SUPPLEMENT NO. 3 DATED 10 MAY 2019
TO THE REGISTRATION DOCUMENT DATED 29 JUNE 2018

J.P.Morgan

J.P. Morgan Structured Products B.V.
(*incorporated with limited liability in The Netherlands*)

and

J.P. Morgan Securities plc
(*incorporated with limited liability in the United Kingdom*)

This supplement pursuant to section 16 of the German Securities Prospectus Act (*Wertpapier-prospektgesetz*) (the "**Supplement**") constitutes a supplement to the registration document dated 29 June 2018 (the "**Original Registration Document**") as supplemented by Supplement No. 1 dated 9 October 2018 and Supplement No. 2 dated 26 April 2019 (the Original Registration Document as so supplemented, the "**Registration Document**") constituting two registration documents: (i) the registration document in relation to J.P. Morgan Structured Products B.V., Amsterdam, The Netherlands (the "**Issuer**" or "**JPMSP**") and (ii) the registration document in relation to J.P. Morgan Securities plc, London, United Kingdom as guarantor for certain securities issued by JPMSP ("**JPMS plc**" or, the "**Guarantor**").

Subject of this Supplement is the inclusion of new factors into the Registration Document following the publication of the audited JPMS plc Annual Report for the financial year ended 31 December 2018 (the "**JPMS plc 2018 Annual Report**"). The JPMS plc 2018 Annual Report has been published on 8 May 2019.

Amendments and supplemental information to Registration Document

I. Amendments in relation to the Table of Contents

In the Table of Contents on page 2 of the Registration Document the following item shall be inserted prior to the item "SIGNATURE PAGE":

II. Amendments to the section "I. RISK FACTORS"

The information contained in the subsection "15.1. Risks relating to JPMS plc as individual entity." on page 35 et seq. of the Registration Document shall be deleted and replaced by the following information:

"**15.1 Risks relating to JPMS plc as individual entity.**

Information about risk factors relating to JPMS plc can be found in the section "Strategic Report" of JPMS plc's Annual Report for the year ended 31 December 2018 which is contained on pages H-3 to H-44 of this Registration Document.

In particular the following key risks which are inherent to JPMS plc's business activities should be taken into account (which are elaborated in more detail on JPMS plc's Annual Report for the year ended 31 December 2018 as set out on page H-3 to H-44 of this Registration Document) that could affect the JPMS plc's business and, as a consequence, may affect JPMS plc's ability to fulfil its obligations under the Guarantee:

- The risks described in the bullets in section 14.1 in relation to JPMSP which are also inherent to JPMS plc's business activities.

- Capital risk: The risk that JPMS plc has an insufficient level and composition of capital to support JPMS plc's business activities, and associated risks during normal economic environments and stressed conditions. For further information see also under section 14.2 below.

- Country risk: The framework for monitoring and assessing how financial, economic, political or other significant developments adversely affect the value of JPMS plc's exposures related to a particular country or set of countries. For further information see also under section 10. above where such risk is described in more detail in relation to JPMorgan Chase.

- Non-U.S. dollar Foreign Exchange ("**FX**") risk: Non-U .S. dollar FX risk is the risk that changes in foreign exchange rates affect the value of JPMS plc's assets or liabilities or future results.

- Structural interest rate risk: The risk resulting from JPMS plc's traditional banking activities (accrual accounted on- and off balance sheet rate risk positions) which includes extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as "non-trading activities").

- Conduct risk: The risk that any action or inaction by an employee of JPMS plc could lead to unfair client/customer outcome, compromise JPMS plc's reputation, impact the integrity of the markets in which JPMS plc operates, or reflect poorly on the JPMorgan Chase's culture. For further information see also under section 8. above where such risk is described in more detail in relation to JPMorgan Chase.

- Legal risk: 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 JPMorgan Chase and JPMS plc operate, agreements with clients and customers and products and services offered by JPMS plc and the JPMorgan Chase. For further information see also under section 13. above where such risk is described in more detail in relation to JPMorgan Chase.

- Model risk: The risk of the potential for adverse consequences from decisions based on incorrect or misused model outputs."

III. Amendments to the section "VI. J.P. MORGAN SECURITIES PLC"

The information contained in the subsection "4. Trend Information" on page 52 et seq. of the Registration Document shall be deleted and replaced by the following information:

"There has been no material adverse change in the prospects of JPMS plc since 31 December 2018.

The following statements are based on the current beliefs and expectations of JPMS plc's management and are subject to significant risks and uncertainties. These risks and uncertainties could cause JPMS plc's actual results to differ materially from those set forth in such forward-looking statements. See "Cautionary Note Regarding Forward-Looking Statements" and "Risk Factors" in this Registration Document.

Future outlook

The outlook of JPMS plc for the full 2019 year should be viewed against the backdrop of the global economy, financial markets activity, the geopolitical environment, the competitive environment, client activity levels and regulatory and legislative developments in the countries where JPMS plc does business. Each of these inter-related factors will affect the performance of JPMS plc and its lines of business ("**LOB's**").

Expected departure of the UK from the EU

Risks and uncertainties

In 2016, the UK voted to withdraw from the European Union ("**EU**"), and in March 2017, the UK invoked Article 50 of the Lisbon Treaty, which commenced withdrawal negotiations with the EU. As a result, and after two extensions of the negotiation timeline, the UK is currently scheduled to depart from the EU on 31st October, 2019. Negotiations regarding the terms of the UK's withdrawal continue between the UK and the EU, although the situation remains highly uncertain.

It remains highly uncertain how the expected departure of the UK from the EU, which is commonly referred to as "Brexit" will affect financial services firms such as JPMorgan Chase that conduct substantial operations in the EU from legal entities that are organized in or operating from the UK. It is also possible that any agreement reached between the UK and the EU may, depending on the final outcome of the ongoing negotiations and related legislative developments:

- impede the ability of UK-based financial services firms to conduct business in the EU;
- fail to address significant unresolved issues relating to the cross-border conduct of financial services activities; or
- apply only temporarily.

A disorderly departure of the UK from the EU, or the unexpected consequences of any departure, could have significant and immediate destabilising effects on cross-border financial services activities, depending on circumstances that may exist following such a withdrawal, including:

- the possibility that clients and counterparties of financial institutions are not positioned to continue to do business through EU-based legal entities;
- reduction or fragmentation of market liquidity that may be caused if trading venues or central counterparties ("**CCPs**") currently based in the UK have not completed arrangements to conduct operations from the EU either immediately or, if authorised to continue to operate from the UK on a transitional basis, after any transitional relief has expired;
- uncertainties concerning the application and interpretation of laws and regulations relating to cross-border financial services activities;
- inability to engage in certain capital markets activities through EU-based legal entities to the extent that licenses or temporary permission to engage in such activities have not been granted timely by local regulators; and
- lack of legal certainty concerning the treatment of existing transactions.

Any or all of the above factors could have an adverse effect on the overall operation of the European financial services market as well as JPMorgan Chase's business, operations and earnings in the UK, the EU and globally and the JPMS plc's business, operations and earnings.

If the UK departs from the EU with no withdrawal agreement having been reached, the types of structural and operational changes that JPMorgan Chase is in the process of making to its European operations will result in JPMorgan Chase having to sustain a more fragmented operating model across its UK, EU and other operating entities. Due to considerations such as operating expenses, liquidity, leverage and capital, the modified European operating framework will be more complex, less efficient and more costly than would otherwise have been the case. JPMorgan Chase may experience these types of inefficiencies in its business and operations even if a withdrawal agreement is reached, for example in the event that during the transition period contemplated by such an agreement, the UK and the EU fail to reach further agreement on future trade relationships between the UK and the EU, or if any other outcome persists that does not assure ongoing access for UK-based financial services firms to the EU market.

JPMorgan Chase's Response to Brexit

JPMorgan Chase has a long-standing presence in the U.K, which currently serves as the regional headquarters of JPMorgan Chase's operations in over 30 countries across Europe, the Middle East, and Africa ("**EMEA**"). In the region, JPMorgan Chase serves clients and customers across its business segments. JPMorgan Chase has approximately 16,000 employees in the U.K, of which approximately two-thirds are in London, with operational and technology support centers in locations such as Bournemouth, Glasgow and Edinburgh.

JPMS plc is a principal subsidiary in the region and JPMorgan Chase utilises its EU passport to serve clients and customers across its business segments. It is assumed that JPMS plc is likely to lose its EU passporting rights on Brexit and will not be able to continue to conduct the regulated activities in the EEA. The JPMorgan Chase has therefore been making the necessary modifications to its legal entity structure and operations in the EU, the locations in which it operates and the staffing in those locations to ensure the continuity of service to the clients. In particular, JPMorgan Chase is building its EU legal entities so they are able to face the EEA clients and counterparties for the EU passported regulated activity. JPMS plcis facilitating JPMorgan Chase's implementation efforts, including re-documentation of in-scope EEA clients, redirection of the membership activity with certain EU CCPs to the relevant EU legal entity, and planning for the transfer of necessary staff out of the UK to the EU locations.

Brexit Implementation Program

JPMorgan Chase has been preparing for readiness for the UK's expected withdrawal from the EU, which is commonly referred to as "**Brexit**", for an extended period of time.

JPMorgan Chase established a firmwide Brexit Implementation programme in 2017. The programme covers strategic implementation across all impacted businesses and functions. The programme's objective is to deliver JPMorgan Chase's capabilities on "day one" of the UK's withdrawal across all impacted legal entities. The programme includes an ongoing assessment of implementation risks including political, legal and regulatory risks and plans for addressing and mitigating those risks. The JPMorgan Chase is also monitoring the expected macroeconomic developments associated with a no-deal scenario and has undertaken stress testing covering credit and market risk to assess potential impacts. Significant uncertainty remains around the UK's expected departure from the EU, including the possibility that the UK departs without any agreement being reached on how UK financial services firms will conduct business within the EU (i.e., "a no-deal scenario").

JPMorgan Chase is planning for a UK withdrawal in the event that an agreement is reached, as well as for a no-deal scenario. Significant uncertainties exist under either potential outcome.

The JPMS plc is facilitating JPMorgan Chase's implementation programme, including transition of in-scope activities to the relevant EU legal entity. The purchase price consideration for the transition of the activities will be determined based on arm's length fair market value principles. Management has performed an assessment of the facts and circumstances of the planned transition and the assets and liabilities that would be subject of the transfer from JPMS plc to the relevant EU legal entity and the fair market value compensation that JPMS plc would receive for the transfers. The consideration will be concluded, once the components of the transfer have been finalised.

In planning for the UK withdrawal from the EU under a no-deal scenario, the JPMorgan Chase is focused on the following key areas to ensure continuation of service to its EU clients: regulatory and legal entity readiness; client readiness; and business and operational readiness.

- Regulatory and legal entity readiness

  JPMorgan Chase intends to leverage its existing EU legal entities, in Germany, Luxembourg and Ireland to conduct broader financial service activities. These legal entities are now ready with capabilities to address a UK exit scenario, including governance, infrastructure, capital, local regulatory licenses and branch authorizations, as needed, and are operationally live with new client activity that is expected to expand to the full planned scope once the timing of a potential UK exit is confirmed.

  As part of building up JPMorgan Chase's EU legal entities, JPMorgan Chase is assessing the most efficient capital allocation across the legal entities in the region. The expected transition of the activities out of JPMS plc would free up capital resources in JPMS plc above its regulatory capital requirements. In these circumstances and where possible, management is planning that JPMS plc would consider distributing any available excess capital to its shareholders. This will enable the allocation of capital to the EU legal entities. These dividend proposals would be assessed by management and the directors in line with the JPM EMEA Capital Management and ICAAP framework and the dividend strategy of the JPMS plc. The fundamental imperative of the dividend strategy remains that of preserving JPMS plc's capital strength and long-term stability to enable it to build and invest in business activities through normal and stressed environments.

- Client readiness

  Where required, agreements with JPMorgan Chase's EU clients are being re-documented from the JPMS plc and other UK legal entities to existing EU legal entities to ensure continuation of service. This process involves establishing new agreements such as ISDA master agreements between clients and the relevant EU legal entity. There is a risk that not all clients will have the appropriate legal and operational arrangements in place upon the UK's withdrawal from the EU. JPMorgan Chase continues to actively engage with its clients to ensure preparedness and, to the extent possible, minimise operational disruption.

  On the implementation of the Brexit plans, the EU clients of the JPMS plc would start facing the relevant EU legal entity. Depending on the product and the line of business, the market risk may continue to be managed within JPMS plc and in these instances, the EU legal entities will have a back to back trade with the JPMS plc. Further, the extent to which JPMS plc will need to novate historical client trades to the EU legal entities will depend on the final agreement between the UK and EU. Any novations of such trades would occur at the relevant fair market values.

- Business and operational readiness

  JPMorgan Chase is expecting to add several hundred employee positions in its various EU locations, including individuals who JPMorgan Chase expects to relocate from the UK. JPMorgan Chase is preparing to be operational in the EU across all in-scope businesses and functions, including the build-out of technology, processes and controls, and the necessary resourcing in the EU locations across first, second and third line of defence functions. Several hundred employees could be transferred from the JPMS plc to the relevant EU legal entities.

JPMorgan Chase and its EU legal entities' access to market infrastructures such as trading venues, CCPs and central settlement systems ("**SSSs**") have been adjusted to comply with the evolving regulatory framework. Some uncertainty remains with respect to the readiness of the overall market ecosystem and connectivity between participants. JPMorgan Chase continues to monitor the regulatory landscape and is preparing to take mitigating action, as needed.

In the event that the UK's withdrawal from the EU is delayed through a transition deal or another mechanism, JPMorgan Chase would have the required operational capabilities to conduct business from its EU legal entities, but the timing of any further changes would be re-assessed to ensure that a strategic approach is taken. JPMorgan Chase continues to closely monitor all negotiations and legislative developments and has developed an implementation plan that allows for flexibility given the continued uncertainty.

Other considerations

Management's fair value estimates reflect the market data at the balance sheet date and this incorporates any market sentiment relating to Brexit. The expected credit loss model includes JPMS plc's assessment of the most likely outcome of Brexit on macroeconomic variables as of the balance sheet date.

Management have considered the impact of the risk factors associated with Brexit on JPMS plc's ability to continue as a going concern. Whilst, as set out above, the risks associated with Brexit could have adverse impacts to the JPMS plc's business, operations, and earnings and JPMS plc will see a reduction in its EU client footprint, JPMS plc is expected to continue to be a principal subsidiary of JPMorgan Chase in the region and continue to remain profitable and well-capitalised.

Regulatory Developments

In the EU, there is an extensive and complex program of final and proposed regulatory enhancement that reflects, in part, the EU's commitments to policies of the Group of Twenty Finance Ministers and Central Bank Governors ("**G20**") together with other plans specific to the EU. The EU operates a European Systemic Risk Board that monitors financial stability, together with European Supervisory Authorities ("**ESAs**") that set detailed regulatory rules and encourage supervisory convergence across the EU's Member States. The EU is currently reviewing the ESA framework and the European Commission ("**EC**") has proposed legislation to change the roles and responsibilities of the ESAs. The EU has also created a Single Supervisory Mechanism for the euro-zone, under which the regulation of all banks in that zone will be under the auspices of the European Central Bank, together with a Single Resolution Mechanism and Single Resolution Board, having jurisdiction over bank resolution in the zone. At both the G20 and EU levels, various proposals are under consideration to address risks associated with global financial institutions.

The EU is also currently considering or implementing significant revisions to laws covering securities settlement; mutual funds and pensions; payments; anti-money laundering controls; data security and privacy; transparency and disclosure of securities financing transactions; benchmarks; resolution of banks, investment firms and market infrastructures; and capital and liquidity requirements for banks and investment firms.

Consistent with the G20 and EU policy frameworks, U.K. regulators have adopted a range of policy measures that have significantly changed the markets and prudential regulatory environment in the U.K. Post-Brexit, there is uncertainty as to future U.K policy initiatives as it will depend on the future relationship between the EU and U.K. Therefore the impact will be assessed Post-Brexit."

The information contained in the subsection "5. Directors and Officers" on page 54 et seq. of the Registration Document shall be deleted and replaced by the following information:

"5. Directors and Officers

The administrative, management and supervisory bodies of JPMS plc comprise its Board of Directors. Set forth below are the names and positions of JPMS plc's Directors at the date of this Registration Document. The business address of each Director is 25 Bank Street, Canary Wharf, London, E14 5JP, England.

Name	**Function**	**Principal Outside Activities**
Sir Winfried Bischoff	Independent Non-Executive Chairman of J.P. Morgan Securities plc, of its Nomination Committee and the UK Remuneration Committee. Member of the Directors’ Risk Policy Committee.	Chairman of the UK Financial Reporting Council
Laban Jackson	Independent Non-Executive Director and Chairman of the UK Audit and Compliance Committee and member of the UK Remueration Committee.	Director of JPMorgan Chase & Co. and member of the JPMorgan Chase & Co. Audit Committee Chairman of Clear Creek Properties Inc.
Scott Moeller	Independent Non-Executive Director and Chairman of the Directors' Risk Policy Committee. Member of the Nomination Committee	Director, M&A Research Centre, Cass Business School
Jane Moran	Independent Non-Executive Director and member of the Nomination Committee and UK Audit and Compliance Committee	Chief Information Officer, Unilever plc
Andrew Cox	Director, Chief Risk Officer and Head of Credit Risk, EMEA	
Anna Dunn	Director and Chief Financial Officer, EMEA	
Julia Meazzo	Director and Head of Human Resources, EMEA	
Daniel Pinto	Director and Chief Executive Officer of Corporate and Investment Bank	Co-President and Co-Chief Operating Officer for JPMorgan Chase & Co;
Viswas Raghavan	Director and Chief Executive Officer; Chief Executive Officer, EMEA;	

	Head of EMEA Banking	
Jason Edwin Sippel	Director; Co-Head of Global Equities	
Clive Adamson	Non-Executive Director	

There are no material potential conflicts of interest between any duties owed to JPMS plc by the Directors of JPMS plc identified above and their private interests and/or outside duties."

In the paragraph "Historical financial information" in the subsection "6. Financial Information" on page 55 of the Registration Document the following information shall be added at the end:

"Financial information of JPMS plc for the financial year 2018 ("**JPMS plc 2018 Annual Report**") prepared in accordance with United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law (United Kingdom Generally Accepted Accounting Practice) can be found in Appendix III of the Registration Document (pages H-1 to H-110)."

The information contained in the first paragraph in the subsection "Auditing of historical financial information" in the subsection "6. Financial Information" on page 55 of the Registration Document shall be deleted and replaced by the following information:

"PricewaterhouseCoopers LLP, Chartered Accountants and Statutory Auditors, have audited without qualification JPMS plc's audited financial statements. A copy of the auditor's report from the JPMS plc 2017 Annual Report appears on pages F-27 to F-33 of Appendix I and from the JPMS plc 2016 Annual Report at pages G-3 to G-4 of Appendix II and from the JPMS plc 2018 Annual Report at pages H-45 to H-49 of Appendix III to this Registration Document. PricewaterhouseCoopers LLP has no material interest in JPMS plc."

The information contained in the subsection "9. No significant change in Issuer's financial or trading position" on page 56 of the Registration Document shall be deleted and replaced by the following information:

"There have been no significant changes in the financial position of JPMS plc since 31 December 2018."

IV. Amendments to the section "VII. DOCUMENTS ON DISPLAY"

In the section "VII. DOCUMENTS ON DISPLAY" on page 57 of the Registration Document the item "(ii)" shall be deleted and replaced by the following information:

"(ii) the JPMS plc 2018 Annual Report, the JPMS plc 2017 Annual Report and the JPMS plc 2016 Annual Report;"

V. Amendments in relation to the Appendices of the Registration Document

The information contained in Schedule I to this supplement shall be added as new "Appendix III: Audited financial information of J.P. Morgan Securities plc for the financial year 2018" at the end of the Registration Document.

Schedule I

APPENDIX III

Audited financial information of J.P. Morgan Securities plc for the financial year 2018

J.P. MORGAN SECURITIES PLC

(Registered Number: 02711006)

Annual report for the year ended 31 December 2018

J.P. MORGAN SECURITIES PLC
Strategic report

The directors present the Strategic report of J.P. Morgan Securities plc (the "Company" or "JPMS plc") for the year ended 31 December 2018.

Overview

JPMS plc, a public limited company incorporated and domiciled in England and Wales, is an indirect subsidiary of JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), a national banking association in the United States of America ("U.S.") and a principal subsidiary of JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm"). JPMorgan Chase is a financial holding company incorporated under Delaware law in 1968, is a leading global financial services firm and is one of the largest banking institutions in the U.S. with operations worldwide. JPMS plc had $668 billion in assets and $45 billion in total shareholder's equity as of 31 December 2018.

Principal activities

The Company is a principal subsidiary of the Firm in the United Kingdom ("UK") and the European Economic Area ("EEA"). The Company engages in international investment banking activity, including activity across Markets and Banking lines of business. Within these lines of business, its activities include underwriting government and corporate bonds, equities and other securities; arranging private placements of debt and convertible securities; trading in debt securities, equity securities, commodities, swaps and other derivatives; providing brokerage and clearing services for exchange traded future and options contracts; lending related activities and providing investment banking advisory services. The Company is a member of over twenty exchanges and various clearing houses, including, among others, LME Clear Limited, Eurex Clearing AG and ICE Clear Europe.

The Company is a UK bank and a EEA Capital Requirements Directive IV ("CRD IV") credit institution, legally defined as an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account.

The Company is authorised by the Prudential Regulation Authority ("PRA") and regulated by the PRA and Financial Conduct Authority ("FCA") in the UK. It has branches in Frankfurt, Paris, Milan, Madrid, Stockholm and Zurich. It has Outward Services Passports across the EEA and Outward Branch Passports for the respective branches except Zurich.

The Company is likely to lose its EU passporting rights with the expected departure of the UK from the EU, and as such the Firm has been making the necessary modifications to its legal entity structure and operations in the EU. These plans are discussed in pages 4 - 6 of these financial statements.

Review of business

The directors are satisfied with the performance of the Company with core businesses performing in line with expectations. Despite operating in a highly competitive and complex global environment with continued mixed market conditions, results for the year were strong, demonstrating the strength and depth of the Company's client franchises. The results further reflect the Company's client focus which allowed businesses to continue to provide investment opportunities to clients through its strength as a market maker, leading to continued profitable results in 2018.

Total assets increased representing the growth in the Company's client franchises with increases in securities borrowed and securities purchased under agreements to resell, along with an increase in cash placed with central banks. The Company continued to be well capitalised and met all external capital requirements.

