	A3	216,446	18	–	216,464
4+	BBB+	Baa1	911,884	217,169	–	1,129,053
4	BBB	Baa2	1,340,398	481,773	–	1,822,171
4–	BBB–	Baa3	1,065,853	–	–	1,065,853
Non-investment-grade						
5+	BB+	Ba1	1,047,693	–	–	1,047,693
5	BB	Ba2	544,034	57,998	–	602,032
5–	BB–	Ba3	188,828	–	–	188,828
6+	B+	B1	65,425	1,490	–	66,915
6	B	B2	31,325	1,812	–	33,138
6–	B–	B3	139,844	195,472	–	335,316
7	CCC+	Caa1	981,223	254,565	–	1,235,788
8	CC	Ca	118,858	214,660	–	333,518
9	C/D	C	–	–	19,545	19,545
10	D	C	–	–	36	36
Notional amount			**10,200,960**	**1,429,259**	**19,581**	**11,649,801**
Loss allowance						76,122
Notional amount (Net of ECL)						**11,573,679**

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, 2021, the portfolio is well diversified in relation to geographic region and industry.

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**

Credit risk concentration			2020
€T	Loans and advances at amortized cost	Loans and advances at FVOCI	Loan commitments and financial guarantees
Geographic region			
Germany	149,774	102,089	481,697
Other European	666,953	1,638,586	7,649,095
Rest of the world	1,136,072	216,787	3,519,009
Total	**1,952,799**	**1,957,462**	**11,649,801**
Industry			
Commercial and industrial	119,624	788,575	9,133,636
Real estate	1,509,926	13,955	1,511,190
Energy	17,192	525,881	554,976
Financial services	306,057	312,219	124,610
Other	0	316,832	325,389
Total	**1,952,799**	**1,957,462**	**11,649,801**

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 purposes. 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 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, 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
Total assets	**39,091,697**	**2,388,525**	**836,898**	**3,225,423**
Maximum exposure to loss	**39,091,697**	**2,348,250**	**836,898**	**3,185,148**
Total liabilities	**0**	**468,758**	**0**	**468,758**

		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, 2020				
Residential mortgage-backed vehicles	20,398,012	251,598	0	251,598
Commercial mortgage-backed vehicles	2,708,239	77,845	0	77,845
Other asset-backed vehicles	9,076,673	99,828	306,051	405,879
Covered Bonds	4,273,827	14,198	0	14,198
Derivative and Note issuances	3,362,750	1,006,627	0	1,006,627
Total assets	**39,819,501**	**1,450,096**	**306,051**	**1,756,147**
Maximum exposure to loss	**39,819,501**	**1,815,270**	**306,051**	**2,121,321**
Total liabilities	**0**	**433,726**	**0**	**433,726**

37. Market risk

INTERBANK OFFERED RATE ("IBOR") TRANSITION

The Financial Stability Board ("FSB") and the Financial Stability Oversight Council ("FSOC") have observed that the long-term 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 have been working to identify alternative reference rates that are compliant with the International Organization of Securities Commission's standards for transaction-based benchmarks. 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 UK sterling, Japanese yen, Swiss franc and Euro LIBOR, as well as the remaining tenors of U.S. dollar LIBOR, from December 31, 2021.

On November 16, 2021 the Financial Conduct Authority ("FCA") confirmed that it will allow, for a period of at least one year, the use of "synthetic" UK sterling and Japanese yen LIBOR rates 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, will allow 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.

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.

The Firm 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. In 2021, the Firm continued to work towards reducing its exposure to IBOR-referencing contracts, including derivatives, bilateral and syndicated loans, securities, and debt and preferred stock issuances, to meet the industry milestones and recommendations published by National Working Groups ("NWG"). In 2021, the Firm prioritized contract remediation for those currencies and tenors of LIBOR for which publication ceased on December 31, 2021.

The Firm has made significant progress towards reducing its exposure to IBOR-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 LIBOR, as of December 31, 2021 the Firm had remediated substantially all of the notional amount of its bilateral derivatives contracts linked to non-U.S. dollar LIBOR, and substantially all of its non-U.S. dollar LIBOR linked loans. During the fourth quarter of 2021, the principal central counterparties ("CCPs") converted cleared derivatives contracts linked to non-U.S. dollar LIBOR to replacement rates before the cessation of the publication of those LIBORs on December 31, 2021. The Firm continues its client outreach with respect to U.S. dollar LIBOR referencing contracts.

The Federal Reserve, the OCC and the FDIC and the FCA have 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 will continue to engage with clients in relation to USD LIBOR transition in 2022 and will continue to support clients as they transition to SOFR.

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 following table 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 at December 31, 2021 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 at December 31, 2021.

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 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	–	–	–	–	189,206	8,581
Securities purchased under agreements to resell	4,326	–	–	–	–	25,895	–	–
Trading securities	450,344	23,250	–	34,794	268,786	–	1,174,714	–
Investment securities	–	–	–	–	–	–	–	–
Others	–	–	–	–	–	–	–	–
Total non-derivative financial assets	**981,600**	**28,858**	**–**	**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	–	–	–	–	45,298	–	–
Trading securities	440,738	2,659	–	19	273,521	–	1,131,983	–
Debt issuance	–	–	–	–	–	–	–	–
Others	–	–	–	–	–	–	–	–
Total non-derivative financial liabilities	**445,065**	**2,659**	**–**	**19**	**273,521**	**45,298**	**1,131,983**	**–**
Derivative financial instruments (gross notional value[3]):								
Interest rate derivatives – exchange traded	2,618,753	–	–	–	–	–	–	–
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	–	38,236	–	–	582,274	5,410,843
Other commitments	–	–	–	–	–	–	–	–
Financial guarantees	–	–	–	–	–	–	–	–
Total off-balance sheet	**3,657,061**	**7,538**	**–**	**38,236**	**–**	**–**	**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 capital reserves	**5,408**
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	1,647
Deposits from banks/customers	−68,308
Subordinated liabilities	−3,090
Other liabilities	−1,873
Net identifiable assets and liabilities	**5,408**

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 JPMSE to JPMIFL as the sole shareholder of the transferring companies.

Acquisition-related costs amounting to € 17.8 million have been recognized as an expense in the consolidated income statement, as part of other expenses.

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 23, 2022 that a direct holding exists totaling 100 %. In addition, J.P. Morgan Chase & Co. and J.P. Morgan 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., New York, 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/–31/12/2021	1/1/–31/12/2020
Short-term employee benefits	3,127	5,176
Post-employment benefits	0	0
Other long-term benefits	289	166
Termination benefits	0	0
Share-based payment	1,713	4,871
Total key management personnel compensation	**5,129**	**10,213**