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Key performance indicators ("KPIs")

The directors monitor progress on the performance of the Company using various metrics. The primary KPIs are set out below:

Financial performance (in USD '000's except for capital ratios)	**2018**	**2017**
Income statement		
Total operating income	10,025,547	7,262,737
Profit on ordinary activities before taxation	4,362,431	3,599,049
Profit for the financial year (after tax)	3,369,587	2,635,459
Balance sheet		
Total assets	668,042,178	620,914,735
Capital ratios (unaudited)		
Common Equity Tier 1	43,583,506	39,877,617
Common Equity Tier 1 ratio ("CET 1")	18.4%	15.9%
Pillar 1 capital ratio	23.4%	15.9%
Regulatory minimum total required capital ratio*	8.0%	8.0%

* Represents minimum requirements of the European Union's Basel III Capital Requirements Directive and Regulation. The Company's total capital ratio as of 31 December 2018 and 2017 exceeded the minimum requirements, as well as the additional capital requirements in excess of the minimum as specified by the PRA.

Income statement

The income statement for the year ended 31 December 2018 is set out on page 56. Total operating income was $10,026 million for 2018 (2017: $7,263 million). The results for the Company show a pre-tax profit of $4,362 million for 2018 (2017: $3,599 million). Total operating income was up year on year, driven by strong results in the Banking business supplemented by improved performance across several markets businesses and dividend income from J.P. Morgan Europe Limited.

Balance sheet

The balance sheet is set out on page 57. The Company has total assets and total liabilities of $668,042 million (2017: $620,915 million) and $623,138 million (2017: $579,400 million) respectively, as at 31 December 2018.

Capital ratios

The Company continues to maintain strong capital ratios. Refer to Risk management section on pages 8 - 41 for further details.

Future outlook

The Company's outlook for the full 2019 year should be viewed against the backdrop of the global economy, financial markets activity, the geopolitical environment, the competitive environment, client activity levels and regulatory and legislative developments in the countries where the Company does business. Each of these inter-related factors will affect the performance of the Company and its lines of business ("LOB's").

Expected departure of the UK from the EU

Risks and uncertainties

In 2016, the UK voted to withdraw from the European Union ("EU"), and in March 2017, the UK invoked Article 50 of the Lisbon Treaty, which commenced withdrawal negotiations with the EU. As a result, and after two extensions of the negotiation timeline, the UK is currently scheduled to depart from the EU on 31st October, 2019. Negotiations regarding the terms of the UK's withdrawal continue between the UK and the EU, although the situation remains highly uncertain.

It remains highly uncertain how the expected departure of the UK from the EU, which is commonly referred to as "Brexit," will affect financial services firms such as JPMorgan Chase that conduct substantial operations in the EU from legal entities that are organised in or operating from the UK. It is also possible that any agreement reached between the UK and the EU may, depending on the final outcome of the ongoing negotiations and related legislative developments:

- impede the ability of UK-based financial services firms to conduct business in the EU;
- fail to address significant unresolved issues relating to the cross-border conduct of financial services activities; or
- apply only temporarily.

A disorderly departure of the UK from the EU, or the unexpected consequences of any departure, could have significant and immediate destabilising effects on cross-border financial services activities, depending on circumstances that may exist following such a withdrawal, including:

- the possibility that clients and counterparties of financial institutions are not positioned to continue to do business through EU-based legal entities
- reduction or fragmentation of market liquidity that may be caused if trading venues or central counterparties ("CCPs") currently based in the UK have not completed arrangements to conduct operations from the EU either immediately or, if authorised to continue to operate from the UK on a transitional basis, after any transitional relief has expired;
- uncertainties concerning the application and interpretation of laws and regulations relating to cross-border financial services activities;
- inability to engage in certain capital markets activities through EU-based legal entities to the extent that licenses or temporary permission to engage in such activities have not been granted timely by local regulators; and
- lack of legal certainty concerning the treatment of existing transactions.

Any or all of the above factors could have an adverse effect on the overall operation of the European financial services market as well as JPMorgan Chase's business, operations and earnings in the UK, the EU and globally and the Company's business, operations, and earnings.

If the UK departs from the EU with no withdrawal agreement having been reached, the types of structural and operational changes that the Firm is in the process of making to its European operations will result in the Firm having to sustain a more fragmented operating model across its UK, EU and other operating entities. Due to considerations such as operating expenses, liquidity, leverage and capital, the modified European operating framework will be more complex, less efficient and more costly than would otherwise have been the case. JPMorgan Chase may experience these types of inefficiencies in its business and operations even if a withdrawal agreement is reached, for example in the event that during the transition period contemplated by such an agreement, the UK and the EU fail to reach further agreement on future trade relationships between the UK and the EU, or if any other outcome persists that does not assure ongoing access for UK-based financial services firms to the EU market.

Expected departure of the UK from the EU (continued)

Firm's Response to Brexit

The Firm has a long-standing presence in the U.K., which currently serves as the regional headquarters of the Firm's operations in over 30 countries across Europe, the Middle East, and Africa ("EMEA"). In the region, the Firm serves clients and customers across its business segments. The Firm has approximately 16,000 employees in the U.K., of which approximately two-thirds are in London, with operational and technology support centers in locations such as Bournemouth, Glasgow and Edinburgh.

The Company is a principal subsidiary in the region and the Firm utilises its EU passport to serve clients and customers across its business segments. It is assumed that the Company is likely to lose its EU passporting rights on Brexit and will not be able to continue to conduct the regulated activities in the EEA. The Firm has therefore been making the necessary modifications to its legal entity structure and operations in the EU, the locations in which it operates and the staffing in those locations to ensure the continuity of service to the clients. In particular, the Firm is building its EU legal entities so they are able to face the EEA clients and counterparties for the EU passported regulated activity. The Company is facilitating the Firm's implementation efforts, including re-documentation of in-scope EEA clients, redirection of the membership activity with certain EU CCPs to the relevant EU legal entity, and planning for the transfer of necessary staff out of the UK to the EU locations.

Brexit Implementation Program

The Firm has been preparing for readiness for the U.K.'s expected withdrawal from the EU, which is commonly referred to as "Brexit", for an extended period of time.

JPMorgan Chase established a Firmwide Brexit Implementation programme in 2017. The programme covers strategic implementation across all impacted businesses and functions. The programme's objective is to deliver the Firm's capabilities on "day one" of the UK's withdrawal across all impacted legal entities. The programme includes an ongoing assessment of implementation risks including political, legal and regulatory risks and plans for addressing and mitigating those risks. The Firm is also monitoring the expected macroeconomic developments associated with a no-deal scenario and has undertaken stress testing covering credit and market risk to assess potential impacts. Significant uncertainty remains around the UK's expected departure from the EU, including the possibility that the UK departs without any agreement being reached on how UK financial services firms will conduct business within the EU (i.e., "a no-deal scenario").

The Firm is planning for a UK withdrawal in the event that an agreement is reached, as well as for a no-deal scenario. Significant uncertainties exist under either potential outcome.

The Company is facilitating the Firm's implementation programme, including transition of in-scope activities to the relevant EU legal entity. The purchase price consideration for the transition of the activities will be determined based on arm's length fair market value principles. Management has performed an assessment of the facts and circumstances of the planned transition and the assets and liabilities that would be subject of the transfer from the Company to the relevant EU legal entity and the fair market value compensation that the Company would receive for the transfers. The consideration will be concluded, once the components of the transfer have been finalised.

In planning for the UK withdrawal from the EU under a no-deal scenario, the Firm is focused on the following key areas to ensure continuation of service to its EU clients: regulatory and legal entity readiness; client readiness; and business and operational readiness.

Regulatory and legal entity readiness

The Firm intends to leverage its existing EU legal entities, in Germany, Luxembourg and Ireland to conduct broader financial service activities. These legal entities are now ready with capabilities to address a UK exit scenario, including governance, infrastructure, capital, local regulatory licenses and branch authorizations, as needed, and are operationally live with new client activity that is expected to expand to the full planned scope once the timing of a potential UK exit is confirmed.

As part of building up the Firm's EU legal entities, the Firm is assessing the most efficient capital allocation across the legal entities in the region. The expected transition of the activities out of the Company would free up capital resources in the Company above its regulatory capital requirements. In these circumstances and where possible, management is planning that the Company would consider distributing any available excess capital to its shareholders. This will enable the allocation of capital to the EU legal entities. These dividend proposals would be assessed by management and the directors in line with the JPM EMEA Capital Management and ICAAP framework and the dividend strategy of the Company. The fundamental imperative of the dividend strategy remains that of preserving the Company's capital strength and long-term stability to enable it to build and invest in business activities through normal and stressed environments.

Expected departure of the UK from the EU (continued)

Brexit Implementation Program (continued)

Client readiness

Where required, agreements with the Firm's EU clients are being re-documented from the Company and other UK legal entities to existing EU legal entities to ensure continuation of service. This process involves establishing new agreements such as ISDA master agreements between clients and the relevant EU legal entity. There is a risk that not all clients will have the appropriate legal and operational arrangements in place upon the UK's withdrawal from the EU. The Firm continues to actively engage with its clients to ensure preparedness and, to the extent possible, minimise operational disruption.

On the implementation of the Brexit plans, the EU clients of the Company would start facing the relevant EU legal entity. Depending on the product and the line of business, the market risk may continue to be managed within the Company and in these instances, the EU legal entities will have a back to back trade with the Company. Further, the extent to which the Company will need to novate historical client trades to the EU legal entities will depend on the final agreement between the UK and EU. Any novations of such trades would occur at the relevant fair market values.

Business and operational readiness

The Firm is expecting to add several hundred employee positions in its various EU locations, including individuals who the Firm expects to relocate from the UK. The Firm is preparing to be operational in the EU across all in-scope businesses and functions, including the build-out of technology, processes and controls, and the necessary resourcing in the EU locations across first, second and third line of defence functions. Several hundred employees could be transferred from the Company to the relevant EU legal entities.

The Firm and its EU legal entities' access to market infrastructures such as trading venues, CCPs and central settlement systems ("SSSs") have been adjusted to comply with the evolving regulatory framework. Some uncertainty remains with respect to the readiness of the overall market ecosystem and connectivity between participants. The Firm continues to monitor the regulatory landscape and is preparing to take mitigating action, as needed.

In the event that the UK's withdrawal from the EU is delayed through a transition deal or another mechanism, the Firm would have the required operational capabilities to conduct business from its EU legal entities, but the timing of any further changes would be re-assessed to ensure that a strategic approach is taken. The Firm continues to closely monitor all negotiations and legislative developments and has developed an implementation plan that allows for flexibility given the continued uncertainty.

Other considerations

Management's fair value estimates reflect the market data at the balance sheet date and this incorporates any market sentiment relating to Brexit. The expected credit loss model includes the Company's assessment of the most likely outcome of Brexit on macroeconomic variables as of the balance sheet date.

Management have considered the impact of the risk factors associated with Brexit on the Company's ability to continue as a going concern. Whilst, as set out above, the risks associated with Brexit could have adverse impacts to the Company's business, operations, and earnings and the Company will see a reduction in its EU client footprint, the Company is expected to continue to be a principal subsidiary of the Firm in the region and continue to remain profitable and well-capitalised.

Regulatory developments

In the EU, there is an extensive and complex program of final and proposed regulatory enhancement that reflects, in part, the EU's commitments to policies of the Group of Twenty Finance Ministers and Central Bank Governors ("G20") together with other plans specific to the EU. The EU operates a European Systemic Risk Board that monitors financial stability, together with European Supervisory Authorities ("ESA") that set detailed regulatory rules and encourage supervisory convergence across the EU's Member States. The EU is currently reviewing the ESA framework and the European Commission ("EC") has proposed legislation to change the roles and responsibilities of the ESAs. The EU has also created a Single Supervisory Mechanism for the euro-zone, under which the regulation of all banks in that zone will be under the auspices of the European Central Bank, together with a Single Resolution Mechanism and Single Resolution Board, having jurisdiction over bank resolution in the zone. At both the G20 and EU levels, various proposals are under consideration to address risks associated with global financial institutions.

The EU is also currently considering or implementing significant revisions to laws covering securities settlement; mutual funds and pensions; payments; anti-money laundering controls; data security and privacy; transparency and disclosure of securities financing transactions; benchmarks; resolution of banks, investment firms and market infrastructures; and capital and liquidity requirements for banks and investment firms.

Consistent with the G20 and EU policy frameworks, U.K. regulators have adopted a range of policy measures that have significantly changed the markets and prudential regulatory environment in the U.K. Post-Brexit, there is uncertainty as to future U.K policy initiatives as it will depend on the future relationship between the EU and U.K. Therefore the impact will be assessed Post-Brexit.

Regulatory developments (continued)

Trading and clearing legislation

In the EU, there have been significant regulatory reforms to give effect to the 2009 G20 policy agenda. This includes European Market Infrastructure Regulation ("EMIR"), which began in 2012 and The Markets in Financial Instruments Directive II/R ("MiFID II/ R"), which began on 3 January 2018.

EMIR requires, among other things, the central clearing of certain standardised derivatives and risk mitigation techniques for uncleared over-the-counter ("OTC") derivatives. EMIR is currently being reviewed as part of the European Commission's EMIR Regulatory Fitness and Performance programme ("REFIT") legislative proposal, but this has not yet been finalised. EMIR REFIT proposes to introduce targeted changes to EMIR to streamline the rules and make them less burdensome for certain counterparties.

MiFID II/R gives effect to the G20 commitment to move trading of standardised OTC derivatives to exchanges or electronic trading platforms as well as significantly enhances requirements for pre- and post-trade transparency, clearing, trade and transaction reporting and investor protection, and introduces commodities position limits and reporting regime. MiFID II/R has introduced expanded requirements for a broad range of investment management activities within their investor protection requirements, including product governance, transparency on costs and charges, independent investment advice, inducements, record keeping and client reporting. MiFId II/R will be subject to review by the European Commission by March 2020.

Loss absorbency requirements under the EU Bank Recovery and Resolution Directive

The Financial Stability Board ("FSB") Total Loss Absorbing Capacity ("TLAC") standard issued in November 2015 specified minimum TLAC requirements for global systemically important banks, including at the level of their material sub-groups. Within the European Union and the UK, the EU Bank Recovery and Resolution Directive ("BRRD") and the UK transposition of the Directive established a requirement for the Bank of England ("BoE") to set a minimum requirement for own funds and eligible liabilities ("MREL"). Both TLAC and MREL are intended to facilitate the resolution of a financial institution without causing financial instability and without recourse to public funds. The BoE published its updated Statement of Policy on its approach to setting MREL in June 2018. This included new requirements on the internal MREL resources to be held by UK material subsidiaries of overseas groups. In line with the FSB TLAC standard, these rules came into effect, on a transitional basis, from 1 January 2019, with full compliance required by 1 January 2022. Following BoE communication of firm-specific MREL targets in 2018, the Company replaced a portion of its existing senior funding notes with Tier 2 qualifying subordinated notes in order to ensure compliance with these requirements.

Amendments to the EU MREL framework are being agreed through the finalisation of the Risk Reduction Measures Package. The potential impacts of these amendments on the MREL requirements applicable to the Company will be considered once the final package has been agreed.

London interbank offered rate ("LIBOR")

Globally, policymakers have warned that the production of Interbank Offered Rates ("IBORs") cannot be guaranteed past 2021, creating an impetus and setting a timeline by which the marketplace needs to prepare for the potential cessation of IBORs' production. Public-private national working groups have been formed in several jurisdictions to identify alternative risk-free reference rates and prepare the marketplace for the transition to these rates. In Europe, EU Benchmark Regulation will restrict the ability of EU regulated entities to use third country benchmarks unless such benchmarks obtain the appropriate regulatory status in the EU. As a result, financial institutions are implementing transition programmes to prepare for IBORs potential cessation and minimise financial stability risks of this event.

JPMorgan Chase established a Firmwide LIBOR transition programme in early 2018. When assessing risks associated with IBOR transition, the programme considers three possible scenarios: disorderly transition, measured/regulated transition, and IBOR in continuity. These risks will continue to be monitored, along with any new risks that emerge as the programme progresses. Plans to mitigate the risks associated with IBOR transition have been identified, with some already in the early stages of implementation. Model risk, for example, will be mitigated by the identification and migration of swap curves based on IBORs to new alternative reference rates.

EU securitisation framework

The new EU securitisation framework finalised in December 2017 came into effect on 1 January 2019. It includes a 'Securitisation Regulation' which outlines general requirements for all securitisation activity in the EU as well as amendments to the Capital Requirements Regulation ("CRR") to implement revisions to the Basel securitisation capital framework. The revisions to the securitisation capital framework tackle shortcomings in the pre-crisis framework as observed during the financial crisis. The revisions seek to reduce mechanistic reliance on external ratings, increase risk weights for highly-rated securitisation exposures, reduce risk weights for low-rated senior securitisation exposures, reduce cliff effects, and enhance the risk sensitivity of the framework.

Regulatory Developments (continued)

Capital Requirements Directive V ("CRD V")/Capital Requirements Regulation 2 ("CRR 2")

The CRD V/CRR 2 proposal for revised capital and liquidity legislation for banks and investment firms will implement in the EU many of the finalised Basel III capital and liquidity standards, including changes in relation to the leverage ratio, market risk capital, and a stable funding ratio.

The European Council and the European Parliament continue to consider amendments to the European Commission's proposal from November 2016 to amend CRD IV/CRR. The trilogue process began in early July 2018, albeit the date of implementation remains difficult to predict. The proposals also include a transitional provision effectively delaying the implementation of most of the new proposals for a further two years after the formal adoption of the legislation. Thus, a January 2021 start date for the significant capital elements of the proposal seems likely. The changes proposed to the capital framework will require significant preparatory work both in terms of interpretation and implementation of the new rules, the proposals of which are discussed below.

- The legislation proposes an intermediate parent undertaking ("IPU") requirement for foreign banks, which will require non-EU banks operating in Europe (with total EU assets >EUR30bn or which are part of a global systemically important banks ("G-SIBs")) to establish a single EU-located IPU. The full impact of the proposal on the Company's operations will be heavily influenced by the outcome of the EU legislative process, including whether any flexibility is introduced to the requirement.

- The Fundamental Review of the Trading Book ("FRTB") overhauls the market risk capital requirements and aims to develop a new trading book framework. The impact on the Company has not been quantified at this stage under these updated proposals.

- Standardised approach to measuring counterparty credit risk exposures ("SA-CCR") includes provisions differentiating between margined and un-margined transactions and improving the capital framework's risk sensitivity. SA-CCR also provides clearer recognition of netting benefits and the degree of volatility in counterparty exposures. In practice, the Company is expected to implement the Internal Model Method ("IMM") approach for a large part of its exposures by the time SA-CCR is implemented, reducing the impact of the latter.

- The leverage ratio was introduced in Basel 3 (and transposed into CRR), as a non-risk based measure of the level of capital held by a firm. It is calculated by assessing Tier 1 capital to Total Exposures. The amendments now mandate a binding ratio, set at 3%, with discretion afforded to national authorities to increase this requirement if they deem necessary. It is not expected that the European implementation of the leverage ratio requirements will be a binding constraint on the Company.

- The Basel Committee recently finalised certain changes to the Basel III framework which includes revisions to the standardised approach to credit risk and operational risk calculation methods. They will affect the Company only once implemented in the EU through changes to the CRD. Note that no firm plans for implementation of these changes have been set out by the EU legislative bodies.

Risk management

Risk is an inherent part of the Company's business activities. The Company's overall objective is to manage its businesses, and the associated risks, in a manner that balances serving the interests of its clients and customers and protects the safety and soundness of the Company.

JPMorgan Chase's and the Company's risk management framework seeks to mitigate risk and loss to the Firm and Company. The Firm has established processes and procedures intended to identify, measure, monitor, report and analyse the types of risk to which the Firm is subject. However, as with any risk management framework, there are inherent limitations to the Firm's risk management strategies because there may exist, or develop in the future, risks that the Firm has not appropriately anticipated or identified.

The Firm's activities are organised into business segments as well as a Corporate segment. The business segments, also known as lines of business ("LOB"), are determined based on the products and services provided or type of customer served. The major LOB for the Company is Corporate and Investment Bank ("CIB").

Firmwide Risk Management is overseen and managed on an enterprise-wide basis. The Firm's risk governance structure is based on the principle that each LOB is responsible for managing the risk inherent in its business, albeit with appropriate corporate oversight.This is supported by global policies and standards to which all staff world-wide are required to adhere to.

To complement the global LOB structure, within Europe, the Middle East and Africa ("EMEA"), a regional governance framework incorporates the Firmwide strategy, and the Firm's policies, procedures and LOB structure. This regional framework is thus supplemental and complementary to the global framework and also provides the requisite link between the EMEA legal entities and the LOBs.

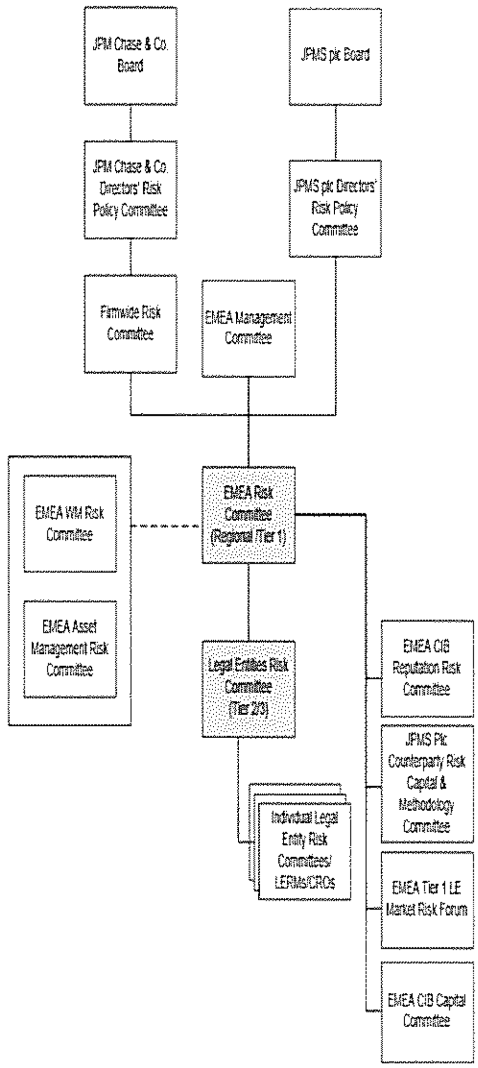
J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Risk management (continued)

At a Company level, the Global Legal Entity Risk framework assigns risk tiers from 1 to 4 to the Firm's significant operating entities across all lines of business, where Tier 1 represents the highest level of risk management oversight required. Core and recommended governance standards have been created for each tier of governance e.g. risk committee oversight. The Company has been assigned Tier 1 under this framework and, therefore, risk oversight is performed by the EMEA Risk Committee ("ERC"). The role of the ERC is to provide oversight of the risks inherent in the Firm's business conducted in EMEA or booked into EMEA entities and relevant branches as well as EMEA branches of ex-EMEA firms. The ERC is accountable to the Company's Directors Risk and Policy Committee ("DRPC") and EMEA Management Committee.