The Supervisory Board consists of 12 members (2020: six members), of which four are employee representatives (2020: two), 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 (2020: four representatives of the shareholder of which three were employed by other J.P. Morgan entities and one was a group external member). In the reporting year, the total compensation of the Supervisory Board amounted to € 290 thousand (2020: € 110 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	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Receivables from banks	7,990,557	1,999,508	0	0	0	0	0	0	7,990,557	1,999,508
Receivables from customers	6,937	42,309	0	0	0	0	0	0	6,937	42,309
Receivables from reverse repo transactions	20,724,498	10,775,110	0	0	0	0	0	0	20,724,498	10,775,110
Trading assets	74,219,564	53,089,474	0	0	0	0	0	0	74,219,564	53,089,474
Remaining assets[1]	10,553,515	7,398,368	0	0	0	0	0	0	10,553,515	7,398,368
Total assets	**113,495,071**	**73,304,769**	**0**	**0**	**0**	**0**	**0**	**0**	**113,495,071**	**73,304,769**
Liabilities to banks	39,197,009	75,888,701	0	0	0	0	0	0	39,197,009	75,888,701
Liabilities to customers	600,713	362,978	0	0	0	0	0	0	600,713	362,978
Liabilities from repo transactions	20,252,949	6,319,015	0	0	0	0	0	0	20,252,949	6,319,015
Trading liabilities	73,838,678	34,298,374	0	0	0	0	0	0	73,838,678	34,298,374
Provisions	449	2,009	0	0	0	0	0	0	449	2,009
Financial liabilities designated at FVTPL	1,157,453	0	0	0	0	0	0	0	1,157,453	0
Remaining liabilities[1]	2,852,929	5,141,485	2,464	200	0	0	0	0	2,852,929	5,141,485
Subordinated liabilities	9,540,000	1,025,790	9,540,000	1,025,790	0	0	0	0	9,540,000	1,025,790
Total liabilities	**147,440,180**	**123,038,352**	**9,542,464**	**1,025,990**	**0**	**0**	**0**	**0**	**147,440,180**	**123,038,352**
Total equity	**16,957,578**	**12,924,721**	**16,957,578**	**12,798,295**	**0**	**0**	**0**	**0**	**16,957,578**	**12,924,721**
Guarantees received	148,889	119,334	0	0	0	0	0	0	148,889	119,334
Guarantees given	324,173	249,641	0	0	0	0	0	0	324,173	249,641
Net interest income	358,533	–22,223	–13,138	–229	0	0	0	0	358,533	–22,223

(continued)	J.P. Morgan group entity		Thereof: Parent entity		Key personnel of J.P. Morgan SE or its parent entity 2020		Other related parties			Total
€T	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Net fee and commission income	913,759	466,026	1,023	0	0	0	0	0	913,759	466,026
Net income from financial assets and liabilities measured at fair value through profit and loss	−492,899	−3,917	0	0	0	0	0	0	−492,899	−3,917
Other revenues	1,059	0	0	0	0	0	0	0	1,059	0
Loan loss provision	1,549	1,782	0	0	0	0	0	0	1,549	1,782
Administration and other expense	399,174	4,052	2,317	0	0	0	0	0	399,174	4,052
Profit before tax	379,729	434,052	−14,432	−229	0	0	0	0	379,729	434,052

[1] Figures adjusted (see note 5.19.)

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 € 1,549 thousand for the year 2021 (2020: € 2,018 thousand). The amount of credit loss allowances on the Balance Sheet amounted to € 244 thousand as of December 31, 2021 (December 31, 2020: € 2,016 thousand).

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 (31/12/2020: USD 1 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, 2021, the fair value of issued securities amounted to € 1,264 million (31/12/2020: € 626.3 million), of which J.P. Morgan SE held € 1,089 million (31/12/2020: € 504.5 million), leading to a guaranteed amount of € 175.3 million as of the reporting date (31/12/2020: € 121.8 million). The unused guarantee amounted to € 3,150 million as of December 31, 2021 and it has been considered in the calculation of the expected credit loss.

For this guarantee, a credit loss provision of € 142 thousand was set up as of the reporting date (31/12/2020: € 1,274 thousand), which is already included in the total provided above for J.P. Morgan group entities.

As part of the preparation for the Brexit, trading and banking book activities were transferred from other J.P. Morgan group entities in the UK to J.P. Morgan SE during the reporting year. In this context, assets and liabilities were taken over from other J.P. Morgan group entities at existing carrying values. In addition, employees were transferred as well. The difference between the acquisition cost of the assets minus liabilities and the higher total acquisition cost was recorded in Equity and amounted to € 32.0 million in the reporting year (31/12/2020: € 89.0 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 Company 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 Company should the counterparty draw upon the commitment or the Company 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 Company's view, representative of its actual future credit exposure or funding requirements.

€T	2021	2020
Contractual amount		
Unused commitments on loans	16,509,938	9,306,668
Standby letters of credit and guarantees	2,546,532	1,589,313
Total unused lending-related commitments	**19,056,470**	**10,895,981**
Other unused commitments	6,517,541	2,160,482
Total unused contractual commitments	**6,517,541**	**2,160,482**
Expected credit loss on unused lending-related commitments	69,187	76,122

Other unused commitments include unfunded capped default fund commitments to CCPs amounting to € 1.9 billion (31/12/2020: € 1.2 billion), 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 USD 5 billion (31/12/2020: USD 1 billion), please refer to note 39.

41. Other information

41.1. NUMBER OF EMPLOYEES

On average, for the year 2021 there were 1,287 employees, broken down as follows:

Number	2021	2020
Yearly average	**1,287**	**626**
Distribution of employees		
Authorized signatories	7	7
Authorized officers	559	211
Commercial employees	721	408

In the reporting year, these employees were employed by the main office and the branches of J.P. Morgan SE, as follows:

Number	2021	2020
Yearly average	**1,287**	**626**
Branch		
Main Office Frankfurt	480	393
Paris	379	78
London	139	64
Madrid	67	31
Other	222	60

Employees who are seconded, released from duties and on parental leave are not included in these figures.

41.2. TOTAL REMUNERATION OF THE ACTIVE MEMBERS OF THE BOARDS

The remuneration paid to members of the Management Board totalled € 5,129 thousand. A portion of this (i. e. the remuneration of the active Board Members) came from 14,831 restricted stock units with a fair value on their grant date of € 1,986 thousand.

The remuneration of the Supervisory Board for 2021 amounted to a total of € 290 thousand.

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 totalled € 12,497 thousand as of December 31, 2021. The total remuneration paid to former members of the Management Board and their dependents amounted to € 3,162 thousand as of December 31, 2021.

41.4. FEE EXPENSES

€T	1/1–31/12/2021	1/1–31/12/2020
Total auditors' fees billed for the financial year calculated for	**6,430**	**7,035**
Financial statements auditing services	**5,795**	**6,507**
of which, for the previous year	82	542
of which, expenses in the current financial year	2,717	2,500
of which, expenses for creating provisions	2,996	3,465
Other confirmation services	**635**	**528**
of which, for the previous year	0	15
of which, expenses in the current financial year	52	450
of which, expenses for creating provisions	583	63

The fee for the auditing services is due to the former auditor PwC in the amount of € 178 thousand and to the auditor BDO in the amount of € 5,617 thousand. Other confirmation services include the audits under § 89 WpHG (Wertpapierhandelsgesetz – Securities Trading Act). Of this, € 621 thousand is attributable to PwC and € 14 thousand to BDO. Tax consulting services and other services were not provided by the auditors.

The comparative figures of the prior year relate solely to the former auditor PwC.

41.5. EXPLANATORY NOTES ON OTHER FINANCIAL COMMITMENTS

The Company utilizes services from various Group member companies as part of its outsourcing functions. Group internal services amounted to € 367.3 million in the year 2021. The business procurement contracts have a notice period of three months.

The lease agreement for the business premises has a term until August 1, 2028. The future rent payments amount to € 32.7 million as at December 31, 2021.

41.6. INFORMATION ON CORPORATE BODIES

Management Board
Stefan Behr Chairperson of the Management Board, Managing Director, J.P. Morgan SE
Cindyrella Amistadi (since April 1, 2021) Head of Technology, Operations and Outsourcing, Managing Director, J.P. Morgan SE
Nicholas Conron CRO, Managing Director, J.P. Morgan SE
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
Tom Prickett (since January 24, 2022) Head of Trading, Managing Director, J.P. Morgan SE
Gunnar Regier Markets Business Area Director, Managing Director, J.P. Morgan SE
Supervisory Board
Mark S. Garvin Chairperson, Managing Director, J.P. Morgan Europe Limited
Guy America Deputy Chairperson, Managing Director, J.P. Morgan Securities plc
Peter Augsten (since December 1, 2021) Bank Employee, Employee Representative, J.P. Morgan SE
Andrew Cox (since December 1, 2021) JPMorgan Chase Bank NA
Susan Dean (since December 1, 2021) JPMorgan Chase Bank NA
Wanda Eriksen Auditor
Mark Golding (since December 1, 2021) JPMorgan Chase Bank NA
Marco Kistner (since February 1, 2021) Qualified Banker
Elena Korablina (until January 31, 2021, since December 1, 2021) Managing Director, J.P. Morgan Chase Bank, N.A., London Branch
Christoph Fickel Information Security Manager, Employee Representative, J.P. Morgan SE
Thomas Freise Head of Works Council J.P. Morgan SE, Employee Representative, J.P. Morgan SE
Ann-Kathrin Reinwald (since December 1, 2021) Banking Manager, Employee Representative, J.P. Morgan SE

Directorships or seats on supervisory boards

Management Board
Stefan Behr; no further mandates
Cindyrella Amistadi (since April 1, 2021); no further mandates
Nicholas Conron Supervisory body: Esparity Solar (UK) Holdings Limited (since June 1, 2021)
Pablo Garnica (since February 22, 2022) Management body: Board of Directors for JPM Suisse S.A.
Burkhard Kübel-Sorger; no further mandates
Tony Prickett; no further mandates
Gunnar Regier Management body: J.P. Morgan Securities plc Frankfurt Branch
Supervisory Board
Mark S. Garvin Supervisory body: J.P. Morgan Bank Luxembourg S.A. (Chairperson of the Board) (until January 22, 2022)
Guy America; no further mandates
Peter Augsten; no further mandates
Andrew Cox Supervisory Body: J.P. Morgan Markets Limited
Susan Dean; no further mandates
Wanda Eriksen Supervisory body: Axa Switzerland; AXA-ARAG Legal Protection Ltd (subsidiary of AXA); Catlin Re Switzerland Ltd (subsidiary of AXA); Aquila AG; Arnold AG (Vice Chair);
Mark Golding; no further mandates
Marco Kistner (since February 1, 2021); no further mandates
Elena Korablina (until January 31, 2021, since December 1, 2021); no further mandates
Christoph Fickel; no further mandates
Thomas Freise; no further mandates
Ann-Kathrin Reinwald: 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 € 734,337 thousand for the financial year 2021 as based on local German accounting regulation (HGB) to other revenue reserves.

43. Subsequent events

The form-changing Merger of J.P. Morgan AG with J.P. Morgan Bank (Ireland) plc, Dublin/Ireland, and J.P. Morgan Bank Luxembourg S.A., Luxembourg, into the J.P. Morgan SE was completed on January 22, 2022. The rating agencies confirmed their previous ratings for the absorbing company J.P. Morgan AG will remain unchanged also for the new company J.P. Morgan SE.

In January 2022, a subordinated loan originally granted by J.P. Morgan SE's parent J.P. Morgan International Finance Limited in 2009 in the amount of € 150 million was terminated. The loan was not repaid to the lender. Instead, the funds were made available and held as a capital reserve which will be included in Tier 1 capital, thereby leaving the total capital unchanged.

In connection with the crisis between Russia and Ukraine, the Bank analyzed the development of events and the impact on its earnings, financial and assets position. The valuation of the assets as of December 31, 2021 reflects the economic conditions existing at that time. In addition, we are closely monitoring the situation in the Ukraine, and re-assessing our current plan assumptions as the Ukraine/Russian conflict evolves. In addition, the Bank analyzes the identified exposure – after completion of the Merger – in the amount of around € 700 million closely. Without doubt, the evolving situation has led to unease and intensified anxiety in global markets, with this being particularly reflected in commodity markets. While the full economic ramifications of the conflict and sanctions on Russia, including the potential effects on global growth, can't yet be measured, they will – at a minimum – slow the global economy. Thanks to the well-diversified business model of J.P. Morgan SE with a potentially varying sensitivity of segments to the economic consequences of the ongoing war situation, we remain optimistic to achieve our 2022 targets.

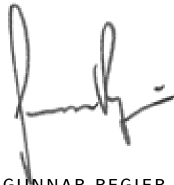
In addition, no events have occurred after the end of the financial year which have a significant effect on the asset, financial and earnings situation.

Frankfurt am Main, April 29, 2022

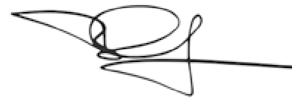
J.P. Morgan SE
Frankfurt am Main
The Management Board

STEFAN BEHR

NICHOLAS CONRON

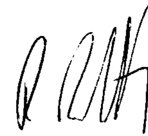


GUNNAR REGIER



BURKHARD KÜBEL-SORGER

CINDYRELLA AMISTADI



TOM PRICKETT

PABLO GARNICA

INDEPENDENT AUDITOR'S REPORT

To J.P. Morgan SE, Frankfurt am Main

Report on the audit of the separate financial statements and of the management report

AUDIT OPINIONS

We have audited the separate financial statements of J.P. Morgan SE, Frankfurt am Main, comprising the balance sheet as of December 31, 2021, the income statement and other comprehensive income, statement of changes in equity and the cash flow statement for the financial year from January 1, 2021 to December 31, 2021, and the notes to the financial statements, including a summary of significant accounting policies. Additionally, we have audited the management report of J.P. Morgan SE for the financial year from January 1, 2021 to December 31, 2021. In accordance with German legal requirements, we have not audited the content of the components of the management report mentioned under "OTHER INFORMATION".

According to our assessment based on the knowledge gained in the audit,

- the accompanying separate financial statements comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 325 Abs. 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, 2021 and of its financial performance for the financial year from January 1, 2021 to December 31, 2021, 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 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 § [Article] 322 Abs. [paragraph] 3 Satz [sentence] 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations regarding the legal compliance of the separate financial statements and of the management report.

BASIS FOR THE AUDIT OPINION

We conducted our audit of the separate financial statements and of the management report in accordance with § 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 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) point (f) pf 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 separate financial statements and on the management report.

KEY AUDIT MATTERS IN THE AUDIT OF THE SEPARATE FINANCIAL STATEMENTS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the separate financial statements for the financial year from January 1, 2021 to December 31, 2021. These matters were addressed in the context of our audit of the 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, 2021, J.P. Morgan SE has trading assets of € 145,304 million and trading liabilities of € 144,454 million. The valuation result is included in the net result of assets and liabilities measured at fair value. This amounts to € 443 million for the financial year from January 1, 2021 to December 31, 2021.

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 as well as receivables and liabilities from securities repurchase agreements.

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

- the non-financial statement pursuant to sections §§ 289b to 289e HGB ("non-financial disclosure"), and

- the remaining parts of the annual report, with the exception of the audited separate financial statements, the audited management report and our auditor's report.