The Company exercises oversight through the Board of directors and delegation from the Board to committees and sub-committees which are aligned to the Firm risk management framework and regulatory requirements.

The Committee structure chart is presented below:



Risk management (continued)

All disclosures in the Risk management section (pages 8 - 41) are unaudited unless otherwise stated.

The following sections outline the key risks that are inherent in the Company's business activities.

A detailed description of the policies and processes adopted by the Firm may be found within the JPMorgan Chase & Co. 2018 Annual Report on Form 10-K. The report is available at https://jpmorganchaseco.gcs-web.com/financial-information/sec-filings

Capital risk (audited)

Capital risk is the risk the Company has an insufficient level and composition of capital to support the Company's business activities and associated risks during both normal economic environments and under stressed conditions.

A strong capital position is essential to the Company's business strategy and competitive position. The Firm's capital management strategy focuses on maintaining long-term stability to enable the Firm to build and invest in market-leading businesses, even in a highly stressed environment. Prior to making any decisions on future business activities, senior management considers the implications on the Firm's capital. Accordingly, its Capital Management Framework is designed to ensure that the Company is adequately capitalised at all times primarily in relation to:

- Minimum risk-based regulatory capital requirements (Pillar 1 capital under CRD IV[a] plus Pillar 2/Individual Capital Guidance ("ICG") set by the PRA and relevant CRD IV buffers);
- Minimum leverage requirements[b] (calculated per the final rules in the Capital Requirements Regulation ("CRR") post the delegated act (October 2014));
- The risks faced by the entities, through regular comparisons of regulatory and internal capital requirements; and
- Senior management's risk appetite expressed, for example, through the application of an internal capital buffer and preferred minimum capital ratios above those prescribed in regulation.

The EMEA CIB Capital Committee, which has senior business and control function representation, receives monthly updates of the Company's capital positions and projections and has oversight on decisions related to capital usage and capital strategy. The framework used to manage capital within the Company is based around a regular cycle of point-in-time capital calculations and reporting, supplemented by forward-looking projections and stress-testing, with corrective action taken as and when required to maintain an appropriate level of capitalisation. Each part of the process is subject to rigorous control, including capital adequacy reporting with daily, weekly and quarterly frequency to ensure the Company maintains appropriate oversight in line with the Capital framework. Escalation of issues is driven by a framework of specific triggers, set in terms of capital and leverage ratios, movements in those ratios and other measures.

Through the quarterly Internal Capital Adequacy Assessment Process ("ICAAP"), the Company ensures that it is adequately capitalised in relation to its risk profile and appetite, not only as at the ICAAP date (year end, last submitted 30 April 2018), but through the economic cycle and under a range of severe but plausible stress scenarios. The quarterly ICAAP results are reviewed by the EMEA CIB Capital Committee. The annual 'Reverse stress testing' exercise is used to identify potential, extreme scenarios which might threaten the viability of the Company's business model, so that any required mitigation can be put in place.

(a) CRD IV implemented Basel III in the EU, and came into force on 1 January 2014.
(b) Disclosure requirement applicable from 1 January 2015.

Risk management (continued)

Capital risk (audited) (continued)

The composition of the Company's capital is as follows. All tiers of capital are shown net of applicable deductions.

31 December	2018	2017
	$'000	$'000
Common Equity Tier 1 (Equity share capital and reserves)	43,583,506	39,877,617
Tier 2 (Subordinated loan) (note 27)	12,000,000	—
Total capital resources	**55,583,506**	**39,877,617**
Pillar 1 capital requirement (unaudited)	18,984,019	20,014,406
Excess of total capital resources over Pillar 1 capital requirements (unaudited)	36,599,486	19,863,211
Common Equity Tier 1 ratio ("CET 1") (unaudited)	18.4%	15.9%
Pillar 1 capital ratio (unaudited)	23.4%	15.9%

As of 31 December 2018 and 2017, the Company was adequately capitalised and met all external capital requirements. Capital resources utilised to calculate capital ratios are inclusive of audited current year profits. Additionally, the operational risk requirement included within the Pillar 1 Capital Requirement has been recalculated to incorporate current year net income.

Company information is included as part of the Pillar 3 disclosures and are made available on the Firm's website (https://jpmorganchaseco.gcs-web.com/financial-information/basel-pillar-3-us-lcr-disclosures) in accordance with Part Eight of the European Capital Requirements Regulation. These are published on an annual basis or more frequently where the Firm has assessed a further need to do so under the guidelines (EBA GL2014/14) set out by the European Banking Authority. These disclosures are not subject to external audit.

Following the BoE communication of firm-specific MREL targets in 2018, the Company issued US$12bn of Tier 2 qualifying subordinated notes, in order to ensure compliance with these requirements.

Amendments to the EU MREL framework are being agreed through the finalisation of the CRD V proposal. The potential impacts of these amendments on the MREL requirements applicable to the Company will be considered once the final package has been agreed.

Credit risk (audited)

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer. Credit risk management is an independent risk management function that monitors, measures and manages credit risk throughout the Firm and defines credit risk policies and procedures. The credit risk function reports to the Firm's Chief Risk Officer ("CRO").

The Company 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 internally swept to other group entities. Whilst the Firm has established a comprehensive Firmwide risk policy framework, this is supplemented (as required), by legal entity-specific risk policies. As such, the Company's Credit Risk Management policy supplements the Firmwide risk policy framework and is approved by the Company's Board of directors and DRPC.

Risk identification and measurement

The Credit Risk Management function monitors, measures, manages and limits credit risk across the Firm's businesses. To measure credit risk, the Firm 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 of an obligor or counterparty, the loss severity given a default event and the exposure at default.

Risk management (continued)

Credit risk (audited) (continued)

Stress testing

Stress testing is important in measuring and managing credit risk in the Company's credit portfolio. The process assesses the potential impact of alternative economic and business scenarios on estimated credit losses for the Firm. 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. The Firm uses stress testing to inform decisions on setting risk appetite both at a Firm and Company level, as well as to assess the impact of stress on individual counterparties.

Risk monitoring and management

The Company is subject to the 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 that are separate from the LOB.

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 (the risk that exposure to a counterparty is positively correlated with the impact of a default by the same counterparty, which could cause exposure to increase at the same time as the counterparties capacity to meet its obligations is decreasing) is actively monitored as this risk could result in greater exposure at default compared with a transaction with another counterparty that does not have this risk.

Management of the Firm's credit risk exposure is accomplished through a number of means, including:

- Loan underwriting and credit approval process
- Loan syndications and participations
- Loan sales and securitisations
- Credit derivatives
- Master netting agreements
- Collateral and other risk-reduction techniques

Credit Portfolio Group ("CPG")

CPG in the Markets division of the CIB is responsible for the strategic risk management of certain risks of the Firm, primarily on behalf of CIB, including:

- Retained credit risk from traditional credit products ("TCP") such as loans and commitments (originated by Banking)
- Counterparty credit risk ("CVA") and certain funding risks ("FVA") associated with client derivative trades (originated by CIB Markets businesses)
- Credit Support Annex ("CSA") discounting risk from client-specific CSA terms in collateralised derivative transactions

CPG is also responsible for centralised governance and oversight for collateral on behalf of the CIB derivatives franchise; and optimising the sourcing, posting and pricing of variation and initial margin in partnership with the client facing businesses.

Risk reporting

To enable monitoring of credit risk and effective decision making by the Company, aggregate credit exposure, concentration levels and risk profile changes are reported regularly to senior members of Credit Risk Management. Detailed portfolio reporting of industry; clients, counterparties and customers; product and geographic concentrations 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 risk committees, senior management and the Board of directors as appropriate.

Risk management (continued)

Credit risk (audited) (continued)

Risk measurement

Expected credit loss measurement

Approach to measuring expected credit losses

The Company estimates credit impairment through an allowance for expected credit losses ("ECLs"). ECLs are recognised for financial assets that are measured at amortised 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:

- An unbiased and probability weighted amount that is determined by evaluating a range of possible outcomes;
- The time value of money; and
- Reasonable and supportable information about past events, current economic conditions, and forecasts of future economic conditions.

The measurement of ECL also reflects how the Company manages the financial instruments it uses for credit risk purposes such as Traditional Credit Products ("TCP"), and Non-Traditional Credit Products ("Non-TCP"). TCP are wholesale loans and lending-related commitments from extensions of credit to borrowers; whereas Non-TCP are all other debt financial assets measured at amortised cost.

The following table sets out the gross carrying amount (before ECL) of the Company's financial assets that are measured at amortised cost or FVOCI by the respective TCP and Non-TCP categories.

At 31 December 2018 Gross carrying amount	TCP			Non-TCP	
	$'000	$'000	$'000	$'000	$'000
Assets	**Amortised Cost**	**FVOCI**	**Total**	**Amortised Cost**	**Total**
Cash and balances at central banks	—	—	—	29,880,787	29,880,787
Loans and advances to banks	—	—	—	9,690,343	9,690,343
Loans and advances to customers	832,751	1,343,178	2,175,929	—	2,175,929
Securities purchased under agreements to resell	—	—	—	19,132,226	19,132,226
Debtors	—	—	—	82,800,597	82,800,597
Other assets					
Accrued income	—	—	—	716,617	716,617
Other				98,459	98,459
Total financial assets measured at Amortised cost and FVOCI	**832,751**	**1,343,178**	**2,175,929**	**142,319,029**	**144,494,958**

ECL on off-balance sheet lending-related commitments, which are categorised as TCP, are reported in provisions for liabilities and are not included in the table above. These lending-related commitments are disclosed in note 31.

The Company uses statistical models to estimate ECLs for TCP on a collective basis; however ECL for credit-impaired instruments is estimated on an individual borrower basis. When determining how exposures should be grouped for collective assessment, the Company considers many factors including, but not limited to, internal credit risk ratings, tenor, borrower geography and industry. The Company's internal risk ratings generally correspond to the ratings as defined by Standard & Poor's ("S&P") and Moody's Investors Service. See further detail in the Maturity and ratings section . For Non-TCPs, the Company utilises a combination of an established provision matrix, as well as quantitative and qualitative considerations to estimate ECLs. See further detail in the ECL measurement for Non-TCP portfolios section.

Risk management (continued)

Credit risk (audited) (continued)

Risk measurement (continued)

Expected credit loss measurement (continued)

Impact of staging on measuring 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 recognised ("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 determined 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. 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 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 or Non-TCP are considered to be credit-impaired and are 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 Company has granted a concession to the borrower for economic or contractual reasons relating to the borrower's financial difficulty;
- It has become probable the borrower will enter bankruptcy or other financial reorganisation;
- 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.

The criteria above are consistent with how the Company defines 'default' for internal credit risk management purposes.

A financial asset is considered to no longer be in default (i.e. the default has been cured) when the borrower has made payments for a minimum of six months and there is other objective evidence of credit improvement.

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 interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for the credit loss allowance).

The Company 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 recognised.

For TCP, the Company considers a financial instrument to have experienced a SICR when any of the following quantitative or qualitative criteria have been met:

Quantitative criteria

The Company determines whether the probability of a default ("PD") occurring has changed between a financial instruments initial recognition and the reporting date. 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.

Risk management (continued)

Credit risk (audited) (continued)

Risk measurement (continued)

Significant increase in credit risk (Stage 2) (continued)

Qualitative criteria

The Company 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 Company 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 Company'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 Company's experience has shown that other internal credit quality indicators generally identifies increases in credit risk well before delinquency. As such, the Company has determined that using the quantitative and qualitative criteria described above are most appropriate for capturing SICR for TCP.

Financial instruments that are in Stage 2 are moved to Stage 1 as described below in the period that the quantitative and qualitative criteria for a SICR no longer exist.

The approach for determining whether there has been a SICR for Non-TCP portfolios depends on the type of instrument. The Company presumes 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 Firm's resolution and recovery plans are considered to be investment grade and therefore these are included in Stage 1 with no SICR . Finally, the remainder of the Company's Non-TCP are mostly short-term and generally no SICR has arisen prior to the maturity of that instrument and therefore the ECL impacted was anticipated to be immaterial.

Unimpaired and without significant increase in credit risk (Stage 1)

Financial instruments that have not had a SICR since initial recognition are included in Stage 1. For Stage 1 instruments, ECL is 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).

Sensitivity analysis of ECL due to staging

The impact of staging on the Company's ECL recognised on balance sheet as at 31 December 2018, by comparing the allowance if all performing financial assets were in Stage 1 or if all such assets were in Stage 2 to the actual ECL recorded on these assets was assessed as immaterial.

Risk management (continued)

Credit risk (audited) (continued)

ECL measurement for TCP Portfolios

Key Inputs

In broad terms, ECLs for the Company's TCP portfolios are generally calculated based on the following key inputs:

Probability of Default ("PD"): The PD model estimates the probability of downgrade and default each quarter. 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 model considers input variables that are region-, industry- and borrower segment-specific and considers both scenario- and borrower-specific information. PDs are determined at a facility-level based on risk ratings and other characteristics.

Exposure at Default ("EAD"): The EAD model predicts gross exposure upon a borrower's default as a percentage of the total commitment at the reporting date under a given macroeconomic environment. The model estimates the probability of a change in the utilisation, and direction and magnitude of the change. Input variables include exposure and utilisation at the reporting date, facility purpose, industry and macro-economic variables ("MEVs").

Loss Given Default ("LGD"): The LGD model estimates expected losses under given macroeconomic environments on the EAD given the event of default and, taking into account, among other attributes, the mitigating effect of collateral and the time value of money.

The 12-month ECL is calculated by multiplying the 12-month PD, EAD and LGD. Lifetime ECL is calculated using the lifetime PD instead.

Forward-looking information

ECL estimates are derived from the Company's historical experience and future forecasted economic conditions. To incorporate forward-looking information into the ECL calculation, the Company develops three forecasted economic scenarios (base, upside and downside cases). Each of these scenarios contain a set of MEVs that reflect forward-looking economic and financial conditions. MEVs include, but are not limited to FX rates, inflation and 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 three economic scenarios are updated and probability weighted. The Company uses judgement to develop the scenarios and assign probability weightings. The most likely economic scenario in management's view is the base case which would generally be expected to be weighted more heavily than the other two 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 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.

Risk management (continued)

Credit risk (audited) (continued)

ECL measurement for TCP Portfolios (continued)

ECL calculation

The Company uses the forward-looking PD, LGD, and EAD values for each of the scenarios to produce the scenario credit losses ("SCLs"). The modelled ECL estimate is a probability-weighted calculation of the three SCLs discounted using the original effective interest rate or an approximation thereof.

The modelled ECL results are reviewed by management and adjustments ("management overlays") are considered to ensure final results reflect the Company's best estimate of ECLs on its exposures. Management overlays are only applied if necessary to account for significant idiosyncratic risks which are not yet reflected in underlying risk ratings, LGD, exposure profile or scenario weights used and which are expected to have a high probability of occurrence. No management overlays were applied in determining the ECL of the Company.

The final ECL estimate and assumptions require significant management judgement and certain assumptions are subjective. The Company has a robust review, challenge and approval process of the ECL estimates as part of credit risk governance forums.

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

Stage 3 portfolio estimation techniques

The Company also uses three scenarios to estimate ECL for Stage 3 loans. However, these scenarios focus on the microeconomic conditions applicable to a specific borrower as those considered the most relevant in predicting losses for that borrower are applied. The borrower may be experiencing a variety of specific difficulties, and no one macroeconomic theme can be applied to the total impaired loan portfolio. For stage 3 loans a discounted cash flow model is used to determine ECL.

Risk management (continued)

Credit risk (audited) (continued)

Quantitative and qualitative information about the change in ECL and how significant changes in the gross carrying amount drive changes in ECL

ECL and gross carrying amount reconciliation

The following tables provide an explanation of the change in the loss allowance during the year ended 31 December 2018 by respective product classes. The tables also set out how significant changes in the gross carrying amount of financial instruments contributed to the changes in the loss allowance:

1. Traditional credit products

The ECL recognised in the period is impacted by the judgements 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

Loans and advances to customers at amortised cost

	ECL				Gross carrying amount			
$'000	Stage 1 12-Month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At 1 January 2018	**409**	**175**	**—**	**584**	**1,034,534**	**61,825**	**—**	**1,096,359**
New loans originated or purchased[1]	195	3,549	—	3,744	268,230	180,425	—	448,655
Loans derecognised or repaid	(285)	(99)	—	(384)	(558,864)	(19,576)	—	(578,440)
Existing loans (including credit quality changes)	(2)	(32)	—	(34)	(127,018)	(6,805)	—	(133,823)
Changes in macroeconomic variables ("MEV")	76	8	—	84	—	—	—	—
Total changes	**(16)**	**3,426**	**—**	**3,410**	**(417,652)**	**154,044**	**—**	**(263,608)**
At 31 December 2018	**393**	**3,601**	**—**	**3,994**	**616,882**	**215,869**	**—**	**832,751**

[1] New loans originated or purchased reflected as Stage 2 were acquired during the year and subsequently experienced a SICR or are committed facilities where SICR is measured from the commitment date.

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Risk management (continued)

Credit risk (audited) (continued)

Traditional credit products (continued)

Wholesale loans (continued)

Loans and advances to customers at FVOCI

$'000	ECL				Gross carrying amount			
	Stage 1 12-Month ECL	Stage 2 Lifetime ECL	Stage 3 Lifetime ECL	Total	Stage 1	Stage 2	Stage 3	Total
At 1 January 2018	**633**	**1,224**	**126,635**	**128,492**	**1,057,639**	**168,930**	**333,731**	**1,560,300**
New loans originated or purchased[1]	856	538	—	1,394	567,366	72,866	—	640,232
Loans derecognised or repaid	(118)	(541)	(126,580)	(127,239)	(584,157)	(104,327)	(333,731)	(1,022,215)
Existing loans (including credit quality changes)	19,379	8	—	19,387	159,138	(7,923)	—	151,215
Changes in macroeconomic variables ("MEV")	118	60	—	178	—	—	—	—
Stage transfers:				—				—
Stage 1 to stage 3	(19,310)	—	15,126	(4,184)	(50,835)	—	50,835	—
Total changes	**925**	**65**	**(111,454)**	**(110,464)**	**91,512**	**(39,384)**	**(282,896)**	**(230,768)**
Fair value adjustment	—	—	—	—	—	—	—	13,646
At 31 December 2018	**1,558**	**1,289**	**15,181**	**18,028**	**1,149,151**	**129,546**	**50,835**	**1,343,178**

[1] New loans originated or purchased reflected as Stage 2 were acquired during the year and subsequently experienced a SICR or are committed facilities where SICR is measured from the commitment date.

The decrease in ECL of loans and advances to customers at FVOCI is primarily driven by a decrease in stage 3 exposures reducing lifetime ECL.

Risk management (continued)

Credit risk (audited) (continued)

Loan commitments and financial guarantee contracts

	ECL		
	Stage 1	Stage 2	
$'000	12-Month ECL	Lifetime ECL	Total
At 1 January 2018	**1,400**	**633**	**2,033**
New loan commitments/ financial guarantees	1,949	985	2,934
Loan commitments/ financial guarantees drawn	(785)	(293)	(1,078)
Existing loan commitments/financial guarantees (including credit quality changes)	1,363	(68)	1,295
Changes in Macroeconomic variables ("MEV")	187	63	250
Stage transfers:			
Stage 1 to stage 2	(1,014)	1,760	746
Stage 2 to stage 1	3	(13)	(10)
Total changes	**1,703**	**2,434**	**4,137**
At 31 December 2018	**3,103**	**3,067**	**6,170**

The increase in ECL was driven by an increase in new stage 1 exposures and changes in existing facilities credit quality, offset by loan commitments and financial guarantee contracts drawn during the period.

2. Non-traditional credit products

Non-TCPs include all other instruments measured at amortised cost and subject to the impairment provisions of International Financial Reporting Standard 9 ("IFRS 9"). The Company has recognised no ECL on non-TCP balances as the ECL related to these exposures is assessed as immaterial.

The Company's approach to measuring ECLs for Non-TCP portfolios depends on the type of instrument. Refer to the Credit exposures section for an analysis per balance sheet line item.

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited)

The following tables provide an analysis of the Company's credit risk exposure from financial assets. The gross balance sheet exposure represents the Company's maximum exposure to credit risk from these assets. Gross balance sheet exposure is reported on a net-by-counterparty basis for derivatives and securities purchased under agreements to resell when the legal right and intention of offset exists under an enforceable netting agreement as required under IAS 32 'Financial Instruments: Presentation' ("IAS 32"). Net exposure after risk mitigants is presented after taking into account assets which are primarily exposed to market risk, enforceable master netting agreements (where the offsetting criteria under IAS 32 is not met) and the value of any collateral received.