Our audit opinions on the 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 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 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 § 325 Abs. 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 control as they have determined necessary to enable the preparation of separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the 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 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 separate financial statements and of the management report.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE SEPARATE FINANCIAL STATEMENTS AND OF THE MANAGEMENT REPORT

Our objectives are to obtain reasonable assurance about whether the 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 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 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 § 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 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 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 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 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 separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that the 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 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 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 December 22, 2020. We were engaged by the Supervisory Board on July 26, 2021. 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, May 2, 2022

BDO AG
Wirtschaftsprüfungsgesellschaft

sgd. POSSELT	sgd. OTTE
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

REPORT OF THE SUPERVISORY BOARD

SUPERVISION AND CONTROL

The Supervisory Board has continuously 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 economic situation of the Bank, the business policy, the liquidity and capital as well as the risk management. This has been done within and outside of the meetings of the Supervisory Board and its committees by means of written and oral reporting, for example on the development of the relevant economic performance indicators and on fundamental questions relating to further business development. In addition, the Supervisory Board was kept informed in detail about risk management on a quarterly basis.

PERSONNEL CHANGES IN THE MANAGEMENT BOARD

Pablo Garnica and Tom Prickett have been appointed to the Management Board on January 24, 2022. The Management Board comprises of seven members.

PERSONNEL CHANGES IN THE SUPERVISORY BOARD

Andrew Cox, Susan Dean, Mark Golding, Elena Korablina as well as the two further Employee Representatives Peter Augsten and Ann-Kathrin Reinwald were additionally appointed to the Supervisory Board on December 1, 2021. Following the completion of the merger of J.P. Morgan AG, J.P. Morgan Bank Luxembourg SA and J.P. Morgan Bank (Ireland) plc to form J.P. Morgan SE, Christoph Fickel, Peter Augsten and Ann-Kathrin Reinwald retired from the Supervisory Board and the Workers Council of J.P. Morgan SE's three largest branches in Dublin, Paris and Luxembourg elected new Employee Representatives to represent staff across its branch locations. Following election, Tracey Campbell Devery, Maja Torun and Stephane Wathelet were appointed to the Supervisory Board on March 2, 2022. Thomas Freise remains the Employee Representative for J.P. Morgan SE's Frankfurt Headquarters. The Supervisory Board comprises twelve members.

AUDIT COMMITTEE

For the financial year 2021, the Audit Committee discussed the audit planning as well as the respective status on June 29, 2021, September 14, 2021, November 9, 2021 and March 1, 2022 and the annual financial statement and the audit report on January 21, 2022, March 1, 2022 and May 3, 2022.

The Audit Committee is responsible for monitoring the accounting process, the effectiveness of the internal control system, the risk management 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.

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 4, 2022 and in accordance with the statutory requirements, the auditor BDO AG Wirtschaftsprüfungsgesellschaft, Frankfurt am Main, will be appointed for the audit of the annual financial statements, individual financial statements in accordance with IFRS and the management report for the financial year 2022.

ANNUAL FINANCIAL STATEMENTS AND INDIVIDUAL IFRS FINANCIAL STATEMENTS

The annual financial statements, the individual financial statements according to IFRS and the management report of the Management Board for the 2021 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 2021 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 his 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 2021. 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 favor 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, 2022. 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, 2021 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.

May 4, 2022

The Supervisory Board

MARK S. GARVIN
Chairperson of the Supervisory Board

ANNEX: COUNTRY-BY-COUNTRY REPORTING 2021

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.

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 2021. The amounts included in the table below are based on local German accounting regulations (HGB).

On December 31, 2021, 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	Copenhagen	Denmark
J.P. Morgan SE – Paris Branch	Paris	France
J.P. Morgan SE – Athens Branch	Athens	Greece
J.P. Morgan SE – Milan Branch	Milan	Italy
J.P. Morgan SE – Amsterdam Branch	Amsterdam	Netherlands
J.P. Morgan SE – Oslo Branch	Oslo	Norway
J.P. Morgan SE – Warsaw Branch	Warsaw	Poland
J.P. Morgan SE – Stockholm Branch	Stockholm	Sweden
J.P. Morgan SE – Madrid Branch	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	480	1,112,037	357,898	153,277	The company operates business activities in the areas of Treasury Services (including Euro Clearing), Securities Services (as a custodian bank and custodian) and Markets (acting as an accounting unit for specific customer segments in the OTC derivative business).
Belgium	8	28,191	23,998	5,805	Banking and Markets
Denmark	5	5,498	4,010	804	Banking and Markets
France	379	680,367	403,881	152,732	Banking and Markets
Greece	1	291	1,997	180	Banking and Markets
Italy	49	39,087	65,217	19,844	Banking and Markets
Netherlands	44	43,380	30,134	8,047	Banking and Markets
Norway	5	2,153	660	5	Banking and Markets
Poland	86	6,117	11,727	2,487	Banking and Markets
Sweden	24	22,873	30,809	5,080	Banking and Markets
Spain	67	30,377	44,293	15,977	Banking and Markets
United Kingdom	139	211,079	172,452	48,480	Banking and Markets

[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 and trading income.

ANNEX: NON-FINANCIAL DISCLOSURE 2021 (UNAUDITED)

1. Introduction

JPMorgan Chase & Co. ("JPMorgan Chase") or "the Firm" is committed to being transparent about how we do business. 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, this year, J.P. Morgan SE ("the Bank") is publishing its first Non-Financial Disclosure on a legal entity level, as an annex to its Annual Report 2021. All data in this report are as of December 31, 2021, unless otherwise noted. J.P. Morgan SE publishes this non-financial disclosure in accordance with §§ 289b–289e HGB and thus complies with the requirements of European Union Directive 2014/95/EU and the German "CSR-Richtlinie-Umsetzungsgesetz". This document also serves to meet the increasing disclosure requirements and information needs of the Bank's and the banking industry's stakeholders on non-financial matters, including ESG.

ESG and the implementation of ESG-related regulatory and supervisory requirements are a key focus area for the Bank. While this year's non-financial disclosure represents a significant enhancement, 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 European Banking Authority Pillar 3 ESG disclosures) 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 has a responsibility to build a thriving business and a sustainable and inclusive economy. Fulfilling this responsibility rests on faithfully adhering to our core business principles across everything we do.

J.P. Morgan SE is fully integrated into the corporate culture of JPMorgan Chase, whose guiding principles are described by the four pillars of the group-wide business principles:

- Exceptional Client Service
- Operational Excellence
- A Commitment to Integrity, Fairness and Responsibility
- A Great Team and Winning Culture.

[1] https://www.jpmorganchase.com/about/governance/esg

Doing all of this well is the critical underpinning of our long-term success – and therefore of our ability to continue to deliver for all our stakeholders – customers and clients, employees, community, and the Firm and its shareholders.

J.P. Morgan SE is an integral part of the Group and the strategic entity for the successful implementation of the Brexit strategy. In the past three years, the Bank has developed into the primary business unit for business activities in the areas of Investment Banking and Markets of the Corporate & Investment Bank for customers based in the EEA as well as for the management of significant risks in the Euro area. In 2021, the focus was on a controlled expansion of J.P. Morgan SE with regard to the implementation of our organizational structure and underlying processes, smooth client migration, transfer of customer portfolios, transfer of risk assets, capital planning and adequate staffing. In addition, J.P. Morgan SE continues to be the Group's central unit for Euro payments and acts as a depositary and global custodian bank for the German investment market.

J.P. Morgan SE's business model is further described in the Management Report section of this document under "Segments and essential products and processes".

3. Materiality Assessment

As foreseen in § 289c HGB and relevant EU guidelines[2], J.P. Morgan SE is looking to include in this non-financial disclosure information on non-financial aspects[3] to the extent necessary for an understanding of:

- the Bank's development, performance and position
- the impact of the Bank's activity.

To determine these material non-financial aspects, J.P. Morgan SE has conducted a materiality[4] assessment taking into account internal and external factors (double materiality). These include interests and expectations of relevant stakeholders at firmwide and legal entity level, impact of the Firm's and the legal entity's activities, the Bank's business model and strategy, legal and regulatory drivers in the local jurisdiction, as well as main sectoral issues as indicated by a comparison against the material topics identified by comparable institutions in the local jurisdiction. The Bank's Management Board has reviewed and approved the assessment.

This materiality assessment relates to the reporting year 2021 and hence to J.P Morgan AG, preceding its merger with other entities that created J.P. Morgan SE. For the reporting year 2022,

[2] In particular, European Non-Financial Reporting Directive and European Commission's Guidelines on non-financial reporting
[3] According to § 289c HGB, these need to cover, at a minimum, environmental, employee and social matters, human rights, and anti-corruption & bribery.
[4] 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.

this assessment will be conducted from the perspective of J.P. Morgan SE in its current shape. A key differential in next year's materiality assessment will therefore be that the Private Bank line of business will come into scope of this assessment.

The below table shows the non-financial aspects identified as material by J.P. Morgan SE. These are mapped to the section headings of the Bank's disclosure, which are structured according to the mandatory reportable categories prescribed in HGB § 289C and amended with further aspects identified as material and reported in the sections on Governance, as well as Customer Service and Operational Excellence.

Material non-financial aspects, mapped to sections of this disclosure

Category	J.P. Morgan AG material non-financial aspects	Section
Environment	Managing environmental risks, including climate-related risks	4.3. Environmental Matters
	Minimizing the environmental impacts of our physical operations	
	Developing financial solutions that drive action on climate change and generate other positive environmental impacts	
	Partnering with organizations to advance sustainable development	
Social	Expanding economic opportunity in the communities where we do business	4.5. Social Matters
	Acting in the best interest of our customers	4.2. Client Service and Operational Excellence
	Addressing human rights-related risks	4.6. Human Rights
	Investing in our human capital	4.4. Employee Matters
	Promoting diversity, equity and inclusion	
Governance	Maintaining effective Board leadership and management processes	4.1. Governance
	Cultivating a strong risk and control environment	
	Safeguarding privacy and cybersecurity	
	Fostering a culture of transparency and ethical behavior	
	Anti-bribery and corruption	4.7. Anti-Bribery and corruption

Section 4 reports on each of the material aspects identified in this materiality assessment.

4. Reporting on Material Aspects

4.1. GOVERNANCE

J.P. Morgan SE's strong corporate governance practices help us protect the interests of all 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.

4.1.1. 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 to help us operate at the highest levels of performance in everything we do.

The Corporate Governance structure of J.P. Morgan SE is set out in the Management Report, sections "Organization and Legal Structure" and "Internal Control System". The Risk Governance structure of J.P. Morgan SE is further detailed in the section "Risk governance and oversight" 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".

4.1.2. Safeguarding Privacy and Cybersecurity

As digital solutions play an ever-larger role in financial services and the economy as a whole, the risk of cyber-attacks 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 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 Global Record 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 of 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".

4.2. CLIENT SERVICE AND OPERATIONAL EXCELLENCE

As J.P. Morgan SE, our main mission is serving 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.

Our business principle “Exceptional Client Service“ includes the following aspects:

– Meeting the client needs, but also exceeding their expectations
– Building long-term relationships
– Acting in the customer’s best interest
– Offering 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 the section “Non-financial performance indicators” 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 the following aspects:

– setting the highest standards with regard to individual performance, integrity, team development etc.
– demanding financial rigor and risk discipline
– maintaining a fortress balance sheet
– striving for the best internal governance and controls
– acting and thinking like owners and partners
– building and maintaining the best, most efficient systems and operations.

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.

4.3. ENVIRONMENTAL MATTERS

4.3.1. Supporting the Transition to a Low-Carbon Economy

Climate change is one of the most critical challenges facing our planet and society. JPMorgan Chase is responding by minimizing the carbon footprint of its own physical operations (described in section 4.3.3. Operational Sustainability), and by leveraging its business to support and accelerate the global transition to a low-carbon economy.

The financial sector is essential for driving progress on the most pressing environmental and social challenges of our time; whether advancing social and economic development in emerging markets or accelerating the carbon transition, targeted capital is vital to seed, fund and scale critically needed solutions. That's why JPMorgan is committed to helping build a sustainable and inclusive economy by leveraging the scale and reach of our business.

JPMorgan Chase is leveraging its business, expertise, capital, data and resources to drive inclusive growth and create a low-carbon economy. This extends to making environmental and social considerations an integral part of how the Firm develops products and services, serves its customers, supports its employees and helps lift our communities. The Firm's target – which was set in 2021 – to finance and facilitate more than USD 2.5 trillion over 10 years to address climate change and contribute to sustainable development puts these objectives into practice.

J.P. Morgan SE's approach in supporting the transition to a low-carbon economy and advancing climate and sustainability solutions is closely aligned to the Firmwide strategy including contributing to its global commitments and aligning to the Firmwide targets. We are committed to supporting our clients' strategies for transitioning to a lower-carbon economy and for positioning themselves to adapt to and capitalize on opportunities to advance sustainable solutions. We leverage our deep insight into financial markets and the expertise of our bankers, risk managers, industry experts and others to help our clients achieve their goals.

Climate-related and environmental risks are integrated in J.P. Morgan SE's business strategy, business objectives and risk management framework. Oversight of climate-related and environmental risk is part of the schedule of responsibilities of the Management Board. ESG objectives are part of the 2022 goals of Management board members. The Bank has implemented a governance structure on ESG, incl. climate and environmental risk. This includes the J.P. Morgan SE ESG Forum and the J.P. Morgan SE Climate and Environmental Risk Forum. The Bank's Management and Supervisory Boards receive regular updates on the progress of the ESG implementation.

Decarbonisation of our Financing portfolio

JPMorgan Chase has committed to aligning key sectors of our financing portfolio (Oil & Gas, Electric Power and Automotive) with the goals of the Paris Agreement. The Firm has developed and released Carbon Compass℠ – its methodology[5] for measuring the GHG emissions of its clients and setting Paris-aligned targets to reduce the carbon intensity of these sector portfolios over time. The overarching objective of Carbon Compass℠ is to ensure that clients in select carbon-intensive sectors demonstrate the ability to reduce the carbon intensity of their business activities. Going forward, JPMorgan Chase intends to align its lending and underwriting decisions in these sectors towards achieving its portfolio targets.

[5] https://www.jpmorganchase.com/content/dam/jpm/cib/complex/content/investment-banking/carbon-compass/Carbon_Compass_Final.pdf

2030 Global Portfolio Emission Reduction Targets

The table below summarizes the portfolio-weighted average carbon intensity of JPMorgan Chase's in-scope clients and the interim targets the Firm has defined for 2030 for each sector, which are aligned to the goals of the Paris Agreement.

J.P. Morgan SE's financing exposures to clients in our Paris-aligned in-scope sectors are part of the global Paris-aligned financing commitment and emission portfolio targets in accordance with our Carbon Compass℠ methodology.