			Risk mitigants			*Net balance sheet exposure held with:*	
As under IFRS 9:	**Gross balance sheet exposure [a]**	**Exposures captured by market risk**	**Master netting agreements and other**	**Cash & security collateral [b]**	**Net credit exposure**	**JPMorgan Chase undertakings**	**External counter parties**
	$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
At 31 December 2018							
Financial assets:							
Cash and balances at central banks	29,880,787	—	—	—	29,880,787	—	29,880,787
Loans and advances to banks	9,690,343	—	—	—	9,690,343	6,490,420	3,199,923
Loans and advances to customers [c]	2,153,908	—	—	(1,259,225)	894,683	—	894,683
Securities purchased under agreements to resell [d]	155,084,582	—	(22,035,763)	(127,778,723)	5,270,096	99,932	5,170,164
Securities borrowed [d]	45,507,924	—	(16,692,007)	(24,236,047)	4,579,870	140,977	4,438,893
Financial assets at fair value through profit and loss	339,955,399	(98,854,529)	(202,101,306)	(24,629,365)	14,370,199	—	14,370,199
Debtors	82,800,597	—	—	—	82,800,597	38,072,088	44,728,509
Accrued income	716,617	—	—	—	716,617	117,203	599,414
Total	665,790,157	(98,854,529)	(240,829,076)	(177,903,360)	148,203,192	44,920,620	103,282,572

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

As under IAS 39	Gross balance sheet exposure [a]	Assets captured by market risk	Master netting agreements and other	Cash & security collateral [b]	Net exposure after risk mitigants	Net balance sheet exposure held with: JPMorgan Chase undertakings	Net balance sheet exposure held with: External counter parties
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
At 31 December 2017							
Financial assets:							
Cash and balances at central banks	21,677,066	—	—	—	21,677,066	—	21,677,066
Loans and advances to banks	9,812,066	—	—	—	9,812,066	7,071,710	2,740,356
Loans and advances to customers [c]	2,612,322	—	—	(982,674)	1,629,648	—	1,629,648
Securities purchased under agreements to resell [d]	135,385,611	—	(11,525,344)	(114,161,493)	9,698,774	1,143,293	8,555,481
Securities borrowed [d]	27,072,599	—	(9,100,106)	(15,846,294)	2,126,199	251,848	1,874,351
Financial assets held for trading (e)	340,258,613	(107,884,895)	(190,867,129)	(24,340,531)	17,166,058	—	17,166,058
Financial assets designated at fair value through profit or loss	341,602	(341,602)	—	—	—	—	—
Debtors	79,646,622	—	—	—	79,646,622	43,282,339	36,364,283
Accrued income	652,028	—	—	—	652,028	107,668	544,360
Total	617,458,529	(108,226,497)	(211,492,579)	(155,330,992)	142,408,461	51,856,858	90,551,603

(a) Gross exposure of $228,505 million (2017: $226,720 million) is held with other JPMorgan Chase undertakings. For further details of these amounts by line item category, refer to the notes to the financial statements.
(b) Cash and securities collateral received in respect of financial assets at fair value through profit and loss is limited to net balance sheet exposure, after taking into account master netting and other arrangements.
(c) The net balance sheet exposure on loans and advances to customers is presented without taking into account credit risk mitigants such as financial guarantees, or other non-financial collateral.
(d) The fair value of the securities collateral in respect of securities financing transactions is, in aggregate, greater than the net amounts reported on balance sheet, and therefore, the related amounts included as cash and securities collateral have been limited to the extent of the net amount (of remaining exposure) by counterparty.
(e) Debt and equity instruments are primarily exposed to market risk and are therefore deducted to determine the net credit risk exposure.

Off balance sheet exposure consists of lending-related commitments and financial guarantees of $21,711 million (2017: $22,866 million). Refer to note 31.

The Company's credit exposures and credit risk mitigants are described below. An ECL allowance is only recognised on loans and advances to customers held at amortised cost and FVOCI. The Company's approach to measuring ECL for Non-TCP portfolios is further discussed below.

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 Company 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).

The Company includes cash and balances at central banks in Stage 1 as they are short-term and investment-grade and banking institutions are considered to have high quality credit with low risk of default and therefore the Company has concluded there is no material SICR.

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

Loans and advances to banks

The Company places substantially all of its deposits with investment-grade banks. Similar to cash and balances at central banks, the Company includes loans and advances to banks in Stage 1 as investment-grade institutions are considered to have high quality credit with low risk of default and therefore the Company has concluded there is no material SICR.

Loans and advances to customers

The table below presents the Company's credit exposure and contractual maturity profile to gross loans and advances to customers before any provision for impairment. The credit quality and credit concentration of loans and advances to customers is managed within JPMorgan Chase's Credit Risk Management function. The ratings scale is based on JPMorgan Chase's internal risk ratings, which generally correspond to the ratings as defined by S&P and Moody's Investors Service

Maturity profile

Loans and advances to customers at amortised cost and FVOCI	IFRS 9
At 31 December 2018	2018
	$'000
Maturity	
5 years or more	116,125
5 years or less but over 1 year	1,706,117
1 year or less but over 3 months	236,722
3 months or less	116,965
Total	**2,175,929**

Loans and advances to customers	IAS 39
At 31 December 2017	2017
	$'000
Maturity	
5 years or more	61,004
5 years or less but over 1 year	1,995,490
1 year or less but over 3 months	597,257
3 months or less	59,766
Total	**2,713,517**

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

Loans and advances to customers (continued)

Ratings profile

At 31 December 2018	Stages			
	Stage 1	Stage 2	Stage 3	
	12-month ECL	Lifetime ECL	Lifetime ECL	Total
Loans and advances to customers at amortised cost				
	$'000	$'000	$'000	$'000
Investment grade				
AAA/Aaa to BBB-Baa3	45,479	43,439	—	88,918
Non-investment grade				—
BB+/Ba1 -> B-/B3	571,045	172,430	—	743,475
CCC+/Caa1 and below	358	—	—	358
Gross carrying amount	**616,882**	**215,869**	**—**	**832,751**
Loans and advances to customers at FVOCI				
	$'000	$'000	$'000	$'000
Investment grade				
AAA/Aaa to BBB-Baa3	547,975	92,081	—	640,056
Non-investment grade				
BB+/Ba1 -> B-/B3	584,541	30,313	—	614,854
CCC+/Caa1 and below	16,636	7,151	50,835	74,622
Gross carrying amount	**1,149,152**	**129,545**	**50,835**	**1,329,532**
Fair value adjustment				**13,646**
Total	**1,149,152**	**129,545**	**50,835**	**1,343,178**
Total	**1,766,034**	**345,414**	**50,835**	**2,175,929**

Loans and advances to customers

At 31 December 2017	2017
	$'000
Investment grade (AAA/Aaa to BBB-/Baa3)	955,165
Sub-investment grade (BB+/Ba1 & below)	1,758,352
Total	**2,713,517**

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

Loans and advances to customers (continued)

Ratings profile (continued)

Analysis of concentration credit risk

Concentrations of credit risk arise when a number of customers are engaged in similar business activities or activities in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions.

Loans and advances to customers at amortised cost and FVOCI	**IFRS 9**
At 31 December 2018	**2018**
	$'000
Credit risk concentration	
Geographic region	
United Kingdom	154,710
Other European	1,419,564
Rest of the world	601,655
Total	**2,175,929**
Industry concentration	
Commercial and industrial	1,157,189
Real estate	352,552
Financial institutions	394,455
Other	271,733
Total	**2,175,929**

Loans and advances to customers	**IAS 39**
At 31 December 2017	**2017**
	$'000
Credit risk concentration	
Geographic region	
United Kingdom	152,758
Other European	1,883,726
Rest of the world	677,033
Total	**2,713,517**
Industry concentration	
Commercial and industrial	1,416,130
Real estate	511,834
Financial institutions	522,859
Other	262,694
Total	**2,713,517**

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

Securities purchased under agreements to resell and securities borrowed

The Company 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 Company's credit exposure on these transactions is significantly lower than the amounts recorded on balance sheet as the substantial majority represent contractual value before consideration of any collateral received.

Where a fully collateralised arrangement exists (for example a reverse repurchase agreement), the estimate of the allowance is immaterial due to the following credit mitigants:

<u>Continuous margining requirements</u>: The contractual terms of these agreements are designed to ensure that they are fully collateralised based on continuous margining requirements, even when the credit risk of the borrower increases significantly. The contractual terms provide the Company (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 Company to increase margin requirements, and to revoke or reduce lending commitments to the borrower at any time.

<u>Inter-company arrangements may be repayable on demand</u>: The vast majority of the Company's collateralised inter-company 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.

<u>High quality collateral</u>: 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 Company 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 Company has determined there is no SICR during the short tenor of the instrument as at 31 December 2018.The Company recognises no ECL on these balances as the ECL related to these exposures is assessed as immaterial.

Debtors

Debtors consist of trade and other debtors. Trade debtors mainly consist of fee receivables and unsettled trades. Unsettled trades constitute receivables related to sales of securities which have not yet settled. These receivables generally have minimal credit risk due to the low probability of a clearing organisation 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 Company recognises no ECL on these balances as the ECL related to these exposures is assessed as immaterial.

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 or more. The Company 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 Company continues to monitor the fee receivable population to ensure the described framework is appropriate and ECLs on this portfolio are adequately reflected.

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 Company believes that the 90 day write-off policy materially limits the non-TCP exposure recorded on the balance sheet.

The Company 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.

Risk management (continued)

Credit risk (audited) (continued)

Credit risk exposures (audited) (continued)

Debtors (continued)

Other Debtors

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 amortised cost. Furthermore, the Company 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 recognised at amortised cost. In evaluating the lifetime ECL related to receivables from a CCP, the Company 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 robust multi-layered credit protection inherent in the design and operations of the CCP clearing model. The Firm includes these receivables in Stage 1 due to the robust multi-layered credit protection inherent in the design and operations of the CCP clearing model.

For inter-company transactions where the borrower is a Material Legal Entity ("MLE"), the Company's anticipated ECL was determined to not be material and no loss was recognised, for the following reasons:

- The MLE borrower has been prepositioned with funding in an extremely efficient manner from both a liquidity and a capital perspective.

- JPMorgan Chase Bank, N.A. ("JPMCB") and the JP Morgan Chase's Intermediate Holding Company ("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 inter-company lending arrangements with an MLE borrower.

As MLEs are adequately capitalised to ensure the MLE can fulfil all of its debt obligations even in the event of an orderly liquidation of JPMorgan Chase and are of investment grade, these inter-company 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 MLE's 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 MLE's are not credit-impaired as the Firm ensures MLE's are more than adequately capitalised as required by the Firms Resolution Plan.

The Company's anticipated ECL for other receivables from non MLEs was determined to not be material and no loss was recognised.

Accrued income

Accrued income primarily represents accrued interest on securities purchased under resale agreements and loans and other accruals. The majority of accrued income owed by other JPMorgan Chase undertakings are MLE's, refer to assessment as included within debtors above.

Risk management (continued)

Credit risk (audited) (continued)

Loan commitments and financial guarantee contracts

The following table summarises the contractual amounts and loss allowance recognised on off-balance sheet lending-related commitments and standby letters of credit.

At 31 December 2018	Stages		
	Stage 1	Stage 2	
	12-month ECL	Lifetime ECL	Total
At Amortised cost			
Rating profile	**$'000**	**$'000**	**$'000**
Investment-grade			
AAA/Aaa to BBB-Baa3	13,104,239	3,073,306	16,177,545
Non-investment-grade			
BB+/Ba1 -> B-/B3	3,635,367	161,710	3,797,077
CCC+/Caa1 and below	61,284	79,633	140,917
Contractual amount	**16,800,890**	**3,314,649**	**20,115,539**

Impact of collateral/credit enhancements on ECL

If a non-derivative credit enhancement is deemed to be part of the same unit of account as the related loan, pool of loans or loan commitment, and the Company has not elected the fair value option for the related instruments, the expected credit loss under IFRS 9 may be reduced for losses expected to be recovered from the enhancement provider, as long as there is evidence that the third party providing the credit enhancement has the ability and willingness to reimburse the Company for the losses. If a non-derivative credit enhancement is not deemed to be part of the same unit of account as the loan, pool of loans or loan commitment, the credit enhancement must be accounted for separately and must not be used to reduce expected credit losses. The Company may hold a security interest in various types of collateral including cash, securities, receivables, inventory, equipment, real estate or other non-financial assets.

Loan modifications

Gains and losses on financial assets and loan commitments that were modified while they had a loss allowance measured at an amount equal to lifetime ECL were immaterial for the year ended 31 December 2018.

Country risk

The Firm has a country risk management framework for monitoring and assessing how financial, economic, political or other significant developments adversely affect the value of the Firm's exposures related to a particular country or set of countries. The Country Risk Management group actively monitors the various portfolios which may be impacted by these developments to ensure the Firm's and Company's exposures are diversified and that exposure levels are appropriate given the Firm and Company's strategy and risk tolerance relative to a country.

Risk organisation and management

Country Risk Management is an independent risk management function that assesses, manages and monitors country risk originated across the Firm. The Firmwide Risk Executive for Country Risk reports to the Firm's CRO. The Firm's country risk management function includes the following activities:

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

Risk management (continued)

Country risk (continued)

Risk sources and measurement

The Firm and Company are exposed to country risk through their lending and deposits, investing, and market-making activities, whether cross-border or locally funded. Country exposure includes activity with both government and private-sector entities in a country. Under the Firm's internal country risk management approach, country exposure is reported based on the country where the majority of the assets of the obligor, counterparty, issuer or guarantor are located or where the majority of its revenue is derived, which may be different than the domicile (legal residence) or country of incorporation of the obligor, counterparty, issuer or guarantor. Country exposures are generally measured by considering the Firm's and Company's risk to an immediate default of the counterparty or obligor, 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 Firm's internal country risk measurement framework used by the Company:

- Lending exposures are measured at the total committed amount (funded and unfunded), net of the allowance for credit losses and 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 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 related collateral. Counterparty exposure on derivatives can change significantly because of market movements
- 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 recognised derivative receivable or payable. Credit derivatives protection purchased and sold in the Firm's 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 Firm's and Company's credit, market, and operational risk governance, rather than through Country Risk Management.

Risk stress testing

Stress testing is an important component of the Firm's 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 group of countries, in response to specific or potential market events, sector performance concerns and geopolitical risks.

Risk reporting

The Company's top five country exposures as of 31 December 2018 are the United Kingdom $6.5bn, France $3.5bn, Germany $3.4bn, Spain $2.7bn and Luxembourg $2.3bn. The selection of countries represent the Company's largest total exposures by country, based on the Firm's internal country risk management approach, and does not represent the Firm's view of any actual or potentially adverse credit conditions. Country exposures may fluctuate from period to period due to client activity and market flows.

Liquidity risk (audited)

Liquidity risk is the risk that the Company will be 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.

Liquidity risk oversight

The Firm has a liquidity risk oversight function whose primary objective is to provide assessment, measurement, monitoring, and control of liquidity risk across the Firm. Liquidity risk oversight is managed through a dedicated Firmwide Liquidity Risk Oversight group. The Chief Investment Office ("CIO"), Treasury, and Corporate Chief Risk Officer ("CTC CRO"), who reports to the Firm's CRO, as part of the independent risk management function, is responsible for Firmwide Liquidity Risk Oversight. Liquidity Risk Oversight's responsibilities include:

- Establishing and monitoring limits, indicators, and thresholds, including liquidity risk appetite tolerances;
- Monitoring internal Firmwide and material legal entity stress tests, and monitoring and reporting regulatory defined liquidity stress testing;

Risk management (continued)

Liquidity risk (audited)

Liquidity risk oversight (continued)

- Approving or escalating for review liquidity stress assumptions;
- Monitoring liquidity positions, balance sheet variances and funding activities; and
- Conducting ad hoc analysis to identify potential emerging liquidity risks; and
- Performing independent review of liquidity risk management processes.

Liquidity management

Treasury and CIO are responsible for liquidity management. The primary objectives of effective liquidity management are to:

- Ensure that the Firm's core businesses and material legal entities 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 Firm's overall liquidity management strategy, the Firm manages liquidity and funding using a centralised, global approach in order to:

- Optimise liquidity sources and uses;
- Monitor exposures;
- Identify constraints on the transfer of liquidity between the Firm's legal entities; and
- Maintain the appropriate amount of surplus liquidity at a Firmwide and legal entity level, where relevant.

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

- Analysing and understanding the liquidity characteristics of the assets and liabilities of the Firm, lines of business and legal entities, taking into account legal, regulatory, and operational restrictions;
- Developing internal liquidity stress testing assumptions;
- Defining and monitoring Firmwide and legal entity-specific liquidity strategies, policies, guidelines, 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 Company is regulated by the PRA and is expected to comply with the liquidity coverage ratio ("LCR") guidance set out in the Delegated Act (Commission delegated regulation (EU) 2015/61). The LCR is intended to measure the amount of "high quality liquid assets ("HQLA") held by the Company in relation to estimated net liquidity outflows within a 30 calendar day stress period. At 31 December 2018, the Company was compliant with the LCR requirement.

The Basel Committee final standard for net stable funding ratio ("Basel NSFR") is intended to measure the "available" and "required" amounts of stable funding over a one-year horizon. The European Commission introduced its legislative proposal for the NSFR ("EU NSFR"), amending Regulation (EU) No 575/2013. The Company is expected to comply with the EU NSFR at a level of 100% two years after the date of entry into force of the new regulation.

Risk governance and measurement

Committees responsible for liquidity governance include the Firmwide Asset and Liability Committee ("ALCO"), as well as line of business and regional ALCOs, Treasury and Corporate ("CTC") Risk Committee; and the DRPC and the ERC.

Risk management (continued)

Liquidity risk (audited)

Internal stress testing

Liquidity stress tests are intended to ensure that the Company has sufficient liquidity under a variety of adverse scenarios, including scenarios analysed as part of the Firm's resolution and recovery planning. Stress scenarios are produced for the Company on a regular basis and ad hoc stress tests are performed, as needed, in response to specific market events or concerns. Liquidity stress tests assume all of the Company's contractual financial obligations are met and take into consideration:

- Varying levels of access to unsecured and secured funding markets;
- Estimated non-contractual and contingent cash outflows; and
- Potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

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

Results of stress tests are considered in the formulation of the Company's funding plan and assessment of its liquidity position.

Liquidity risk stress testing is established at the Firm and material legal entity level. The Company's liquidity stress testing is incorporated within the JPMorgan Chase legal entity liquidity risk framework and follows Firmwide liquidity assumptions, with additional considerations for intercompany positions and the definition of local liquid asset buffer.

Contingency funding plan

The Firm's contingency funding plan ("CFP") is approved by the Firmwide ALCO and the DRPC. The Company's addendum to the CFP is approved by the Company's DRPC and the Board of directors. The CFP and the addendum is a compilation of procedures and action plans for managing liquidity through stress events. The CFP and the addendum incorporate the limits and indicators set by the Liquidity Risk Oversight group. These limits and indicators are reviewed regularly to identify the emergence of risks or vulnerabilities in the Company's liquidity position. The CFP identifies the alternative contingent funding and liquidity resources available to the Company in a period of stress.

Funding

The Company's sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. Securities loaned or sold under agreements to repurchase are secured predominantly by high-quality securities collateral, including government-issued debt, agency debt and agency mortgage-backed securities ("MBS). The directors believe that the Company's unsecured and secured funding capacity is sufficient to meet its on and off-balance sheet obligations.

Risk management (continued)

Liquidity risk (audited) (continued)

Funding (continued)

The table below presents the maturity details of all financial liabilities. Securities sold under agreements to repurchase, securities loaned, financial liabilities at fair value through profit and loss, and liabilities designated at fair value through profit and loss have been disclosed at their fair values, consistent with how these financial liabilities are managed. Amounts greater than one year represent undiscounted cash flows. Due to the nature and contractual maturity of all other financial liabilities they are presented at the carrying amount, which is not materially different to the undiscounted cash flow.

	Less than 1 year	More than 1 year	Total	Less than 1 year	More than 1 year	Total
	2018	2018	2018	2017	2017	2017
	$'000	$'000	$'000	$'000	$'000	$'000
Securities sold under agreements to repurchase	87,280,799	4,670,738	91,951,537	74,937,158	—	74,937,158
Securities loaned	20,646,594	—	20,646,594	12,550,040	—	12,550,040
Financial liabilities at fair value through profit and loss (IFRS9)	312,225,100	—	312,225,100	—	—	—
Financial liabilities held for trading (IAS 39)	—	—	—	308,288,068	—	308,288,068
Financial liabilities designated at fair value through profit or loss	795,709	440,767	1,236,476	222,283	1,242,964	1,465,247
Trade creditors	55,301,485	—	55,301,485	30,479,035	—	30,479,035
Amounts owed to JPMorgan Chase undertakings	41,442,931	60,860,000	102,302,931	83,225,471	41,105,000	124,330,471
Other liabilities	25,668,487	—	25,668,487	25,271,893	—	25,271,893
Subordinated liabilities	493,967	16,445,700	16,939,667	—	—	—
	543,855,072	82,417,205	626,272,277	534,973,948	42,347,964	577,321,912

The majority of short term funding transactions by way of repurchase agreements and stock lending have short-dated maturities, typically less than one month. Trade creditors predominantly includes unsettled trades and other liabilities includes cash collateral received. Both have short-dated maturities. Financial liabilities designated at fair value through profit or loss represent a long term margin loan. Financial liabilities at fair value through profit and loss 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'.

Credit ratings

The Company is rated on a standalone non-guaranteed basis. Independent credit ratings agencies Moody's Investors Service, S&P and Fitch Ratings have rated the Company as 'Aa3/P-1', 'A+/A-1' and "AA/F1+' respectively. On October 25, 2018, Moody's upgraded the Company's long-term issuer rating to Aa3 (previously A1). On June 21, 2018, Fitch upgraded the Company's long-term issuer ratings to AA (previously AA-).

Market risk (audited)

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.

The following sections detail the market risk management framework at both the Firmwide and Company levels.

Market Risk Management monitors market risks throughout the Firm and defines market risk policies and procedures. The Market Risk Management function reports to the Firm's CRO, and seeks to manage risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the Firm's market risk profile.

The Firmwide Risk Executive ("FRE") Market Risk and Line of Business Chief Risk Officers ("LOB CROs") are responsible for establishing an effective market risk organisation that measures, monitors and controls market risk.

Risk management (continued)

Market risk (audited) (continued)

Risk Governance & Policy Framework

The Company's approach to market risk governance mirrors the Firmwide approach and is outlined in the Company's Market Risk Policy. The Company's Market Risk Policy outlines the following:

- Responsibilities of the CRO and Market Risk Officer ("MRO")
- Market Risk measures utilised such as VaR, Stress and non-statistical measures
- Controls such as the Company's market risk limit framework (limit levels, limit signatories, limit reviews and escalation)

The Company's Board of directors approves substantive changes to the policy and approves this policy annually. The Company's DRPC will review this policy annually and make recommendation to Company's Board of directors for policy approval.

Risk Measurement

There is no single measure to capture market risk and therefore the Firm and Company use various metrics both statistical and non-statistical to assess risk. As the appropriate set of risk measures utilised for a given business activity depends on business mandate, risk horizon, materiality, market volatility and other factors, not all measures are used in all cases.

Value-at-Risk ("VaR")

The Firm utilises VaR, a statistical risk measure, to estimate the potential loss from adverse market moves in the current market environment. The Firm has a single VaR framework used as a basis for calculating Risk Management VaR and Regulatory VaR.

The framework is employed across the Firm using historical simulation based on data for the previous 12 months. Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. These VaR results are reported to senior management, the Firm's Board of directors and regulators.

Separately, Regulatory VaR, also applied across the Firm, assumes a ten business-day holding period and an expected tail loss methodology which approximates a 99% confidence level. Regulatory VaR is applied to "covered" positions as defined by Basel III, which may be different than the positions included in the Firm's Risk Management VaR.

The Company applies the Firmwide approach for Risk Management VaR as described above, for internal risk management purposes. The Company also utilises Regulatory VaR, as described above, for the calculation of model based regulatory capital under Internal Models Approach ("IMA") for a subset of the trading book population in Global Credit Trading and Global Equities.