JPMorgan Chase 2030 portfolio targets

Sector		2019 portfolio baseline	2030 portfolio targets
Oil and Gas	Operational (Scope 1 and 2)	6.1 g CO_2e/MJ	**–35%** reduction from 2019 baseline
	End use (Scope 3)	66.5 g CO_2e/MJ	**–15%** reduction from 2019 baseline
Electric Power (Scope 1)		375.6 kg CO_2/MWh	**115.4 kg CO_2/MWh** –69% reduction from 2019 baseline
Auto Manufacturing (Scope 1, 2 und 3)		157.8 g CO_2e/km	**92.3 g CO_2e/km** –41% reduction from 2019 baseline

Since setting its first portfolio-level emissions reduction targets, JPMorgan Chase has focused on implementing them in the management of its Oil & Gas, Electric Power and Auto Manufacturing portfolios. As part of this, an assessment of client emissions is now factored into our decision-making for the transactions in these sectors – starting with balance sheet lending originated by our banking groups and expanding to capital markets. The Firmwide assessment framework uses a variety of quantitative and qualitative measures to evaluate clients' current emissions performance, their track record and future plans. Quantitatively, we measure historical emissions reductions, current carbon intensity and forecasted intensity based on publicly announced emissions targets. Qualitatively, we assess actions the client has taken to drive progress, such as formulating detailed decarbonization plans, establishing clear governance and oversight of climate strategies and polices, and more.

The use of this carbon assessment score applies to J.P. Morgan SE's counterparties in scope of our Paris-aligned financing commitment. Further, coal financing restrictions on the provision of financial services to clients in the coal mining and coal fired power sectors are in place across the Firm.

The Path to Net-Zero Financed Emissions
A key aspect of the Firm's low-carbon strategy is how it engages with clients in carbon-intensive industries on their transition. To drive this, in 2020 JPMorgan Chase pledged to set portfolio-level emissions reduction targets for key sectors, with the goal of accelerating the low-carbon energy transition and setting a path toward net-zero emissions by 2050. In May 2021, JPMorgan Chase became one of the first U.S. banks to set 2030 portfolio intensity targets for three sectors and published its Carbon Compass SM Methodology, which details its approach for measuring and developing targets on a sector-by-sector basis. The Firm also announced its plans to expand to new sectors over time.

In October 2021, the Firm expanded its commitment by joining the Net-Zero Banking Alliance (NZBA). Convened by the United Nations Environment Programme Finance Initiative, NZBA brings together a global network of banks committed to aligning their lending and investment portfolios with net zero emissions by 2050. Joining NZBA will support the Firm's efforts as it works to develop targets for other sectors and engage with a growing number of clients who are aligning their strategies with widely-recognized and science-based emission reduction pathways. It is also a reflection of JPMorgan Chase's support for greater climate action, sharing best practices and taking a collaborative approach between the public and private sectors to drive progress.

Expanding dedicated client resources
In 2020, JPMorgan Chase launched the Center for Carbon Transition (CCT) to manage its Paris-aligned financing commitment and engage with clients globally on sustainability-focused financing and advisory solutions to help guide their long-term business strategies. The Firm continues to add resources and strengthen its position globally and in the region by forming the Global Markets Sustainability Center, growing its ESG solutions and ESG DCM franchise and having a dedicated ESG research team. JPMorgan Chase is planning to expand its CCT capabilities with presence in one of its major European hubs.

4.3.2. Climate Risk
J.P. Morgan SE's approach to climate risk management is described in the section "Climate risk" of the Bank's Risk Report within this document.

4.3.3. Operational Sustainability
Minimizing the environmental impact of the physical operations of JPMorgan Chase and J.P. Morgan SE is an important part of our overall sustainability strategy. Doing so supports our commitment to operating responsibly, enhances the resiliency of our Firm and reduces costs.

2021 Operational Greenhouse Gas (GHG) Footprint
J.P. Morgan SE's 2021 operational GHG emissions[6] were driven by two primary activities: powering our buildings (e.g., electricity, heating and cooling) and business travel. Scope 2 emissions, from purchased electricity, are the largest driver of our building-related emissions and overall

operational GHG footprint. The majority of our business travel-related emissions are Scope 3 emissions from commercially operated air and rail; reimbursed personal vehicle and rental car travel; and hotel stays.

J.P. Morgan SE GHG Emissions Summary

GHG Emissions ($mtCO_2e$) [1]	2021	2020
Scope 1	225.5	237.6
Scope 2 (location)	1,954.5	1,003.1
Scope 3 [2]	538.1	290.4
Total	**2,718.1**	**1,531.1**

[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.

J.P. Morgan SE's reported Scope 1 and 2 emissions increased during 2021 compared to the prior year. This was primarily driven by significant headcount increases, including in the Paris office, which raised the proportion of the Firm's building emissions attributable to J.P. Morgan SE. This upward trend is expected to continue during 2022 as the merger of J.P. Morgan Bank Luxembourg S.A. and J.P. Morgan Bank Ireland plc into J.P. Morgan AG (subsequently renamed to J.P. Morgan SE) in January 2022 has led to a further increase in headcount, with additional JPMorgan Chase office locations now primarily occupied by J.P. Morgan SE employees.

The increase in reported Scope 3 emissions compared to the prior year has been driven by a modest increase in business travel compared to the year 2020, when business travel was significantly reduced due to the COVID-19 pandemic. The above-mentioned headcount increases also raised the business travel activity attributable to J.P. Morgan SE. As noted above, we expect to see this trend continued due to further headcount increases in 2022.

Operational Sustainability Targets

In 2020, JPMorgan Chase committed to achieve carbon neutrality across its operations annually. This commitment includes Scope 1 (direct) GHG emissions from building operations and company-owned aircraft and vehicles; Scope 2 (indirect) GHG emissions from purchased electricity; and Scope 3 (indirect) GHG emissions associated with business travel. In 2021, JPMorgan Chase met its carbon-neutral goal for the second year in a row, and is committed to maintaining carbon neutral operations each year going forward.

[6] 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). Definitions per the GHG Protocol: Scope 1 – direct emissions from operations that are owned or controlled by the company; Scope 2 – indirect GHG emissions from the generation or purchase of acquired electricity, steam, heat, or cooling consumed by the company; Location-based accounting quantifies Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries; Scope 3 – indirect emissions (not included in Scope 2) that occur in the value chain of the company.

Our strategy to maintain carbon neutral operations is focused on the following:

- Improving efficiency: Reducing energy use is the first priority. The Firm continues to undertake a variety of energy efficiency measures – for example, optimizing the use of heating and cooling in the Firm's buildings – and to expand their implementation across our operations.
- Sourcing renewables: The Firm aims to continue to meet 100 % of our energy needs with renewables, both through on-site systems at JPMorgan Chase properties and by establishing long-term renewable energy procurement agreements (e. g., Power Purchase Agreements and green power supply contracts). Renewable energy for J.P. Morgan SE's major office locations in Frankfurt and Paris is sourced through long-term renewable supply contracts.
- Purchasing Energy Attribute Certificates (EACs) and carbon offsets: For the remainder of our direct and indirect emissions, the Firm purchases applicable EACs (e. g., Green-E certified Renewable Energy Certificates [RECs], International-RECs) and verified carbon offsets.[7]

Responsible resource and waste management are also key components of our sustainability strategy. Our focus is on reducing our water and waste footprint, coupled with responsible disposal of the waste we produce. In J.P. Morgan SE's major office locations in Frankfurt and Paris, specific initiatives include eliminating or reducing use of single-use plastics, improving waste segregation and recycling in the office, and promoting employee awareness and action on environmental sustainability.

In an effort to continue reducing the environmental impact of our operations, JPMorgan Chase has adopted the following Firmwide targets. The operating activities of J.P. Morgan SE are consolidated within the Firmwide tracking against these targets.

- Maintain carbon neutral operations annually, starting in 2020
- Source renewable energy for 100 % of our global power needs annually, starting in 2020
- 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
- Divert 100 % of e-waste from landfill through responsible third-party vendors.

For updates on the Firm's progress toward these targets, see the JPMorgan Chase 2021 Environmental, Social and Governance Report.[8]

7 The Firm is committed to working towards carbon neutrality, including sourcing renewable energy for 100% of its power needs, and is contracting all necessary EACs and offsets to address GHG emissions in order to meet its carbon neutral target. These contracts had not been completed as of the date on which this statement was authorized for issue.

4.3.4. Disclosure according to Article 8 of the EU Taxonomy Regulation

Article 8(1) of Regulation (EU) 2020/852 (the "EU Taxonomy" or "Taxonomy"), from January 1, 2022, requires J.P. Morgan SE as a financial undertaking to disclose the proportion of its exposures to Taxonomy-eligible and Taxonomy non-eligible economic activities in its total assets.

Additionally, the Frequently Asked Questions (FAQ) document issued by the European Commission in December 2021 requires Taxonomy eligibility-related disclosures of financial undertakings to be based on actual data, provided by their counterparties that are financial or non-financial undertakings in scope of Article 8 of the EU Taxonomy.

As this information is due to be disclosed for the first time during the course of 2022, there is limited actual data available in order for J.P. Morgan SE to assess the extent to which the economic activities of our counterparties are Taxonomy-eligible for the purposes of these mandatory disclosures. For the avoidance of doubt, where there is no published data from the issuers or clients in question as at the time of the finalization and publication of these accounts, J.P. Morgan SE is not representing this exposure as Taxonomy eligible.

Market practice and understanding of the application and interpretation of certain terms under the EU Taxonomy has not yet settled as the legislation is new. It may be that as market practice and further regulatory guidance develops around this, and as the EU Taxonomy is developed further, JPMorgan disclosures may change.

Exposure analyzed for Taxonomy eligibility is "loans and advances to third party undertakings not held-for-trading" which constitutes 1.6 % of J.P. Morgan SE's total assets. After J.P. Morgan SE publishes this report, further clients and counterparty disclosures will be made in the course of 2022. Our year-end 2021 report reflects the current availability of data. Additionally, as a significant percentage of our clients are not EU public entities, we may or may not see their information published in the course of 2022.

[8] Available on https://www.jpmorganchase.com/about/governance/esg

Mandatory disclosure of EU Taxonomy-eligible activities according to Article 8 of the EU Taxonomy Regulation

31/12/2021	in €T	% of total assets	% Taxonomy-eligible
Total assets [1]	281,415,254	100.0 %	<1 %
Trading Assets (Derivatives)	122,981,354	43.7 %	
Trading Assets (Non-Derivatives) and securities purchased under agreements to resell or borrowed (Held for trading)	64,000,861	22.8 %	
Cash and exposures to central banks, central governments, and supranational issuers	38,234,989	13.6 %	
Other assets, tangible assets, tax assets, demand deposits and intercompany balances	48,479,041	17.2 %	
Loans and advances, investment securities and securities purchased under agreements to resell or borrowed (not Held for trading)	7,719,009	2.7 %	
of which loans and advances to third party undertakings (not Held for trading)	4,478,076	1.6 %	

[1] Total assets as per the J.P. Morgan SE Balance Sheet reported in the Financial Statements, based on IFRS

Additional disclosures under the EU Sustainable Finance Disclosure Regulation

J.P. Morgan SE has published some additional disclosures to address specific requirements under the EU Sustainable Finance Disclosure Regulation on its website, see https://www.jpmorgan.com/DE/en/disclosures.

4.4. EMPLOYEE MATTERS

4.4.1. Human Capital

At J.P. Morgan SE, our people are integral to our success. As part of JPMorgan Chase, the Bank's human capital strategy leverages the Firm's and is focused on attracting, developing and retaining the high-performing diverse workforce we need to deliver exceptional service and innovative solutions to our clients, customers and communities.

As of December 31, 2021, of the J.P. Morgan SE employees who self-identified their gender, 63 % were male and 37 % female.

4.4.2. 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.

We work tirelessly 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.

We have developed inclusive and innovative business resource groups (BRGs) where our employees can freely voice their opinions, share their ideas for developing the business and build bridges with like-minded colleagues. 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, + and Ally; VETS – Voices for Employees That Served; WOTMIN Women On The Move Interactive Network; WFN – Working Families Network; NEXTGEN – Leadership Development for Early Career Professionals; and ADELANTE – Latino/Hispanic BRG.

Empowering Women in the Workplace
In addition to the BRGs, we also have dedicated branded strategies focused on specific communities not only within our workforce.

Women on the Move is our commitment to fuelling female ambition and advancing financial equality. It is about women supporting women to overcome the unique workplace barriers they might face and encouraging our employees to take ownership of their career paths. Across J.P. Morgan SE, Women on the Move is supported by four employee networks:

- Women On The Move Interactive Network: A forum for women and allies to collaborate and grow as professionals. It brings together representatives from across the global business and provides access to tools that enable successful retention and development of women at all levels.
- Men as Allies: A program to encourage men across the business to join Women on the Move as an ally in support of greater gender equity.
- Connect Continuums: Internal networks designed to meet the unique needs of employees at varying levels of seniority with role-specific skills training and development opportunities.
- Business Aligned Networks: Internal women's groups within specific areas of the business to facilitate relevant learning opportunities.

4.4.3. Building a Culture for Success

Attracting and Retaining Top Talent
We are focused on attracting and hiring talented individuals in all roles and career levels, from internship programs for students to full-time positions for experienced professionals. To achieve diverse hiring and representation outcomes at all levels, consideration of diverse candidates is an important element in our comprehensive recruiting efforts, and we track and monitor data about the use of diverse slates accordingly.

Investing in Employee Development
Supporting our employees' professional development and career growth is core to our human capital strategy. Employee training includes structured mandatory curricula for new hires and

existing employees, along with a range of training programs focused on topics from leadership development and technology to risk and compliance and business processes.

We are committed to developing a strong, diverse bench of talent, with a dedicated focus on the pipeline for our senior leadership positions. Our global leadership development program, Leadership Edge, helps train managers and leaders to drive results, support their teams, lead inclusively and grow talent.

Supporting and Rewarding Our Employees

Our compensation and 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 comprehensive 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 and wellness offerings, health screening programs, employee assistance programs, vacation and leave policies, backup childcare arrangements, mental health counselling and support, region-wide webinars and more.

Working Parents and Family Building

We offer enhanced paid parental and adoption leave policies according to statutory requirements and market practice. In addition, J.P. Morgan SE has flexible work options to support parents and others who need alternative work schedules, and we provide backup childcare in many countries, additional flexible unpaid leave options and other assistance to working parents.

Supporting Our Employees During the COVID-19 Pandemic

In response to the COVID-19 pandemic, we have taken a variety of steps to protect and support the well-being of our employees. We implemented alternative work arrangements that enabled most employees globally to work from home. We sponsored COVID testing in a number of locations to complement that provided under the public health systems. To support mental well-being, we have an Employee Assistance Program that provides advice, guidance and counselling for employees and their families. Our monthly wellness webinars have delivered a diverse range of support, particularly on subjects such as resilience, isolation, relationships and dealing with ambiguity and change.

Pay Equity

JPMorgan Chase is committed to equitable compensation for our employees. The Firm conducts periodic pay equity reviews covering employees at all levels. In 2021, in aggregate, women globally were paid 99 % of what men were paid, taking into account factors such as an employee's role, tenure, seniority and geography.