The table below shows the result of the Company's Risk Management VaR:

	2018			2017			At 31 December	
	Avg.	Min	Max [a]	Avg.	Min	Max [b]		
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
95 % VaR	17,112	11,723	32,640	17,033	10,627	49,406	31,998	17,876

(a) Maximum VaR ($32.6 million) for 2018 was driven by a combination of positional changes and higher observed market volatility. Positional changes were primarily driven by positions in Global Rates and Global Equities.
(b) Maximum VaR ($49.4 million) for 2017 was driven by a failed risk transfer process within the Global Commodities business which was resolved the next day. There was no breach at Firmwide level due to offsetting exposure within another JPMorgan Chase undertaking.

The Company's market risk profile is long risk across credit, commodities, local currency/short U.S. dollar foreign exchange markets, equity and short rates exposure. Long credit positions drive the Company's market risk exposure and these are generally held in cash securities across developed, emerging and securitised products markets. Of the standard stress scenarios that the Company is subject to, the worst case stress loss during 2018 was primarily driven by the Credit Crisis scenario.

Risk management (continued)

Market risk (audited) (continued)

Stress testing

Along with VaR, stress testing is an important tool in measuring and controlling risk. The Firmwide Stress Infrastructure ("FSI") is intended to capture the Firm's (including the Company's) exposure to unlikely but plausible events in abnormal markets. The Firm and the Company run weekly stress tests on market-related risks across the lines of business using multiple scenarios that assume significant changes in risk factors such as credit spreads, equity prices, interest rates, currency rates or commodity prices.

The Firm and the Company use 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 realised, 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 the respective LOB, Firm and Company senior management as appropriate, 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.

Stress scenarios are defined and reviewed by Market Risk, and significant changes are reviewed by the relevant LOB Risk Committees and may be redefined on a periodic basis to reflect current market conditions.

Other Non-statistical risk measures

Aside from VaR and stress testing, other specific risk measures, such as, but not limited to, credit spread sensitivities, net open positions, basis point values, option sensitivities, are also utilised within specific market context and aggregated across businesses.

The Company utilises non-statistical risk measures to measure and monitor risk e.g. FX Delta, IR BPV, etc.

Risk Monitoring and Control

Limits

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

Senior management, including the Firm's CEO, CRO and Market Risk Management are responsible for reviewing and approving limits on an ongoing basis. Limits that have not been reviewed within a specified time period by Market Risk Management are escalated to senior management.

Limit breaches are required to be reported in a timely manner to limit signatories. Market Risk Management and senior management as appropriate determine the course of action required to return to compliance, such as a reduction in risk or the granting a temporary increase in limits. Aged or significant breaches are escalated to senior management, the LOB Risk Committee, and/or the Firmwide Risk Committee.

Additional controls beyond market risk limits - including but not limited to Authorised Instruments, Pre-Trade Governance and E-Trading Control - are also employed as a means to control market risk.

The Company's limits include VaR and Stress limits established for the legal entity, in aggregate, and for individual businesses/sub-businesses operating out of the legal entity:

- The Company's Board of directors is the limit signatory of legal entity level limits and delegates its approval authority to the Company's CRO, CEO and MRO
- Appropriate Business/Sub-Business area representatives and Market Risk representatives are signatories to business /sub-business area specific limits

Market Risk reviews all of the Company's market risk limits at least semi-annually. Limit reviews appropriately consider the underlying trading, investing and hedging strategies of the business, along with the limit utilisation.

Market Risk limits are set in accordance to the Company's Risk Appetite Framework. The Company's Risk Appetite Framework leverages the Firm's Risk Appetite Framework, with differences in quantitative parameters and factors and/or governance structure defined in the Company's Risk Appetite Framework.

Risk management (continued)

Market risk (audited) (continued)

Risk Reporting

The Company has its own set of regular market risk reports and where applicable, comprises of granular market risk metrics which provide transparency into potential risk concentrations. Limit utilisations and notifications of market risk limit breaches are documented and sent to appropriate limit signatories daily. Aged and significant limit breaches are escalated to the ERC.

Non-U.S. dollar foreign exchange ("FX") risk

Non-U.S. dollar FX risk is the risk that changes in foreign exchange rates affect the value of the Company's assets or liabilities or future results.

The Company's functional and presentation currency is U.S. dollar.

The Company does not have material risks associated with foreign investments in subsidiaries. The Company does have mismatches between the currency in which Risk Weighted Assets ("RWAs") are denominated and the functional currency (U.S. dollar). This means that changes in FX rates can impact the capital ratios of the Company. The Non-U.S. dollar FX risk is managed through the stress testing program which is an important component in managing structural FX risk, testing the Company and Firm's financial resilience in a range of severe economic and market conditions.

Structural interest rate risk

Structural Interest Rate Risk is the Interest Rate Risk in the Banking Book ("IRRBB") and is defined as Interest Rate Risk ("IRR") resulting from the Company's traditional banking activities (accrual accounted on and off balance sheet positions) which includes extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as 'non-trading' activities) and also the impact from 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:

- Difference in the timing among the maturity or re-pricing of assets, liabilities and off-balance sheet instruments;
- Differences in the balances of assets, liabilities and off-balance sheet instruments that re-price at the same time;
- Differences in the amounts by which short-term and long-term market interest rates change; and
- Impact of changes in the maturity of various assets, liabilities or off-balance sheet instruments as interest rates change.

Oversight and governance

Governance for Firmwide IRR is defined in the IRR Management Policy which is approved by DRPC. The CIO, Treasury and Other Corporate Risk Committee ("CTC RC") is the governing committee with respect to IRRBB.

- Reviews the IRR Management policy;
- Reviews the IRR profile of the Firm and compliance with IRR limits;
- Provides Governance on legal entity related exposures; and
- Reviews significant changes to IRR models and/or model assumptions including the changes related to IRR management.

IRR exposures, significant models and/or assumptions including the changes are reviewed by ALCO. The ALCO provides a framework for overseeing the IRR of LOBs, foreign jurisdictions and key legal entities to appropriate LOB ALCOs, Country ALCOs and other local governance bodies.

Risk management (continued)

Structural interest rate risk (continued)

Oversight and governance (continued)

In addition, oversight of structural interest rate risk is managed through IRR Management, a dedicated risk function reporting to the CTC CRO.

IRR Management is responsible for, but not limited to:

- Measuring and monitoring IRR and establishing limits; and
- Creating and maintaining governance over IRR assumption.

The Firmwide risk framework applies to the Company as described above.

Risk Identification and Measurement

T/CIO manages IRRBB exposure on behalf of the Firm by identifying, measuring, modelling and monitoring IRR across the Firm's balance sheet. T/CIO identifies and understands material balance sheet impacts of new initiatives and products and executes market transactions to manage IRR through T/CIO investment portfolio's positions. Execution by T/CIO will be based on parameters established by senior management, per the T/CIO Investment Policy. LOBs are responsible for developing and monitoring the appropriateness of LOB specific IRR modelling assumptions.

Measures to manage IRR include:

- Earnings-at-risk ("EAR"): Primary metric used to gauge the Firm's shorter term IRR exposure is EAR, or the sensitivity of pre-tax income to changes in interest rates over a rolling 12 months compared to a base scenario; and
- Economic Value Sensitivity ("EVS"): An additional Firmwide metric utilised to determine changes in asset/liability values due to changes in interest rates.

Operational risk

Operational risk is the risk associated with inadequate or failed internal processes, people and systems, or from external events; operational risk includes cybersecurity risk, business and technology resiliency risk, payment fraud risk, and third-party outsourcing risk.

Operational risk is inherent in the Company's activities and can manifest itself in various ways, including fraudulent acts, business interruptions, cybersecurity attacks, inappropriate employee behaviour, failure to comply with applicable laws and regulations or failure of vendors to perform in accordance with their agreements. These events could result in financial losses, litigation and regulatory fines, as well as other damages to the Company and the Firm. The goal is to keep operational risk at appropriate levels in light of the Company's financial position, the characteristics of its businesses, and the markets and regulatory environments in which it operates.

Risk management

To monitor and control operational risk, the Firm has an Operational Risk Management Framework ("ORMF") which is designed to enable the Firm to maintain a sound and well-controlled operational environment. The ORMF has four main components: Governance, Operational Risk Identification and Assessment, Operational Risk Measurement, and Operational Risk Monitoring and Reporting. The Company's approach mirrors the Firmwide approach.

Operational risk can manifest itself in various ways. Operational risk subcategories such as Compliance risk, Conduct risk, Legal risk and Model risk, as well as other operational risks, can lead to losses which are captured through the Firm's operational risk measurement processes. More information on these risk subcategories can be found in the respective risk management sections. Details on cybersecurity risk, business and technology resiliency risk, together with third-party outsourcing risk, are provided below.

Risk management (continued)

Operational risk (continued)

Cybersecurity risk

Cybersecurity risk is an important, continuous and evolving focus for the Firm. The Firm devotes significant resources to protecting and continuing to improve the security of the Firm's computer systems, software, networks and other technology assets. The Firm's security efforts are designed to protect against, among other things, cybersecurity attacks by unauthorised parties attempting to obtain access to confidential information, destroy data, disrupt or degrade service, sabotage systems or cause other damage. The Firm continues to make significant investments in enhancing its cyber-defence 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 defences and improve resiliency against cybersecurity threats. The Firm actively participates in discussions of cybersecurity risks with law enforcement, government officials, peer and industry groups, and has significantly increased efforts to educate employees and certain clients on the topic

Third parties with which the Firm does business or that facilitate the Firm's business activities (e.g., vendors, exchanges, clearing houses, central depositories, and financial intermediaries) could also be sources of cybersecurity risk to the Firm. Third party cybersecurity incidents such as system breakdowns or failures, misconduct by the employees of such parties, or cyber-attacks 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 can also be sources of cybersecurity risk to the Firm, 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 are due to client failure to maintain the security of their own systems and processes, clients will generally be responsible for losses incurred.

To protect the confidentiality, integrity and availability of the Firm's infrastructure, resources and information, the Firm maintains a cybersecurity programme to prevent, detect, and respond to cyber-attacks. The Global Chief Information Officer, Chief Technology Control Officer, and Chief Information Security Officer ("CISO") update the Audit Committee of the Board of directors at least annually on the Firm's Information Security Programme, recommended changes, cybersecurity policies and practices, ongoing efforts to improve security, as well as its efforts regarding significant cybersecurity events. In addition, the Firm has a detailed 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. 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 in this regard including Compliance and the Legal Department.

The Cybersecurity and Technology Control functions are responsible for governance and oversight of the Firm's Information Security Programme. In partnership with the Firm's lines of business, the Cybersecurity and Technology Control organisation identifies information security risk issues and champions programmes 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 customers. The Cybersecurity and Technology Control organisation comprises Governance and Control, Assessments, Assurance and Training, Cybersecurity Operations, business aligned control officers, Identity and Access Management, and resiliency functions that execute the Information Security Programme.

The Global Cybersecurity and Technology Control governance structure is designed to identify, escalate, and mitigate information security risks. This structure uses key governance forums to disseminate information and monitor technology efforts. These forums are established at multiple levels throughout the Firm and include representatives from each LOB and Corporate.

Reports containing overviews of key technology risks and efforts to enhance related controls are produced for these forums, and are reviewed by management at multiple levels including technology management, Firmwide management and the Operating Committee. The forums are used to escalate information security risks or other matters as appropriate to the FCC.

Information Risk Management ("IRM") provides oversight of the activities which identify, assess, manage and mitigate cybersecurity risk. As integral participants in cybersecurity governance forums, the IRM organisation actively monitors and oversees the Cybersecurity and Technology Control functions.

The Firm's Security Awareness Programme includes training that reinforces the Firm's Information Technology Risk and Security Management policies, standards and practices, as well as the expectation that employees comply with these policies. The Security Awareness Programme engages personnel through training on how to identify potential cybersecurity risks and protect the Firm's resources and information. This training is mandatory for all employees globally on an annual basis, and it is supplemented by Firmwide testing initiatives, including quarterly phishing tests. Finally, the Firm's Global Privacy programme requires all employees to take annual awareness training on data privacy. This privacy-focused training includes information about confidentiality and security, as well as responding to unauthorised access to or use of information.

Risk management (continued)

Operational risk (continued)

Business and technology resiliency risk

Business disruptions can occur due to forces beyond the Firm's control such as severe weather, power or telecommunications loss, flooding, transit strikes, terrorist threats or infectious disease. The safety of the Firm's employees and customers is of the highest priority. The Firm's global resiliency programme is intended to enable the Firm to recover its critical business functions and supporting assets (i.e., staff, technology and facilities) in the event of a business interruption. The programme includes corporate governance, awareness training, and testing of recovery strategies, as well as strategic and tactical initiatives to identify, assess, and manage business interruption and public safety risks.

The strength and proficiency of the Firm's global resiliency programme has played an integral role in maintaining the Firm's business operations during and after various events.

Third-party outsourcing risk

To identify and manage the operational risk inherent in its outsourcing activities, the Firm has a Third-Party Oversight ("TPO") framework to assist the lines of business and Corporate in selecting, documenting, onboarding, monitoring and managing their supplier relationships. The objective of the TPO framework is to hold third parties to the same high level of operational performance as is expected of the Firm's internal operations. The Corporate Third-Party Oversight group is responsible for Firmwide TPO training, monitoring, reporting and standards.

The TPO framework is applied by the Company to manage its TPO engagements within the relevant businesses as detailed in the principle activity section.

In addition, the Firm has an Inter Affiliate Oversight ("IAO") programme. This is a risk-based policy and procedure framework to comply with regulations and guidance relating to management of outsourcing/offshoring of services within JPMC Affiliates in conjunction with the relevant advisory functions and subject matter experts, including Legal, Compliance and Tax. The programme addresses the outsourcing / offshoring regulatory risk through a lifecycle starting from onboarding (planning and preparation, expert review, final review and go-live), steady state and disengagement. Service Request Inherent Risk assessment forms the basis to measure the levels of business impact and risk to determine the appropriate rating of an engagement, which then determines the level of due diligence and oversight activities as part of the IAO programme. The programme also provides regular oversight of remediation issues identified during the above mentioned assessment, as well as the periodic reviews and performance against service levels and regulatory obligations.

Compliance risk

Compliance risk is the risk of failure to comply with legal or regulatory obligations or code of conduct and standards of self-regulatory organisations applicable to the business activities of the Firm.

Each LOB and Corporate within the Company hold primary ownership and accountability for managing compliance risks. The Firm's Compliance Organisation ("Compliance"), which is independent of the line of business, works closely with senior management to provide independent review, monitoring and oversight of business operations with a focus on compliance with the regulatory 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 legal and regulatory obligations, depending on the LOB and the jurisdiction, and include those related to 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 rules and regulations related to the offering of products and services across jurisdictional borders, among others.

Other functions such as Finance (including Tax), Technology and Human Resources provide oversight of significant regulatory obligations that are specific to their respective areas of responsibility.

Compliance has implemented various practices designed to identify and mitigate compliance risk by establishing policies, testing, monitoring, training and providing guidance. The Firm has experienced heightened scrutiny by its regulators of its compliance with regulations, and with respect to its controls and operational processes. The Firm expects that such regulatory scrutiny will continue.

Governance and oversight

Compliance is led by the Firms' Chief Compliance Officer ("CCO") who reports to the Firm's CRO. The regional CCOs, including the EMEA CCO, are part of this structure.

The Firm maintains oversight and coordination of its Compliance Risk Management practices through the Firm's CCO, lines of business CCOs and regional CCOs who implement the Compliance program globally across the lines of business and regions. At a Company level, in the UK the regional CCO is a member of the UK Management Committee (restructured from January 2018 to form the EMEA Management Committee) and the UK Audit & Compliance Committee.

Risk management (continued)

Compliance risk (continued)

Governance and oversight (continued)

The Firm has in place a Code of Conduct ("Code") which applies to the Company. Each employee is given annual training in respect of the Code and is required annually to affirm his or her compliance with the Code. The Code sets forth the Firm's core principles and fundamental values, including that no employee should ever sacrifice integrity - or give the impression that he or she has. The Code requires prompt reporting of any known or suspected violation of the Code, any internal Firm policy, or any law or regulation applicable to the Firm's business. It also requires the reporting of any illegal conduct, or conduct that violates the underlying principles of the Code, by any of the Firm's employees, customers, suppliers, contract workers, business partners, or agents. Specified employees are specially trained and designated as "code specialists" who act as a resource to employees on Code matters. In addition, concerns may be reported anonymously and the Firm prohibits retaliation against employees for the good faith reporting of any actual or suspected violations of the Code. The Code and the associated employee compliance program are focused on the regular assessment of certain key aspects of the Firm's culture and conduct initiatives.

Conduct risk

Conduct 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 Firm operates, or compromise 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. For further discussion of the Code, refer to Compliance Risk Management.

Governance and oversight

The Firm's Conduct Risk Programme is governed by a Board-level approved Conduct Risk Governance Policy. The Conduct Risk Governance Policy ("CRSC") establishes the framework for ownership, assessment, managing and escalating conduct risk in the Firm. The CRSC provides oversight of the Firm's conduct initiatives to develop a more holistic view of conduct risks and to connect key programmes across the Firm in order to identify opportunities and emerging areas of focus. The CRSC may escalate systemic conduct risk issues to the Firmwide Risk Committee ("FRC") and as appropriate to the DRPC. The misconduct (actual or potential) of individuals involved in material risk and control issues are escalated to the Human Resource ("HR") Control Forum. Certain committees of the Board oversee conduct risk issues within the scope of their responsibilities. 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, T/CIO, and designated corporate function completes an assessment of conduct risk quarterly, reviews metrics and issues which may involve conduct risk, and provides business conduct training as appropriate.

Legal risk

Legal 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 and the Company operates, agreements with clients and customers, and products and services offered by the Company and the Firm.

Overview

The global Legal function ("Legal") provides legal services and advice to the Company and the Firm. Legal is responsible for managing the Firm'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 thereto;
- Advising on advocacy in connection with contemplated and proposed laws, rules and regulations; and
- Providing legal advice to the LOBs, inclusive of LOB aligned Operations, Technology and Oversight & Controls (the "first line of defence"), Risk Management and Compliance (the "second line of defence"), and the Internal Audit function (the "third line of defence").

Risk management (continued)

Legal risk (continued)

Overview (continued)

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

Governance and oversight

The Firm's General Counsel reports to the JPMorgan CEO and is a member of the Operating Committee, the Firmwide Risk Committee and the Firmwide Control Committee. The General Counsel's leadership team includes a General Counsel for each LOB, the heads of the Litigation and Corporate & Regulatory practices, as well as the Firm's Corporate Secretary. Each region (e.g., Latin America, Asia Pacific) has a General Counsel who is responsible for managing legal risk across all lines of business and functions in the region. The Firm's General Counsel and other members of Legal report on significant legal matters at each meeting of the Firm's Board of directors, at least quarterly to the Audit Committee, and periodically to the DRPC. Legal serves on and advises various committees (including new business initiative and reputation risk committees) and advises the Firm's businesses to protect the Firm's and the Company's reputation beyond any particular legal requirements.

Model risk

Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs.

The Firm uses models of varying degrees of sophistication across various businesses and functions. Models are used for many purposes such as the valuation of positions and measurement of risk, assessing regulatory capital requirements, conducting stress testing, and making business decisions.

Risk Governance

A dedicated independent function, Model Risk Governance and Review ("MRGR"), defines and governs the Firm's model risk management policy. MRGR reports to the Firm's CRO.

Model risks are owned by the users of the models within the various businesses and functions in the Firm 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 Model Risk function 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 relevant portfolios, product or market, as well as to capture improvements in available modelling techniques and systems capabilities.

Under the Firm's model risk management policy, the Model Risk function reviews and approves new models, as well as material changes to existing models, prior to implementation in the operating environment. In certain circumstances, the Model Risk function may grant exceptions to allow a model to be used prior to review or approval. The Model Risk function may require the user to take appropriate actions (i.e. put compensating controls in place) 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, adjustment of model's results (i.e. an 'overlay'), or limitation of trading activity.

Models are tiered based on an internal standard according to their complexity, the exposure associated with the model and the Firm's reliance on the model. This tiering, which will reflect the materiality of the risk posed by the model to the Firm, is subject to the approval of the Model Risk function. A model review conducted by the Model Risk function considers the model's suitability for the specific uses to which it will be put. The factors considered in reviewing a model include whether the model accurately reflects the characteristics of the product or activity and its significant risks, the selection and reliability of model inputs, consistency with models for similar products, the appropriateness of any model-related adjustments, and sensitivity to input parameters and assumptions that cannot be observed from the market. When reviewing a model, the Model Risk function 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.

At the conclusion of a review, the Model Risk function can raise issues regarding identified model risks depending on the associated severity ratings. The severity rating is determined based on two dimensions: importance and exposure. For issues related to Critical or High importance model risks, an evaluation of possible compensating controls is required. The evaluation must consider the usages of the model affected by the issue. Compensating Controls aim to mitigate the model risk, for example, by adjusting the model output to address the inaccuracy or weakness in the model, or implementing an ongoing mechanism to monitor the materiality of the model inaccuracy or weakness. The type and frequency of compensating controls will vary based on the nature and materiality of the issue. For example, the compensating control may also include escalation for review by governance bodies (e.g., Market Risk Models Committee) to determine the appropriate course of action.

Risk management (continued)

Model risk (continued)

Summary of Roles and Responsibilities

Managing model risk throughout the model life cycle is the responsibility of multiple constituents, principally the Model Users, Model Developers, and MRGR.

The Model Users are the primary owners of model risk related to their use of a model. MRGR, as an independent Risk Management function, is responsible for determining the scope and applicability of the Firm's model risk management policy, including the determination of what constitutes a model, and providing effective challenge with the goal of capturing and mitigating model risk throughout the model lifecycle. Model Developers are responsible for developing models to appropriate standards and establishing ongoing monitoring of the models they develop. They are also responsible for providing information related to model usage and communicating model changes to the Model User audience, and for meeting requirements related to issues identified during the model life cycle, and abiding by technology and operational control requirements related to the model.

Reputation risk

Reputation risk is the potential that an action, inaction, transaction, investment or event will reduce trust in the Firm's integrity or competence by its various constituents, including clients, counterparties, customers, investors, regulators, employees, communities or the broader public.

Reputation Risk Management is an independent risk management function that establishes the governance framework for managing reputation risk across the Firm.

The types of events that give rise to reputation risk are broad and could be introduced in various ways, including by the Firm's employees and the clients, customers and counterparties with which the Firm does business. These events could result in financial losses, litigation and regulatory fines, as well as other damages to the Firm. As reputation risk is inherently difficult to identify, manage, and quantify, an independent reputation risk management governance function is critical.

Governance and oversight

The Firm's Reputation Risk Governance policy establishes the principles for managing reputation risk for the Firm. It is the responsibility of employees in each LOB and Corporate to consider the reputation of the Company 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 the Firm's reputation risk, and are considered as part of reputation risk governance.

The Firm's reputation risk governance framework applies to each LOB and Corporate. Each LOB Reputation Risk Office ("RRO") advises their business on potential reputation risk issues and provides oversight of policy and standards created to guide the identification and assessment of reputation risk. LOB Reputation Risk Committees and forums review and assess reputation risk for their respective businesses. Each function also applies appropriate diligence to reputation risk arising from their day-to-day activities. Reputation risk issues deemed significant are escalated to the appropriate LOB Risk Committee and/or to the Firmwide Risk Committee. Annual EMEA CIB Reputation Risk Committee update are provided to the ERC.

Critical accounting estimates

The Company's accounting policies and use of estimates are integral to understanding its reported results. The Company's most complex accounting estimates require management's judgement to ascertain the appropriate carrying value of assets and liabilities. The Firm and the Company has established policies and control procedures intended to ensure that estimation methods, including any judgements made as part of such methods, are well-controlled, independently reviewed and applied consistently from period to period. The methods used and judgements made reflect, among other factors, the nature of the assets or liabilities and the related business and risk management strategies, which may vary across the Company's businesses and portfolios. In addition, the policies and procedures are intended to ensure that the process for changing methodologies occurs in an appropriate manner. The Company believes its estimates for determining the carrying value of its assets and liabilities are appropriate. A description of the Company's critical accounting estimates involving significant judgements is set out in note 4 to the financial statements.

Key corporate events

On 5 September 2018, the Company received a dividend of $2 billion from its wholly owned subsidiary J.P. Morgan Europe Limited.

Non-financial policies

An overview of the environment and social, human rights, employee, anti-bribery and anti-corruption policy aspects of non-financial reporting is provided below. A detailed description of the policies and processes adopted by the Firm may be found on the JPMorgan Chase & Co. website.

Environment and social policy

The Firm works with companies in nearly every sector of the economy - as well as with development finance institutions, governments, and investors - to help them advance environmental and social best practices and capitalise on opportunities created by the transition to a lower-carbon, more sustainable future. The Firm also strives to promote sustainability, including energy efficiency and renewable energy, across its operations globally.

Assessing its clients' approach and performance on environmental and social issues is an important component of the Firm's risk management process. The Firm's Environmental and Social Policy Framework, which is available on its website, outlines the Firm's approach to evaluating reputational and financial risks posed by environmental and social matters, including certain activities that the Firm will not finance, and sectors and activities subject to environmental and social due diligence.

In 2017, the Firm committed to facilitate $200 billion in clean financing by 2025 to further support its clients in advancing their sustainability objectives. Across the Firm's buildings and retail branches globally, sustainability efforts focus on reducing energy use and greenhouse gas ("GHG") emissions. In 2017, the Firm also established a goal to source renewable energy for 100% of its global power needs by 2020.

The Firm discloses relevant data and metrics on GHG emissions and energy consumption in its Environmental, Social, and Governance Report, which is published annually and available at www.jpmorganchase.com/esg.

The Company supports the Firm's efforts in achieving established targets on environmental and social matters.

Human Rights

The Firm supports fundamental principles of human rights across all lines of business and in each region of the world in which they operate. The Firm believes it is the role of government in every country to protect human rights, and that the Firm has a role to play in promoting respect for human rights.

The Firm's respect for the protection and preservation of human rights is guided by the principles set forth in the United Nations Universal Declaration of Human Rights. Further, the Firm acknowledges the United Nations Guiding Principles on Business and Human Rights as the recognised framework for corporations to respect human rights in their own operations and through business relationships.

To view the Firms' Human Rights Statement, including the U.K. Modern Slavery Act Transparency Statement, please visit https://www.jpmorganchase.com/corporate/About-JPMC/ab-human-rights.htm.

Corporate employee policy

It is the policy of the Company to ensure equal opportunity for all persons without discrimination on the basis of race, colour, religion, sex, national origin, age, handicap, veteran status, marital status, sexual orientation or any other basis. This policy of equal opportunity applies to all employment practices including, but not limited to recruiting, hiring, promotion, training and compensation.

Where existing employees become disabled, it is the Company policy wherever practicable to provide continuing employment under normal terms and conditions and to provide training and career development and promotion wherever appropriate.

With the aim of ensuring that views are taken into account when decisions are made, employee consultation has continued at all levels where it is likely to affect their interests. All employees are aware of the financial and economic performance of their business units and of the Company as a whole. Communication with all employees continues through the intranet and other forums.

The Firm operates an employee share scheme for all employees, including those of the Company, to acquire a proprietary and vested interest in the growth and performance of the Firm.

J.P. MORGAN SECURITIES PLC
Strategic report (continued)

Non-financial policies (continued)

Anti-bribery and Anti-corruption

The Firm 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 that seeks to promote ethical business practices and requires compliance with applicable anti-corruption laws and regulation. This Anti-Corruption Policy ("the Policy") is referenced in the Firm's publicly available Code of Conduct, and is applicable to the Company.

The Firm has identified the key areas of corruption-related risk as including:

- the giving or receiving of anything of value
- third parties acting on the Firm's behalf; and
- transactions entered into by the Firm or by funds or accounts controlled or managed by the Firm

The Policy therefore prohibits offering or giving anything of value (including gifts, hospitality, travel, employment, and work experience) to-and soliciting or accepting anything of value from-anyone for a corrupt purpose, such as improper payments or benefits to government officials or private parties for a business advantage. The Policy further prohibits making facilitation payments to cause a government official to perform or expedite performance of a routine duty. Other key features of the Policy include requirements to:

- Obtain Compliance review and approval before offering or giving anything of value to government officials (subject to certain thresholds relating to gifts and business hospitality)
- Keep accurate books, records, and accounts that relate to the business of the Firm, its clients, suppliers, and other partners
- Conduct due diligence and oversight of intermediaries/agents, joint venture partners, and entities over which the Firm has or may obtain control or influence
- Report potential corruption-related issues (including through the Code Reporting Hotline), with a prohibition on retaliation against those who make good faith reports

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

The Firm's Anti-Corruption Compliance Program ("the Program") is reasonably designed to implement the Policy's requirements, as well as identify, manage, and mitigate the risk of non-compliance with those requirements. Key components of the Program include:

- A governance structure managed by anti-corruption professionals with senior management oversight
- Training and awareness activities
- Monitoring and testing for compliance
- Periodic assessment of corruption risks and control effectiveness
- Protocols for managing and reporting material issues

On behalf of the Board

Viswas Raghavan
Chief Executive Officer
23 April 2019

London

Independent auditors' report to the members of J.P. Morgan Securities plc

Report on the audit of the financial statements

Opinion

In our opinion, J.P. Morgan Securities plc's (the company's) financial statements:

- give a true and fair view of the state of the company's affairs as at 31 December 2018 and of its profit and cash flows for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law); and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual report (the "Annual Report"), which comprise: the balance sheet as at 31 December 2018; the income statement, the statement of comprehensive income, the statement of cash flows, the statement of changes in equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

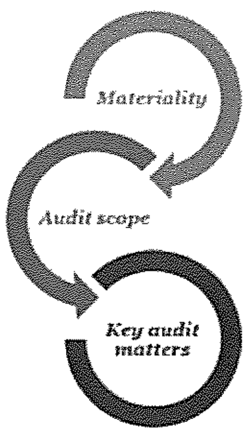
We remained independent of the company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided to the company.

Other than those disclosed in Note 13 to the financial statements, we have provided no non-audit services to the company in the period from 1 January 2018 to 31 December 2018.

Our audit approach

Overview



- Overall materiality: \$413 million (2017: \$401 million), based on 1% of Tier 1 regulatory capital resources as defined by the Prudential Regulatory Authority.
- We tailored the scope of our audit to ensure that we performed sufficient work to be able to give an opinion on the financial statements as a whole. Our scoping considered all account balances and was performed to ensure that specific and appropriate audit procedures were performed over material balances.
- Due to some business process and internal controls being performed in other geographical locations, PwC network firms ("other auditors") were involved in the engagement.
- Valuation of complex financial instruments held at fair value.

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements.

Capability of the audit in detecting irregularities, including fraud

Based on our understanding of the company and industry, we identified that the principal risks of non-compliance with laws and regulations related to the Prudential Regulatory Authority (PRA), Financial Conduct Authority (FCA) and United Kingdom Tax Legislation and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the preparation of the financial statements such as the Companies Act 2006 and the FCA's Client Asset Sourcebook.

We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls) and determined that the principal risks were related to posting inappropriate journal entries and management bias in accounting estimates. The engagement team shared this risk assessment with the other auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the engagement team and/or other auditors included:

- Discussions with senior management, the UK Audit and Compliance Committee, internal audit and internal legal advisors including consideration of known or suspected instances of non – compliance with laws and regulation and fraud;
- Evaluation of entity level controls put in place by management to prevent and detect irregularities;
- Assessment of whistleblowing procedures, reports and management's investigation of such matters;
- Review of key correspondence with regulatory authorities (the PRA and the FCA) in relation to compliance and regulatory proceedings;
- Identification and testing of journal entries with specific risk characteristics, including those journal entries posted by senior management; and
- Challenge of assumptions and judgements made by senior management in their key accounting estimates, in particular in relation to fair value measurement, the expected credit loss allowance, litigation and regulatory proceedings and the valuation of defined benefit pension obligations.

There are inherent limitations in the audit procedures described above and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we would become aware of it. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

Key audit matter	*How our audit addressed the key audit matter*
Valuation of complex financial instruments held at fair value The fair value of certain financial instruments is determined using valuation methods that involve a varying degree of judgement. In exercising this judgement senior management determine the most appropriate assumptions and valuation methodologies. The valuation of complex financial instruments can have greater estimation uncertainty due to the lack of observable market prices for these instruments. Within this population of financial instruments we observed that the most significant judgements relate to the valuation of certain structured products and commodity, interest-rate and equity derivatives, including those referencing specific multi-	We tested the design and operating effectiveness of the key controls supporting the valuation of financial instruments: • Assessed the bank's standardised approach documents for independent valuation by comparing them to industry practice; • Inspected documentation of the independent price verification controls, independently corroborated the market inputs and assessed the pricing sources used; • Engaged our valuation experts to review model validation and approval controls; and • Evaluated controls over data feeds and market information. Our substantive procedures included the following:

Key audit matter	*How our audit addressed the key audit matter*
asset class indices. These products are non- standard and often require more judgemental valuation methodologies and market information that is not readily available. Refer to Note 4 and Note 32 to the financial statements for further details of fair value measurement of financial instruments as a critical accounting estimate and judgment.	• Analysed the population of financial instruments to identify those that have a heightened risk of material misstatement. • Utilised our valuation experts to re-price a sample of instruments using our models and pricing information from independent sources where possible. Any differences were assessed to confirm that the valuation was within a reasonable range; • Recalculated adjustments made to the standard model results; and • Examined collateral disputes, significant gains or losses on disposals and other events, which could provide evidence about the appropriateness of the valuations. The results and conclusions of the testing were sufficient to confirm the appropriateness of the valuation of financial instruments within the financial statements.

How we tailored the audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the company, the accounting processes and controls, and the industry in which it operates.

The company is a corporate and investment banking subsidiary of JPMorgan Chase & Co that provides financial services to customers worldwide. We first established an end-to-end understanding of the key processes that supported material balances, classes of transactions and disclosures within the company's financial statements. We subdivided the account balances into different business processes to ensure that the audit procedures performed were specific and appropriate to the nature of the balance and underlying business.

We then determined the type of work that needed to be performed by us in the UK, or other auditors, operating under our instruction. This reflects that certain operational processes which are critical to financial reporting are undertaken outside the UK. Where the work was performed by other auditors, we determined the level of involvement we needed to have in their audit work to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the financial statements as a whole.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

Overall materiality	$413 million (2017: $401 million).
How we determined it	1% of tier 1 regulatory capital resources as defined by the Prudential Regulatory Authority.
Rationale for benchmark applied	The company is a regulated bank and wholly owned subsidiary of JPMorgan Chase & Co ("the Firm"). We considered the primary users of the financial statements to be the Firm, regulators and market counterparties, who are focussed on whether the company has sufficient capital resources to meet minimum regulatory requirements, fulfil its future market obligations and absorb any future losses should they arise.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above $21 million (2017: $20 million) as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

Conclusions relating to going concern

ISAs (UK) require us to report to you when:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

We have nothing to report in respect of the above matters.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the company's ability to continue as a going concern. For example, the terms on which the United Kingdom may withdraw from the European Union are not clear, and it is difficult to evaluate all of the potential implications on the company's trade, customers, suppliers and the wider economy.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Directors' report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, ISAs (UK) require us also to report certain opinions and matters as described below.

Strategic report and Directors' report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic report and Directors' report for the year ended 31 December 2018 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Directors' report.

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the Statement of directors' responsibilities set out on page 45 the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. 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 financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the financial statements are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the audit committee, we were appointed by the directors on 1 May 1992 to audit the financial statements for the year ended 31 December 1992 and subsequent financial periods. The period of total uninterrupted engagement is 27 years, covering the years ended 31 December 1992 to 31 December 2018. The company became a credit institution in 2011, and hence is considered to be a European Union public-interest entity from 2011 onwards.

Duncan McNab

Duncan McNab (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London
24 April 2019

J.P. MORGAN SECURITIES PLC
Income statement

Year ended 31 December		2018	2017
	Note	$'000	$'000
Interest and similar income	7	**5,546,209**	**3,969,568**
Financial instruments at amortised cost and FVOCI		1,568,011	
Other similar income		3,978,198	
Interest expense and similar charges	7	**(5,089,067)**	**(3,193,607)**
Financial instruments at amortised cost		(2,699,681)	
Other similar charges		(2,389,386)	
Net interest income		**457,142**	**775,961**
Fee and commission income	8	3,448,891	2,863,023
Fee and commission expense		(1,021,365)	(718,748)
Net fee and commission income		**2,427,526**	**2,144,275**
Trading profit		5,113,623	4,489,978
Dividend income		2,000,000	—
Expected credit loss	9	27,256	—
Impairment on loans and commitments	10	—	(147,477)
Net operating income		**10,025,547**	**7,262,737**
Administrative expenses		(4,465,012)	(3,661,928)
Other impairment	11	(1,196,609)	—
Depreciation		(1,495)	(1,760)
Profit on ordinary activities before taxation	13	**4,362,431**	**3,599,049**
Tax on profit on ordinary activities	14	(992,844)	(963,590)
Profit for the financial year		**3,369,587**	**2,635,459**

The profit for the financial year resulted from continuing operations.

Statement of comprehensive income

Year ended 31 December		2018	2017
	Note	$'000	$'000
Profit for the financial year		**3,369,587**	**2,635,459**
Other comprehensive (expense)/income: items that will not be reclassified to profit or loss			
Actuarial gain on pension schemes	34	8,892	31,871
Movement in loans at FVOCI (tax inclusive)		11,899	—
Tax effect of movement in pension reserve	15	(3,500)	(11,349)
Total other comprehensive income		**17,291**	**20,522**
Total comprehensive income for the year		**3,386,878**	**2,655,981**

The notes on pages 60 - 116 form an integral part of these financial statements.

J.P. MORGAN SECURITIES PLC
Balance sheet

31 December	Note	2018 $'000	2017 $'000
Assets			
Cash and balances at central banks		29,880,787	21,677,066
Loans and advances to banks	16	9,690,343	9,812,066
Loans and advances to customers	17	2,153,908	2,612,322
Securities purchased under agreements to resell	18	155,084,582	135,385,611
Securities borrowed	18	45,507,924	27,072,599
Financial assets at fair value through profit and loss	19	339,955,399	340,258,613
Financial assets designated at fair value through profit or loss	20	—	341,602
Debtors	21	82,800,597	79,646,622
Other assets	22	820,750	762,089
Investments in JPMorgan Chase undertakings	23	2,144,598	3,341,207
Tangible fixed assets		3,290	4,938
Total assets		**668,042,178**	**620,914,735**
Liabilities			
Securities sold under agreements to repurchase	18	91,697,552	74,937,158
Securities loaned	18	20,646,594	12,550,040
Financial liabilities at fair value through profit and loss	25	312,225,100	308,288,068
Financial liabilities designated at fair value through profit or loss		1,236,476	1,465,247
Trade creditors	26	55,301,485	30,479,035
Amounts owed to JPMorgan Chase undertakings		102,302,931	124,330,471
Other liabilities	26	27,727,598	27,350,196
Subordinated liabilities with JPMorgan Chase undertakings	27	12,000,000	—
Total liabilities		**623,137,736**	**579,400,215**
Equity			
Called-up share capital	28	12,443,530	12,443,530
Share premium account		9,950,724	9,950,724
Capital redemption reserve		4,996,040	4,996,040
Other reserves		1,666,788	1,701,590
Retained earnings		15,847,360	12,422,636
Total equity		**44,904,442**	**41,514,520**
Total liabilities and equity funds		**668,042,178**	**620,914,735**

The notes on pages 60 - 116 form an integral part of these financial statements.

The financial statements on pages 56 - 116 were approved by the Board of Directors on 23 April 2019 and signed on its behalf by:

Sir Winfried Bischoff
Chairman & Non-Executive Director

Anna Dunn
Director & Chief Financial Officer

J.P. MORGAN SECURITIES PLC
Statement of changes in equity

	Note	Called-up share capital	Share premium account	Capital contribution reserve	Capital redemption reserve	Pension reserve	Other reserves	Retained earnings	Total equity
		$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Balance as at 1 January 2017		**17,546,050**	**9,950,724**	**1,588,615**	**—**	**(45,579)**	**254,836**	**10,153,177**	**39,447,823**
Profit for the financial year		—	—	—	—	—	—	2,635,459	**2,635,459**
Other comprehensive income for the year:									
Actuarial gain on pension schemes	34	—	—	—	—	31,871	—	—	**31,871**
Tax effect on movement in pension reserve		—	—	—	—	(11,349)	—	—	**(11,349)**
Total comprehensive income for the year		**—**	**—**	**—**	**—**	**20,522**	**—**	**2,635,459**	**2,655,981**
Dividends paid	29	—	—	—	—	—	—	(366,000)	**(366,000)**
Share redemption	28	(106,480)							**(106,480)**
Share conversion	28	(4,996,040)	—	—	4,996,040	—		—	**—**
Movement in other reserves		—	—	—	—	—	(116,804)	—	**(116,804)**
Balance as at 31 December 2017		**12,443,530**	**9,950,724**	**1,588,615**	**4,996,040**	**(25,057)**	**138,032**	**12,422,636**	**41,514,520**
Adoption of IFRS 9		—	—	—	—	—	13,634	55,137	**68,771**
Balance as at 1 January 2018		**12,443,530**	**9,950,724**	**1,588,615**	**4,996,040**	**(25,057)**	**151,666**	**12,477,773**	**41,583,291**
Profit for the financial year		—	—	—	—	—	—	3,369,587	**3,369,587**
Other comprehensive income/(expense) for the year:									
Movement in loans at FVOCI		—	—	—	—	—	11,899	—	**11,899**
Actuarial gain on pension schemes	34	—	—	—	—	8,892	—	—	**8,892**
Tax effect on movement in pension reserve		—	—	—	—	(3,500)	—	—	**(3,500)**
Total comprehensive income for the year		**—**	**—**	**—**	**—**	**5,392**	**11,899**	**3,369,587**	**3,386,878**
Movement in other reserves		—	—	—	—	—	(65,727)	—	**(65,727)**
Balance as at 31 December 2018		**12,443,530**	**9,950,724**	**1,588,615**	**4,996,040**	**(19,665)**	**97,838**	**15,847,360**	**44,904,442**

The notes on pages 60 - 116 form an integral part of these financial statements.

J.P. MORGAN SECURITIES PLC
Statement of cash flows

Year ended 31 December	Notes	**2018**	2017
		$'000	$'000
Cash flows from operating activities			
Cash generated from/(used in) from operations	30	**19,006,546**	**(20,915,074)**
Income taxes paid		(663,441)	(759,644)
Net cash generated from/(used in) from operating activities		**18,343,105**	**(21,674,718)**
Cash flow used in investing activities			
Disposals and purchases of tangible fixed assets		151	(3,116)
Net cash used in investing activities		**151**	**(3,116)**
Cash flow from financing activities			
Redemption of share capital	28	—	(106,480)
Change in amounts owed to JPMorgan Chase undertakings		(22,027,542)	24,836,668
Change in subordinated liabilities with JPMorgan Chase undertakings		12,000,000	—
Dividends paid	29	—	(366,000)
Net cash generated from financing activities		**(10,027,542)**	**24,364,188**
Net increase in cash and cash equivalents		**8,315,714**	**2,686,354**
Cash and cash equivalents at the beginning of the year		31,489,132	26,721,104
Exchange (losses)/gains on cash and cash equivalents		(233,716)	2,081,674
Cash and cash equivalents at the end of the year		**39,571,130**	**31,489,132**
Cash and cash equivalents consist of:			
Cash and balances at central banks		29,880,787	21,677,066
Loans and advances to banks, due within three months or less		9,690,343	9,812,066
Cash and cash equivalents		**39,571,130**	**31,489,132**

The notes on pages 60 - 116 form an integral part of these financial statements.

1. General information

The Company is a public limited company and is incorporated and domiciled in England and Wales. The Company's immediate parent undertaking is J.P. Morgan Capital Holdings Limited, which is also the parent undertaking of the smallest group in which the Company's results are consolidated. The Company's ultimate parent undertaking and controlling party is JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm"), which is incorporated in the state of Delaware in the United States of America. JPMorgan Chase & Co. is also the parent undertaking of the largest group in which the results of the Company are consolidated. The largest and smallest parent groups' consolidated financial statements can be obtained from the Company's registered office at 25 Bank Street, Canary Wharf, London, E14 5JP.

2. Basis of preparation

These financial statements have been prepared in accordance with Financial Reporting Standard 101, 'Reduced Disclosure Framework' ("FRS 101"). FRS 101 applies the requirements of International Financial Reporting Standards ("IFRS") as adopted by the European Union, with reduced disclosures.

The 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 or measured at fair value through OCI, and in accordance with the Companies Act 2006. Reclassification of and adjustments to prior year amounts have been made to conform with current year presentations and to provide additional transparency and information on the nature of the balances in these financial statements.