Pay equity reviews give us important insights, but they're just a starting point. If we identify 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 still are not represented in as many senior management positions as are men. Despite the significant progress we have made, we are taking a variety of actions focused on hiring, retaining, developing, and advancing women and ethnically diverse employees, especially at more senior levels.

Engaging with Employees

"Tone from the Top"

The Firm's and J.P. Morgan SE's senior management are actively involved in the communication of core values and expectations to our employees through regular town hall meetings as well as email and intranet communications.

Employee Participation in the Supervisory Board, Works Councils and Employee Forum/ Representative Groups

As per local legislations, 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, Italy, Spain and Employee Forum/Representative Groups in UK and Poland.

4.5. SOCIAL MATTERS

4.5.1. Increasing Economic Mobility

J.P. Morgan SE believes that our Bank should do its part to help advance a more inclusive economy and ensure healthy financial systems around the world and over the long run. We do this by harnessing our business expertise, research and data, philanthropy and collaborating with government and community leaders. 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.

4.5.2. Impact Case Studies

Leveraging the skills and commitment of J.P. Morgan SE employees in the Bank's Frankfurt and Paris offices, the Bank has helped young students to prepare for future careers. One example is The Schools Challenge, a program that empowers young people from low-income backgrounds to boost their employability through skills-building and mentorship. In 2021, 100 young people were supported by 70 of the Bank's employees across Paris and Frankfurt. 74 % of the students agreed that they improved their skills, such as problem solving, oral presentation and teamwork, as a result of the program. Another program we implement is Stage de Troisième in Paris, where underserved students have the opportunity to discover the professional world through a weeklong career project during the third middle school year. In November 2021, J.P. Morgan SE's Paris office welcomed eight students from Seine-Saint-Denis for one week. Through presentations,

onsite visits, and skills workshops, they met more than 50 employees and, by the end of the week, acquired a better understanding of a work environment and the roles in our sector.

The Bank is also committed to advancing 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. Since its inception, the program has supported 60 female entrepreneurs across Paris and Frankfurt.

As part of our work in helping non-profit partners build their capacity, we harness the skills and talents of our employees through the JPMorgan Chase Virtual Service Corps. This is a skills-based volunteering program that engages the Firm's employees. From May through July 2021, 24 employees worked with four organizations – Adie, Mozaik, Social Builder and Sport dans la Ville – on a strategic business challenge in Paris. All four of the organizations expect the support to be a change agent for their organization.

Rising to the Challenge to Support Disabled Athletes

Every year since 1992, the Firm has hosted the J.P. Morgan Corporate Challenge in Frankfurt. As the largest corporate running challenge worldwide, the 5.6-kilometer race typically attracts over 60,000 runners every year; in 2020 and 2021, the event was virtual. Proceeds and donations from the Challenge support Deutsche Sporthilfe, a funding initiative for athletic programs. One program example is the Rehm-Challenge, which provides financial assistance for Paralympics-squad athletes under the age of 23. In 2021, these athletes included Paralympics Tokyo winners such as swimmer Taliso Engel and wheelchair racer Merle Menje.

We also support Deutsche Behindertensportjugend ("DBSJ"), which organizes so-called "Talent Days" Germany-wide where especially young children and teenagers with disabilties can explore different sports with the objective to get them interested and motivated for their own personal growth. In addition, DBSJ coordinates the Jugend-Länder-Cup. As part of this competition, young athletes with disabilities from all over Germany come together over four days to compete against each other, build their skills, and connect with other athletes.

4.5.3. The JPMorgan Chase Foundation

The JPMorgan Chase Foundation is a US non-profit charitable organization and funds charitable initiatives to promote economic inclusion across 37 countries worldwide where the Firm does business, including Germany, France, Italy, Spain, Ireland, Luxembourg and Poland. While its donations do not come out of J.P. Morgan SE's budget, we report on them here because they represent part of the Firm's commitment to regional and local communities in J.P. Morgan SE's office locations.

In Germany, the JPMorgan Chase Foundation is committed to promoting economic opportunities for vulnerable communities in Berlin, Frankfurt/Rhine-Main and Ruhr Valley. It supports

charitable initiatives which empower young people facing barriers to successfully find jobs in the increasingly digital economy, and strengthen women on low and insecure incomes to build a resilient financial future through employment or business ownership.

In 2021, the JPMorgan Chase Foundation funded charitable projects that aim to help more than 2,600 youth remain engaged in learning and succeed in career pathways through grants to organizations that provide career orientation, mentoring and skills building for secondary school students, such as Stiftung der deutschen Wirtschaft and START-Stiftung. It also supported initiatives to aid 50 unemployed refugee or migrant women to access employment through new qualification programs in the care and retail sectors, and to help more than 900 small business owners build and grow their business in the digital transformation, through grants to Kompass Zentrum für Existenzgründungen and KIZ SINNOVA Gesellschaft für soziale Innovationen gGmbH.

As part of the 5-year committment of the Firm in 2019 to expand access to economic opportunities for residents and entrepreneurs that struggle with poverty and unemployment across Île-de-France, in June 2021 the JPMorgan Chase Foundation announced grants of more than € 4.3 million to connect young and long-term unemployed people in vulnerable communities across Paris to the skills needed for stable, well-paid careers. These efforts include connecting youth from low-income backgrounds with apprenticeships, supporting young people with digital skills training, and preparing long-term unemployed adults with skills needed to compete in, and return to, the workforce.

As the world continues to change and evolve, we remain committed to helping create more economic opportunity around the world.

4.6. RESPECT FOR HUMAN RIGHTS

4.6.1. Human Rights Risk

JPMorgan Chase 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.

J P. Morgan Chase has a range of policies and procedures that pertain to human rights issues, including modern slavery and indigenous peoples, 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.[9]

[9] https://www.jpmorganchase.com/about/our-business/human-rights

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.

4.6.2. Supply Chain and Responsible Sourcing

JPMorgan Chase'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, including adherence to applicable laws and regulations, reduces potential risk to both JPMorgan Chase and our suppliers.

4.7. ANTI-CORRUPTION AND ANTI-BRIBERY

J.P. Morgan SE has zero tolerance for bribery and corruption, and is deeply committed to participating in international efforts to combat corruption. The Firm has established an Anti-Corruption Policy ("the Policy") that seeks to promote ethical business practices and requires compliance with applicable anti-corruption laws and regulations. The Firm has a published Commitment to Anti-Corruption Compliance on the Firm's website.[10]

Anti-Corruption Compliance have identified the key areas of corruption-related risk as including:

- the giving or receiving of anything of value, which specifically includes an offer of employment to an individual, or a J.P. Morgan SE-funded sponsorship or donation
- third parties acting on J.P. Morgan SE's behalf
- transactions entered into by the Firm or by funds or accounts controlled or managed by J.P. Morgan SE.

The Policy therefore prohibits offering or giving anything of value (including gifts, hospitality, travel, employment, and work experience) 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:

- keep accurate books, records, and accounts that relate to the business of J.P. Morgan SE, its clients, suppliers, and other partners
- conduct due diligence and oversight of intermediaries / agents, joint venture partners, and entities over which J.P. Morgan SE has or may obtain control or influence
- report potential corruption-related issues.

[10] https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/documents/jpmc-commitment-to-anti-corruption-compliance.pdf

Any violation of the Policy may result in disciplinary action up to and including dismissal.

The Firm's Anti-Corruption Compliance 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.

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