The following exemptions from the requirements of IFRS as adopted by the EU have been applied in the preparation of these financial statements, in accordance with FRS 101:

- Certain share based payment disclosures in respect of Firm equity instruments (IFRS 2 'Share-based payment' paragraphs 45(b) and 46 to 52);
- Comparative information disclosures for the following (paragraph 38 of IAS 1 'Presentation of financial statements' ("IAS 1"):
  - reconciliation of share capital (paragraph 79(a)(iv) of IAS 1);
  - reconciliation of property, plant and equipment (paragraph 73(e) of IAS 16 'Property, plant and equipment');
  - reconciliation of intangible assets (paragraph 118(e) of IAS 38 'Intangible assets');
- Statement of compliance to IFRSs - Paragraph 16, IAS 1;
- Third balance sheet on retrospective accounting policy changes, restatements, or reclassifications (paragraph 40A-D, IAS 1);
- Disclosures in relation to new or revised standards issued but not yet effective (paragraph 30 and 31, IAS 8, 'Accounting policies, changes in accounting estimates and errors');
- Key management compensation disclosures (paragraph 17, IAS 24 'Related Party Disclosures' ("IAS 24")); and
- Related party transactions with wholly owned Firm undertakings (IAS 24).

3. Accounting and reporting developments

Standards adopted but not yet implemented during the year ended 31 December 2018

IFRS 16 'Leases' will be effective for the Company's financial statements for the year ended 31 December 2019. IFRS 16 supersedes IAS 17 'Leases' and IFRIC 4 *Determining whether an Arrangement contains a Lease* and requires, among other items, the Company to recognize lease right-of-use ("ROU") assets and lease liabilities on the balance sheet for most of its leases.

The Company adopted the IFRS 16 retrospectively on 1 January 2019, however the impact has been immaterial.

Standards adopted during the year ended 31 December 2018

Adoption of IFRS 9

Effective 1 January 2018, the Company adopted IFRS 9 'Financial Instruments', which superseded IAS 39 'Financial Instruments Recognition and Measurement'. The adoption of IFRS 9 resulted in changes to the classification and measurement of financial assets including the impairment of financial assets and the presentation of gains and losses related to certain financial liabilities designated at fair value through profit or loss. Refer to note 5 for more information about the changes to the Company's accounting policies.

The requirements of IFRS 9 have been applied by revising the Company's opening balance sheet on 1 January 2018. As permitted by the transition provisions of IFRS 9, the Company elected not to restate comparative periods.

3. Accounting and reporting developments (continued)

Standards adopted during the year ended 31 December 2018 (continued)

Adoption of IFRS 9 (continued)

The adoption of IFRS 9 has resulted in an overall increase in the Company's retained earnings by approximately $55 million before tax from:

- A reduction of $9 million from the recognition of expected credit losses; and
- An increase of $64 million from the remeasurement of financial assets and liabilities as a consequence of changing the classification of loans and advances to customers and securities purchased under agreements to resell and repurchase.

In addition, on adoption of IFRS 9 the Company has recognised an increase in other comprehensive income of $14 million as a result of changes in the classification of certain financial assets from amortised cost to FVOCI.

Refer to note 38 for more information about the Company's transition to IFRS 9.

Adoption of IFRS 15

Effective 1 January 2018, the Company adopted IFRS 15 'Revenue from Contracts with Customers' ("IFRS 15"). IFRS 15 requires that revenue from contracts with customers be recognised upon transfer of control of a good or service in the amount of consideration expected to be received. IFRS 15 also changes the accounting for certain contract costs, including whether they may be offset against revenue in the income statement, and requires additional disclosures about revenue and contract costs.

IFRS 15 permits adoption using a full retrospective approach or a modified, cumulative effect approach wherein the guidance is applied only to existing contracts as of the date of adoption, and to new contracts transacted after that date. The Company adopted IFRS 15 using the full retrospective method.

The adoption of IFRS 15 did not result in any material changes in the timing of recognition or in the presentation of the Company's revenue.

For more information about the Company's revenue see note 5.5

4. Critical accounting estimates and judgements

The preparation of financial statements requires management to make judgements, estimates and assumptions that affect the amounts recognised in the financial statements. The nature of estimation means that actual outcomes could differ from those estimates. The following judgements have had the most significant effect on amounts recognised in the financial statements:

Fair value measurement

The Company carries a significant portion of its assets and liabilities at fair value on a recurring basis. Estimating fair value often requires the application of judgement. The type and level of judgement required is largely dependent on the amount of observable market information available to the Company. For instruments valued using internally developed models that use significant unobservable inputs that are classified within level 3 of the valuation hierarchy, judgements used to estimate fair value are more significant than those required when estimating the fair value of instruments classified within levels 1 and 2.

In arriving at an estimate of fair value for an instrument within level 3, management must first determine the appropriate model to use. Second, the lack of observability of certain significant inputs requires management to assess all relevant empirical data in deriving valuation inputs - including, for example, transaction details, yield curves, interest rates, prepayment rates, default rates, volatilities, correlations, equity or debt prices, valuations of comparable instruments, foreign exchange rates and credit curves. For further discussion of the valuation of level 3 instruments, including unobservable inputs used, see note 32.

For instruments classified in levels 2 and 3, management judgement must be applied to assess the appropriate level of valuation adjustments, the Company's credit-worthiness, market funding rates, liquidity considerations, unobservable parameters, and for portfolios that meet specified criteria, the size of the net open risk position. The judgements made are typically affected by the type of product and its specific contractual terms, and the level of liquidity for the product or within the market as a whole. For further discussion of valuation adjustments applied by the Company, see note 32.

The use of methodologies or assumptions different than those used by the Company could result in a different estimate of fair value at the reporting date. For a detailed discussion of the Company's valuation process and hierarchy, its determination of fair value for individual financial instruments, and the potential impact of using reasonable possible alternative assumptions for the valuations, see note 32.

5. Significant accounting policies

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

5.1 Consolidation

The Company is a subsidiary undertaking of J.P. Morgan Capital Holdings Limited, a company incorporated in England and Wales and of its ultimate parent, JPMorgan Chase & Co. a company incorporated in the United States of America. It is included in the consolidated financial statements of JPMorgan Chase & Co. which are publicly available. Therefore, the Company has elected not to prepare group financial statements in accordance with the dispensation set out in Section 401 of the Companies Act 2006.

5.2 Foreign currency translation

Monetary assets and monetary liabilities in foreign currencies are translated into U.S. dollars at rates of exchange ruling on the balance sheet date. Income and expense items denominated in foreign currencies are translated into U.S. dollars at exchange rates prevailing at the date of the transactions. Any gains or losses arising on translation are taken directly to the income statement.

Non-monetary items denominated in foreign currencies that are stated at historical cost are translated into U.S. dollars at the exchange rate ruling at the date of the transaction.

Non-monetary items denominated in foreign currencies that are stated at fair value are translated into U.S. dollars at foreign exchange rates ruling at the dates when the fair values were determined. Translation differences arising on non-monetary items measured at fair value are recognised in the income statement except for differences arising on available-for-sale and FVOCI non-monetary financial assets, which are included in the financial assets available-for-sale reserve and 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 operates (the "functional currency"). Taking into account the cash flows, the financing structure, including United States ("U.S") dollar equity and inter-entity financing arrangements with JPMorgan Chase Bank N.A., U.S. dollars is considered as the functional and presentation currency of the Company.

5.4 Financial instruments

Changes in accounting policies

On adoption of IFRS 9 on 1 January 2018, the Company replaced or substantially revised its accounting policies for classification and measurement of financial assets and financial liabilities, and impairment of financial assets. IFRS 9 also significantly amends other standards dealing with financial instruments such as IFRS 7 'Financial Instruments: Disclosures' ("IFRS 7"). The IFRS 7 disclosures have only been applied to the current period. The comparative period notes disclosures repeat those disclosures made in the prior year.

These new or revised policies are set out in the following table along with the corresponding policy under IAS 39. Because the Company elected not to restate comparative periods on adoption of IFRS 9, the IAS 39 policies should be used to understand the differences in accounting policies with the comparative prior period information presented in these financial statements.

5. Significant accounting policies (continued)

5.4.1 Financial assets and financial liabilities

IFRS 9

Financial assets and financial liabilities

i. Recognition of financial assets and financial liabilities

The Company recognises 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 recognised using trade-date accounting.

ii. Classification and measurement of financial assets and financial liabilities

On initial recognition, financial assets are classified as measured at amortised cost, fair value through other comprehensive income or fair value through profit or loss. The classification is based on both the business model for managing the financial assets and their contractual cash flow characteristics. Factors considered by the Company in determining the business model for a group of assets include past experience on how the cash flows for these assets were collected, how the assets' performance is evaluated and reported to key management personnel, how risks are assessed and managed, and how managers are compensated.

On initial recognition, financial liabilities are classified as measured at either amortised cost or fair value through profit or loss.

IAS 39

The Company recognises derivatives on its balance sheet when it becomes a party to the contractual provisions of the instruments. Loans and receivables and financial liabilities at amortised cost are recognised when the Company becomes a party to the contractual provisions of the instrument. Regular way purchases and sales of financial assets are recognised on the trade-date, the date on which the Company commits to purchase or sell the asset.

The Company classifies its financial assets and financial liabilities in the following categories on initial recognition:

Financial assets and financial liabilities held for trading, financial assets and financial liabilities designated at fair value through profit or loss, and loans and receivables and financial liabilities held at amortised cost.

5. Significant accounting policies (continued)

5.4.1 Financial assets and financial liabilities (continued)

IFRS 9

Financial assets and financial liabilities

Financial assets and financial liabilities measured at amortised cost

Financial assets are measured at amortised 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 with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest. As a result of the application of these criteria, only debt financial assets are eligible to be measured at amortised cost.

Financial assets measured at amortised cost include cash and balances at central banks, loans and advances to banks, certain loans and advances to customers, certain securities purchased under agreements to resell, debtors and accrued income.

Financial liabilities are measured at amortised cost unless they are held for trading or a designated as measured at fair value through profit or loss. Financial liabilities measured at amortised cost include certain securities sold under agreements to repurchase, trade creditors, amounts owed to JPMorgan Chase undertakings and certain other liabilities.

Financial assets and financial liabilities measured at amortised cost are initially recognised at fair value including transaction costs. The initial amount recognised 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 recognising an expected credit loss allowance through to 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 that are an integral part of the effective interest rate. Transaction costs are incremental costs that are directly attributable to the acquisition, issuance or disposal of a financial asset or financial liability.

IAS 39

Loans and receivables and financial liabilities at amortised cost

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market except those that are classified as held for trading or designated at fair value through profit or loss. Loans and receivables include loans and advances to banks, loans and advances to customers and debtors

Loans and receivables are initially recognised at fair value including directly related incremental transaction costs. They are subsequently measured at amortised cost, including any provision for impairment losses. Interest is recognised in the income statement as 'interest and similar income' using the effective interest rate method.

Financial liabilities include trade creditors and borrowings and are recognised initially at fair value including directly related incremental transaction costs and subsequently measured at amortised cost using the effective interest method.

The effective interest method is used to calculate the amortised cost of a financial asset or financial liability (or a group of financial assets or financial liabilities). It is a method of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial asset or financial liability or, when appropriate, a shorter period 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 that are an integral part of the effective interest rate. Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or financial liability.

5. Significant accounting policies (continued)

5.4.1 Financial assets and financial liabilities (continued)

IFRS 9

Financial assets and financial liabilities

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 certain loans and advances to customers.

Financial assets measured at FVOCI are initially recognised 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 amortised cost (see above).

On disposal of financial assets measured at FVOCI, the cumulative gains or losses in OCI are reclassified from equity, and recognised in the income statement.

IAS 39

Financial assets available-for-sale

Non-derivative financial assets intended to be held for an indefinite period of time, which may be sold in response to needs for liquidity or changes in interest rates, exchange rates or equity prices, are included within the financial assets available-for-sale category. These are initially recognised at fair value plus directly related transaction costs and subsequently measured at fair value. Any changes in fair values of such assets subsequent to initial recognition are reported as movements in financial assets available-for-sale reserve, net of deferred tax, until the investment is sold, collected or otherwise disposed of, or the financial assets are considered impaired, at which time the cumulative gain or loss previously reported in the statement of comprehensive income is included in the income statement.

IFRS 9

Financial assets and financial liabilities

Financial assets and financial liabilities measured at fair value through profit or loss

Financial assets and financial liabilities are measured at fair value through profit or loss ("FVTPL") if they are held for trading. 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 re-purchasing 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 held for trading comprise both debt and equity securities, loans and derivatives, certain securities purchased under agreements to resell and securities borrowed, and the related unrealised gains and losses.

In addition, certain financial assets that are not held for trading are measured at FVTPL if they are do not meet the criteria to be measured at amortised cost or FVOCI. For example, if the financial assets are managed on a fair value basis, have contractual cash flows that are not SPPI or are equity securities. The Company did not elect to measure any equity instruments at FVOCI.

Financial instruments measured at FVTPL are initially recognised at fair value in the balance sheet. Transaction costs and any subsequent fair value gains or losses are recognised in profit or loss as they arise.

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

IAS 39

Financial assets and financial liabilities held for trading

The Company considers a financial asset or financial liability as held for trading if it is acquired or incurred principally for the purpose of selling or re-purchasing 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.

Financial assets and financial liabilities held for trading comprise both debt and equity securities, loans and derivatives. These instruments are either held for trading purposes or used for hedging certain assets, liabilities, positions, cash flows or anticipated transactions. Included in financial assets held for trading and financial liabilities held for trading, are unrealised trading gains and losses. Financial instruments held for trading are initially recognised at fair value in the balance sheet with transaction costs being recorded in profit or loss and any gains or losses are taken directly to the income statement. Subsequently, they are measured at fair value with movement included in trading profit and loss.

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

5. Significant accounting policies (continued)

5.4.1 Financial assets and financial liabilities (continued)

IFRS 9

Financial assets and financial liabilities

Financial assets and financial liabilities designated at fair value through profit or loss

Subject to certain 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 recognised and cannot subsequently be 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. 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 recognised at fair value at initial recognition, with transaction costs being recognised 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 recognised in profit or loss as they arise.

The Company has designated certain securities sold under under agreements to repurchase and securities loaned within the Company's Corporate and Investment Banking portfolios to be measured at FVTPL as they are managed on a fair value basis. Changes in the fair value of financial assets designated as measured at FVTPL are recognised in trading profit or loss.

IAS 39

Financial assets and financial liabilities designated at fair value through profit or loss

Financial assets and financial liabilities that the Company designates on initial recognition as being at fair value through profit or loss are recognised at fair value, with transaction costs being recognised in profit or loss and subsequently measured at fair value. Gains and losses on financial assets and financial liabilities that are designated at fair value through profit or loss are recognised in profit or loss as they arise. A financial instrument may only be designated at inception as held at fair value through profit or loss and cannot subsequently be reclassified.

Financial assets or financial liabilities are designated 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.

The Company has designated certain equity securities and wholesale loans at fair value through profit or loss on the basis that they are managed and their performance evaluated on a fair value basis.

5. Significant accounting policies (continued)

5.4.2 Interest income and expense

IFRS 9

Interest income and interest expense

Unless a financial asset is credit-impaired, interest income is recognised by applying the effective interest method to the carrying amount of a financial asset before adjusting for any allowance for expected credit losses. If a financial asset is credit-impaired, interest income is recognised by applying the effective interest rate to the carrying amount of the financial asset including any allowance for expected credit losses.

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

Interest income and expense on financial assets and financial liabilities measured at amortised cost and FVOCI are presented separately from financial instruments measured at FVTPL.

Interest generated as a result of 'negative' interest rates is recognised gross, as interest income or interest expense.

IAS 39

Interest income and interest expense

Interest income and expense are recognised on an effective interest rate basis. Interest generated as a result of 'negative' interest rates is recognised gross, as interest income or interest expense. All contractual terms of a financial instrument are considered when estimating future cash flows.

5.4.3 Trading profit

IFRS 9

Trading profit

Profits and losses resulting from the purchase and sale of securities and the revaluation of financial instruments are recognised in trading profit on a trade-date basis, including related transaction costs and excluding the associated interest.

IAS 39

Trading profit

Profits and losses resulting from the purchase and sale of securities and the revaluation of financial instruments are recognised as trading gains or losses on a trade-date basis, including related transaction costs but excluding the associated interest.

5. Significant accounting policies (continued)

5.4.4 Impairment of financial assets and lending-related commitments

IFRS 9

Impairment of financial assets and lending-related commitments

The Company recognises ECL for financial assets that are measured at amortised cost or FVOCI, and specified off-balance sheet lending-related commitments such as loan commitments and financial guarantee contracts.

Provisions for ECL are recognised on initial recognition of the financial instrument based on expectations of credit losses at that time. The credit loss allowance includes ECLs for financial instruments that may default in the next 12-month period for financial instruments that have not observed a significant increase in credit risk since initial recognition ("stage 1") or over a lifetime period for financial instruments that have observed a significant increase in credit risk since initial recognition ("stage 2"). The allowance also includes lifetime ECLs for financial instruments where there is objective evidence of credit-impairment at the reporting date ("stage 3"). In determining the appropriate stage for a financial instrument, the Company applies the definition of default consistent with the Basel definition of default to maintain uniformity of the definition across the Firm.

The determination of the stage for credit losses under the ECL model is dependent on the measurement of a significant increase in credit risk ('SICR'). In determining SICR, the Company has conducted quantitative tests, which considers, but is not limited to, existing risk management indicators, credit rating changes and reasonable and supportable forward-looking information. Forward-looking information reflects a range of scenarios that incorporate macro-economic factors that are composed and monitored by the Firmwide specialised economic forecasting team.

The key input components for the quantification of expected credit loss through the ECL model includes the probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD"). The Company seeks to efficiently and effectively leverage as much as possible existing regulatory and capital frameworks where overlap is present for IFRS 9. Differences observed between content in existing frameworks and requirements under IFRS 9 have been identified and are adjusted accordingly. The inputs to the ECL model capture historical datasets and a reasonable and supportable forecasting horizon to estimate expected credit losses.

IAS 39

Impairment of financial assets

The Company assesses at each balance sheet date whether there is any objective evidence that a financial asset or portfolio of financial assets is impaired. A financial asset or portfolio of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that has occurred after the initial recognition of the asset and that event (or events) has an adverse impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated.

Impairment losses on loans and receivables are measured as the difference between the financial asset's carrying amount and the present value of the estimated future cash flows discounted at the financial asset's effective interest rate. The loss is recognised in the income statement against the carrying amount of the impaired asset on the balance sheet. Interest continues to be accrued on the reduced carrying amount based on the original effective interest rate of the financial asset.

Specific provisions are raised against loans and receivables when the Company considers that the credit worthiness of the borrower has deteriorated such that the recovery of the whole or part of an outstanding advance is in serious doubt. Impairment provisions are also raised to cover losses which, although not specifically identified, are known from experience to have occurred in the portfolio of loans and receivables at the balance sheet date. These provisions are adjusted on a monthly basis by an appropriate charge or reversal of the provision following an assessment of the loans and receivables portfolio.

Impairment provisions are determined by modelling the current exposure, taking into account such factors as duration and probabilities of default.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss shall be reversed in the income statement. The amount of reversal shall not result in a carrying amount of the financial asset that exceeds what the amortised cost would have been had the impairment not been recognised at the date the impairment is reversed.

5. Significant accounting policies (continued)

5.4.5 Write-offs

IFRS 9	IAS 39
Write-offs	**Write-offs**
Wholesale loans recognised as loans and advances to customers on the balance sheet are charged off when it is highly certain that a loss has been realised. The determination of whether to recognise a charge-off includes many factors, including the prioritisation of the Company's claim in bankruptcy, expectations of the workout/restructuring of the loan and valuation of the borrower's equity or the loan collateral.	Wholesale loans recognised as loans and advances to customers on balance sheet, are charged off when it is highly certain that a loss has been realised. The determination of whether to recognise a charge-off includes many factors, including the prioritisation of the Company's claim in bankruptcy, expectations of 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.	All other financial assets are written off when any portion of the asset is impaired 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 revenue 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 recognised 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 recognised 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 recognised over the period in which the related service is provided.

Commissions and other fees

The Company acts as a broker, facilitating its clients' purchase and sale of securities and other financial instruments. It collects and recognises 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.

Fee and commissions obtained through Firm attribution agreements are recognised when the underlying contract becomes legally binding or at the agreed due date if later.

5.6 Dividend recognition

Dividend income is recognised when the right to receive payment is established. Dividends in the form of non-cash assets are recognised at their fair values by the transferee and derecognised at their book value by the transferor. Where the asset received is an investment in the share capital of an entity, the fair value is determined by the market value of the underlying net assets and businesses of the investee, unless the transaction is a combination of businesses under common control where predecessor accounting is applied (refer note 5.15).

Dividend distributions are recognised in the period in which they are declared and approved.

5. Significant accounting policies (continued)

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 relevant transaction characteristics (such as maturity) and use as inputs observable or unobservable market parameters, including but not limited to yield curves, interest rates, volatilities, equity or debt prices, foreign exchange rates and credit curves. Valuation adjustments may be made 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 either directly observable or are implied from instrument prices. When input values do not directly correspond to the most actively traded market parameters the model may perform numerical procedures in the pricing such as interpolation.

The Company classifies its assets and liabilities according to a hierarchy that has been established under IFRS for disclosure of fair value measurements. 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 categorisation 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 32 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 for which not all inputs are market observable prices or rates. Such a financial instrument is initially recognised 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 recognised immediately in the income statement when based on significant unobservable inputs.

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

5.9 Derecognition of financial assets and financial liabilities

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

a) the Company has transferred substantially all the risks and rewards of ownership of the asset; or

b) the Company has neither retained nor transferred substantially all of the risks and rewards; but has relinquished control of the asset.

Financial liabilities are derecognised when they are extinguished, that is when the obligation is discharged, cancelled or expires.

The Company also from time to time enters into certain 'pass-through' arrangements whereby contractual cash flows on a financial asset are passed to a third party. Such financial assets are derecognised 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. Significant accounting policies (continued)

5.10 Impairment of non-financial assets

Non-financial assets that are subject to amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised 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 (cash-generating units). Prior impairments of non-financial assets (other than goodwill) are reviewed for possible reversal at each reporting date.

5.11 Securities purchased under agreement to resell and securities sold under agreement to repurchase

Securities purchased under agreements to resell the securities to the counterparty, and securities sold under agreements to repurchase, are treated as collateralised lending and borrowing transactions respectively. 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. If the consideration is received or given in the form of securities the transaction is recorded off balance sheet. The difference between the sales and repurchase price is treated as interest and accrued over the life of the agreements using the effective interest method.

5.12 Securities borrowed and securities loaned transactions

Securities borrowed and securities loaned are recorded at the amount of cash collateral advanced or received. Securities borrowed and securities loaned transactions require the borrower to deposit cash, letters of credit or other collateral with the lender. 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 borrowed and loaned are treated as interest income or interest expense and accrued over the life of the transaction using the effective interest rate method.

5.13 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 recognised amounts and there is an intention to settle on a net basis or to realise 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.

5.14 Investments in JPMorgan Chase undertakings

Investments in JPMorgan Chase undertakings are stated at cost less impairment. Where the investments in the share capital of JPMorgan Chase undertakings are acquired by way of a dividend in kind, these are initially recognised at fair value, unless the transaction is a combination of business under common control where predecessor accounting is applied (refer to note 5.15). Investments in JPMorgan Chase undertakings are subsequently measured at cost less provision for impairment.

5.15 Business combinations

i. Combination of businesses

Business combinations are accounted for by applying the acquisition method of accounting.

The cost of a business combination is the fair value of the consideration given, liabilities incurred or assumed and of equity instruments issued plus the costs directly attributable to the business combination. Where control is achieved in stages, the cost is the consideration at the date of each transaction.

On acquisition of a business, fair values are attributed to the identifiable assets, liabilities and contingent liabilities unless the fair value cannot be measured reliably, in which case the value is incorporated in goodwill. Where the fair value of contingent liabilities cannot be reliably measured they are disclosed on the same basis as other contingent liabilities.

Goodwill recognised represents the excess of the fair value and the directly attributable costs of the purchase consideration over the fair values to the Firm's interest in the identifiable net assets, liabilities and contingent liabilities acquired.

ii. Combination of businesses 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 recognised 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 recognised as an adjustment to equity. As a result, no goodwill is recognised from the business combination.

5. Significant accounting policies (continued)

5.16 Cash and cash equivalents

Cash and cash equivalents include cash and balances at banks and loans and advances to banks with maturities of three months or less.

5.17 Current and deferred income tax

Income tax payable on taxable profits (current tax) is recognised as an expense in the period in which the profits arise. Income tax recoverable on tax allowable losses is recognised 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 period. 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 provided in full, 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. 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 realised 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 recognised directly in equity if the tax relates to items that are recognised in the same or a different period in equity.

5.18 Provisions and contingent liabilities

Provisions are recognised when the Company has a present legal or constructive 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 of more uncertain future events not wholly within the control of the Company, or a present obligation that arises from past events but is not recognised because either an outflow of economic benefits is not probable or the amount of the obligation cannot be reliably measured. Contingent liabilities are not recognised in the financial statements; however disclosure is made unless the probability of settlement is remote.

5.19 Pensions and other post-retirement benefits

The Company operates both defined benefit and defined contribution schemes for its employees. The Company also operates defined benefit and defined contribution schemes for employees in the European branches.

i. Defined contribution scheme

A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity. The Company has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. Obligations for contributions to defined contribution pension plans are recognised as an expense and charged to the income statement on an accrual basis.

ii. Defined benefit scheme

For defined benefit schemes, the service cost of providing retirement benefits to employees during the year is charged to the income statement in accordance with IAS 19 'Employee benefits'. The pension costs are assessed based on the advice of qualified actuaries so as to recognise the full cost of provision of contracted pension benefits over the period of employees' service lives.

The defined benefit schemes' liabilities are measured on an actuarial basis and scheme assets measured at their fair values separately for each plan. Any surplus or deficit of scheme assets over liabilities is recognised on the balance sheet as an asset (surplus) or liability (deficit). The current service cost and any past service costs together with the expected return on scheme assets less the unwinding of discount on the scheme liabilities is charged to the income statement. Actuarial gains and losses are recognised in full in the period in which they occur in other comprehensive income and presented in equity in the period in which they occur.

5.20 Share-based payment awards

Share-based payment awards may be made to employees of the Company under the Firm's incentive awards schemes. The fair value of any such shares, rights to shares or share options is measured when the conditional award is made. This value is recognised as the compensation expense to the Company over the period to which the performance criteria relate together with employer's social security expenses or other payroll taxes. All of the awards granted are equity settled. The Company estimates the level of forfeitures and applies this forfeiture rate at the grant date.

Additionally, the conditions that must be satisfied before an employee becomes entitled to equity instruments under the Firm's incentive programs is taken into consideration. The Firm's Retirement Eligibility rules for restricted stock awarded as part of incentive programs require the acceleration of the amortisation of the award such that the award is fully expensed at the time the retirement eligibility comes into force.

6. Segmental analysis

The Company is not in scope of IFRS 8 'Operating segments' and therefore has not provided any segmental analysis. The Company has one class of business, the provision of international Corporate and Investment Banking services within Europe, the Middle East and Africa ("EMEA"). The Company operates six branches outside of the UK, but these do not generate material revenues.

7. Interest income and expense and similar income and expense

Interest income and interest expense includes the current-period interest accruals within interest income or interest expense, as applicable.

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

	2018
	$'000
	IFRS 9
Interest income on financial instruments at amortised cost and FVOCI	
Loans and advances to banks	265,497
Loans and advances to customers	114,554
Securities purchased under agreements to resell	185,540
Other (a)	1,002,420
Total interest income on financial instruments at amortised cost and FVOCI	1,568,011
Other similar income	
Financial assets at fair value through profit and loss	1,900,806
Securities purchased under agreements to resell measured at fair value through profit or loss	1,817,925
Securities borrowed	259,467
Total other similar income	3,978,198
Total interest and similar income	**5,546,209**
Interest expense on financial instruments at amortised cost	
Amounts owed to JPMorgan Chase undertakings	2,171,561
Other (a)	528,120
Total interest expense on financial instruments at amortised cost	2,699,681
Other similar expense	
Financial liabilitites at fair value through profit and loss	866,493
Securities sold under agreements to repurchase	977,046
Securities loaned	545,847
Total other similar expense	2,389,386
Total interest and similar expense	**5,089,067**

(a) Other similar income is interest income on collateral, and customer receivables. Other similar expenses are interest charges on customer payables.

7. Interest income and expense and similar income and expense (continued)

Interest income and expense and similar income and expense with JPMorgan Chase undertakings:

	2018
	$'000
	IFRS 9
Interest income on financial instruments at amortised cost and FVOCI	
Loans and advances to banks	119,481
Securities purchased under agreements to resell	185,540
Other	626,610
Total interest income on financial instruments at amortised cost and FVOCI	931,631
Other similar income	
Securities purchased under agreements to resell measured at fair value through profit or loss	354,968
Securities borrowed	230,311
Total other similar income	585,279
Total interest and similar income	**1,516,910**
Interest expense on financial instruments at amortised cost	
Amounts owed to JPMorgan Chase undertakings	2,171,561
Other	10,883
Total interest expense on financial instruments at amortised cost	2,182,444
Other similar expense	
Securities sold under resale agreement	512,110
Securities loaned	94,040
Total other similar expense	606,150
Total interest and similar expense	**2,788,594**

7. Interest income and expense and similar income and expense (continued)

	2017
	$'000
	IAS 39
Interest income	
Financial assets held for trading	1,733,937
Securities purchased under agreements to resell	1,416,186
Securities borrowed	97,034
Other	722,411
Total interest income	3,969,568
Interest expense	
Financial liabilities held for trading	883,384
Securities sold under resale agreement	686,069
Securities loaned	379,010
Other	1,245,144
Total interest expense	3,193,607

Interest income and interest expense include the following amounts with JPMorgan Chase undertakings:

	2017
	$'000
	IAS 39
Interest income	
Securities purchased under agreements to resell	394,500
Securities borrowed	129,380
Other	340,333
Total interest income	864,213
Interest expense	
Securities sold under resale agreement	218,379
Securities loaned	68,553
Other	1,062,128
Total interest expense	1,349,060

8. Fee and commission income

Fee and commission income consists of the following non-interest revenue streams of investment banking, lending and deposit related fees and commissions and other income.

The following table presents the components of these fees:

	2018	2017
	$'000	$'000
Investment banking fees		
Underwriting		
Equity	391,516	416,508
Debt	540,315	567,057
Total underwriting	**931,831**	**983,565**
Advisory	617,658	85,095
Total investment banking fees	**1,549,489**	**1,068,660**
Lending and deposit related fees		
Lending related fees	27,981	24,285
Total lending and deposit related fees	**27,981**	**24,285**
Commissions and other fees		
All other commissions and fees - with JPMorgan Chase undertakings	1,791,742	1,730,973
Total commissions and other fees	**1,791,742**	**1,730,973**
Other fee and commission income	79,679	39,105
Total fee and commission income	**3,448,891**	**2,863,023**

9. Expected credit loss on loans and advances to customers, and lending related commitments

	2018
	$'000
Expected credit loss on loans and advances to customers	
Expected credit loss balance as at 1 January 2018	129,076
Impairment write off	(75,612)
Decrease in expected credit loss during the year	**(31,443)**
Closing expected credit loss provision on loans and advances to customers as at 31 December	22,021
Expected credit loss on lending related commitments	
Expected credit loss balance as at 1 January 2018	2,033
Increase in expected credit loss during the year	**4,187**
Closing expected credit loss provision on lending related commitments as at 31 December	6,220
Expected credit loss decrease	**(27,256)**

10. Impairment reversal

	2017
	$'000
Allowance for loan losses	
Opening balance as at 1 January	2,733
(Decrease)/Increase during the year	**127,251**
Impairment write off	(28,789)
Closing balance as at 31 December	101,195
Allowance for lending-related commitments	
Opening balance as at 1 January	380
(Decrease)/Increase during the year	**20,226**
Closing balance as at 31 December	20,606
Net impairment increase	**147,477**

11. Other impairment

	2018	2017
	$'000	$'000
Write down of investments in JPMorgan Chase undertakings		
Opening balance as at 1 January	117,359	117,359
Increase during the year	**1,196,609**	—
Closing balance as at 31 December	1,313,968	117,359

Further detail on the increase included in note 23.

12. Directors' emoluments

	2018	2017
	$'000	$'000
Emoluments	5,425	2,004
Total contributions to a defined contribution plan	15	9
Total value of long term incentive plans for all directors	58	27
Compensation to non-executive directors	940	773
Number of directors who exercised share options	—	2
Number of directors with shares received or receivable under LTIPs	7	1
Number of directors to whom defined contribution pension rights accrued	4	4

In accordance with the Companies Act 2006, the directors' emoluments above represent the proportion paid or payable in respect of qualifying services to the Company. Directors also received emoluments for non-qualifying services, which are not required to be disclosed.

12. Directors' emoluments (continued)

Highest paid director

The emoluments (excluding amounts paid or due to directors under long-term incentive plans ("LTIP's") and the value of share options granted or exercised by directors) of the highest paid director were $2,167,386 (2017: $859,962).

The contribution to the defined contribution scheme for the highest paid director during 2018 was $3,952 (2017: $9,810). The highest paid director did not exercise share options during the year (2017: nil). During the year, no shares were received or are receivable by the highest paid director under long-term incentive plans (2017: nil). A review of emoluments identified that time spent by Directors on subsidiaries of the Company had not been disclosed. Prior year amounts have been adjusted to conform with current year presentation, resulting in prior year emoluments increasing by $529 thousand.

13. Profit on ordinary activities before taxation

	2018	2017
	$'000	$'000
Profit on ordinary activities before taxation is stated after charging:		
Depreciation of tangible fixed assets	1,495	1,760
Auditors' remuneration for the audit of the Company's annual financial statements	3,525	2,874
Audit-related assurance services	1,820	2,168
Wages and salaries	1,012,464	882,633
Social security costs	192,261	215,222
Other pension and benefits costs	75,118	66,270
Share-based awards	381,972	309,688

The average monthly number of persons providing services to the Company during the year was 2,229 (2017: 1,959). The average monthly number of staff employed by the European branches during the year was 267 (2017: 241), of which 2 are in the Commercial Bank, 263 in the Corporate and Investment Bank and 2 in the Corporate sector. All London based employees are in Corporate and Investment Banking.

There were no material gains or losses from the disposal of amortised cost assets during the year.

14. Tax on profit on ordinary activities

	2018	2017
(a) Analysis of tax charge for the year	$'000	$'000
Current taxation		
UK Corporation tax on profit for the year	993,411	960,531
Overseas taxation	381,012	322,719
Less: Double tax relief	(363,665)	(289,736)
Adjustments in respect of previous years	13,780	(61,266)
Current tax expense for the year	1,024,538	932,248
Deferred tax (note 15):		
Origination and reversal of temporary differences	(51,515)	14,825
Adjustment in respect of previous year	14,612	19,341
Effect of rate change on opening balance	5,209	(2,824)
Deferred tax credit for the year	(31,694)	31,342
Total tax expense for the year	992,844	963,590

14. Tax on profit on ordinary activities (continued)

(b) Factors affecting the current tax charge for the year

The current tax charge for the year differs from the standard rate of corporation tax in the UK including banking surcharge (27.00%). The differences are explained below:

	2018	2017
	$'000	$'000
Profit on ordinary activities before taxation	4,362,431	3,599,049
Profit on ordinary activities before taxation multiplied by standard rate of corporation tax in UK of 27.00% (2017: 27.25%).	1,177,856	980,741
Effects of:		
Non-deductible expenses	343,965	9,101
Income not taxable	(24,094)	(14,827)
Transfer pricing adjustments	(12,548)	18,233
Dividend income	(540,000)	—
Adjustments in respect of previous years	28,391	(41,924)
Group relief claimed for nil consideration	(752)	(25,956)
Foreign taxation suffered	17,347	32,983
Impact of change in rate on deferred tax	2,679	5,239
Total tax expense for the year	992,844	963,590

15. Deferred tax

The analysis of deferred tax assets and deferred tax liabilities is as follows:

	2018	2017
	$'000	$'000
Deferred tax assets:		
Deferred tax assets to be recovered after more than 12 months	75,470	104,605
Deferred tax asset to be recovered within 12 months	44,394	40,300
	119,864	144,905
Deferred tax liabilities:		
Deferred tax liability to be reversed after more than 12 months	(11,286)	(39,075)
Deferred tax liability to be reversed within 12 months	(10,119)	(1,196)
Deferred tax asset (net)	98,459	104,634

The gross movement on the deferred income tax account is as follows:

	2018	2017
	$'000	$'000
As at 1 January	104,634	135,734
Depreciation in excess of capital allowances	(387)	(167)
Deferral of share-based payments	(11,522)	7,790
Other adjustment	5,734	(38,723)
As at 31 December	98,459	104,634

The movement in deferred income tax assets and liabilities during the year, without taking into consideration the offsetting of balances within the same tax jurisdiction, is as follows:

Deferred tax asset	Accelerated capital allowances	Share-based payments	Other	Total
	$'000	$'000	$'000	$'000
At 1 January 2017	3,067	105,325	27,342	135,734
(Charged)/credited to the income statement	(167)	(3,801)	(27,374)	(31,342)
Credited directly to equity	—	11,591	—	11,591
Credited directly to other comprehensive income	—	—	(11,349)	(11,349)
At 31 December 2017	2,900	113,115	(11,381)	104,634
(Charged)/credited to the income statement	(387)	22,399	9,682	31,694
Credited directly to equity	—	(33,921)	—	(33,921)
Credited directly to other comprehensive income	—	—	(3,948)	(3,948)
At 31 December 2018	2,513	101,593	(5,647)	98,459

16. Loans and advances to banks

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Loans and advances to banks		
Amortised cost	9,690,343	9,812,066

Included within loans and advances to banks is $6.5 billion (2017: $7.1 billion) held with JPMorgan Chase undertakings.

The Company maintains certain client money balances which principally arise where it acts on behalf of its clients as a clearing member for derivatives that are cleared through central counterparties. The Company has considered its rights and obligations relating to funds belonging to clients that are held subject to client money protection under the Client Assets Sourcebook, with banks, exchanges and clearing houses, and concluded that such amounts should not be recognised on balance sheet. Therefore, client money assets amounting to $13.5 billion (2017: $13.9 billion) have been derecognised from the Company's balance sheet, $4.3 billion (2017: $7.0 billion) from loans and advances to banks and $9.1 billion (2017: $7.2 billion) from debtors respectively.

17. Loans and advances to customers

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

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Loans and advances to customers		
Amortised cost	832,751	2,713,517
FVOCI	1,343,178	—
	2,175,929	2,713,517
Expected credit loss impairment		
Amortised cost	(3,994)	—
FVOCI	(18,027)	—
	(22,021)	—
	2,153,908	2,713,517

The credit quality and analysis of concentration of loans and advances to customers is managed within the Firm's Credit Risk Management function, refer to the Strategic report.

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Loans and advances to customers	2,175,929	2,713,517
Expected credit loss impairment	(22,021)	—
Provision for impairment	—	(129,984)
Impairment write off	—	28,789
	2,153,908	2,612,322

18. Securities financing activities

JPMS plc enters into resale agreements, repurchase agreements, securities borrowed and securities loaned transactions (collectively, "securities financing agreements") primarily to finance the Company's inventory positions, acquire securities to cover short positions, accommodate customers' financing needs, and settle other securities obligations.

Securities purchased and securities sold under agreements to resell/repurchase and securities borrowed and securities loaned transactions are generally carried at the amount of cash collateral advanced or received.

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 agency 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.

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.

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. 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 33 for additional information on netting arrangements.

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Securities purchased under agreements to resell		
Amortised cost	19,132,226	133,586,550
FVTPL	135,952,356	1,799,061
	155,084,582	135,385,611
Securities borrowed		
Amortised cost	—	24,023,176
FVTPL	45,507,924	3,049,423
	45,507,924	27,072,599
Securities sold under agreements to repurchase		
Amortised cost	—	71,884,545
FVTPL (designated)	91,697,552	3,052,613
	91,697,552	74,937,158
Securities loaned		
Amortised cost	—	12,550,040
FVTPL (designated)	20,646,594	—
	20,646,594	12,550,040

18. Securities financing activities (continued)

Securities financing transaction balances include the following amounts held with other JPMorgan Chase undertakings:

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Securities purchased under agreements to resell		
Amortised cost	19,132,226	42,694,037
FVTPL	19,689,598	—
	38,821,824	42,694,037
Securities borrowed		
Amortised cost	—	11,761,045
FVTPL	22,739,270	—
	22,739,270	11,761,045
Securities sold under agreements to repurchase		
Amortised cost	—	13,909,031
FVTPL (designated)	48,176,138	—
	48,176,138	13,909,031
Securities loaned		
Amortised cost	—	10,007,640
FVTPL (designated)	17,934,535	—
	17,934,535	10,007,640

19. Financial assets at fair value through profit and loss

Within its client-driven market-making activities, the Company transacts in debt and equity instruments and derivatives.

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Debt and equity instruments	98,428,567	107,884,895
Derivative receivables	241,100,870	232,373,718
Loans	425,962	—
	339,955,399	340,258,613

Financial assets at fair value through profit and loss includes $123 billion held with JPMorgan Chase undertakings (2017:$122 billion).

20. Financial assets designated at fair value through profit or loss

	2018	2017
	$'000	$'000
	IFRS 9	IAS 39
Equity instruments	—	164,384
Loans	—	177,218
	—	341,602

21. Debtors

	2018	2017
	$'000	$'000
Trade debtors	44,339,735	30,394,066
Other debtors	38,460,861	49,252,556
	82,800,596	79,646,622

Trade debtors mainly consists of unsettled trades. Other debtors includes $15.8 billion of cash collateral provided on derivatives (2017: $45.9 billion).

Debtors includes the following balances from JPMorgan Chase undertakings:

	2018	2017
	$'000	$'000
Trade debtors	24,129,680	13,952,580
Other debtors	13,942,408	29,329,759
	38,072,088	43,282,339

Trade debtors with JPMorgan Chase undertakings mainly consists of accounts receivable and unsettled trades. Other debtors includes $14 billion of cash collateral provided on derivatives (2017: $29 billion).

22. Other assets

	2018	2017
	$'000	$'000
Deferred taxation	98,459	104,634
Prepayments	5,674	5,427
Accrued income	716,617	652,028
	820,750	762,089

23. Investments in JPMorgan Chase undertakings

	2018	2017
	$'000	$'000
Investments in JPMorgan Chase undertakings at cost		
At 1 January	3,341,207	3,341,207
Write down - see below	(1,196,609)	—
At 31 December	2,144,598	3,341,207

The receipt of $2.0 billion dividend from wholly owned subsidiary J.P. Morgan Europe Limited prompted a review of the carrying amount of the Company's investment in that entity. The investment has been written down by $1.2 billion.

The holdings of the Company are as follows:

Name	Address of subsidiary	Principal activity	Holding	Shares held %
Greenwood Nominees Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Nominee company	Direct	100
J.P. Morgan Europe Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Banking	Direct	100
Cazenove Group Limited	JPMorgan House, Grenville Street, St. Helier, JE4 8QH, Jersey	Holding company	Direct	100
J.P. Morgan Prime Nominees Ltd.	25 Bank Street, Canary Wharf, London, E14 5JP, England	Nominee company	Direct	100
J.P. Morgan Services LLP	25 Bank Street, Canary Wharf, London, E14 5JP, England	Dormant company	Direct	57
Chase Securities International Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Investment company	Indirect	100
Chase International Securities (C.I.) Limited	Forum 4, Grenville Street, St. Helier, JE2 4UF, Jersey	Investment company	Indirect	100
Chemical Nominees Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Investment company	Indirect	100
Cazenove Holdings Limited	JPMorgan House, Grenville Street, St. Helier, JE4 8QH, Jersey	Holding company	Indirect	100
Cazenove IP Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Investment company	Indirect	100
JPMorgan Cazenove Holdings	25 Bank Street, Canary Wharf, London, E14 5JP, England	Holding company	Indirect	51
J.P. Morgan Cazenove Limited	25 Bank Street, Canary Wharf, London, E14 5JP, England	Investment company	Indirect	51
JPMorgan Cazenove Service Company	25 Bank Street, Canary Wharf, London, E14 5JP, England	Service company	Indirect	51

The above investments are shown at cost less any provision for impairment. In the opinion of the directors, the value of the Company's investment in each subsidiary undertaking is not less than the amount at which it is stated in the balance sheet.

All shares held in the above subsidiaries are ordinary shares.

24. 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 entities is a special purpose entity ("SPE"). SPE's are commonly used in securitisation 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 structured entities in which the Company has control are consolidated into the parent undertakings of the Company, as set out in note 23 to these financial statements.

The Company has involvement with various structured entities, established by the Firm or by third parties. These typically include securitisations, credit linked notes ("CLN") and asset swap vehicles.

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.

CLN and asset swap vehicles: the Company's involvement with CLN and asset swap vehicles is generally limited to being a derivative counterparty. The Company does not provide any additional contractual financial support to the structured entities over and above its contractual obligations as derivative counterparty, but may also make a market in the notes issued by such structured entities, although it is under no obligation to do so. As a derivative counterparty the assets held by the structured entities serve as collateral for any derivatives receivables.

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 carrying amounts of the Company's interest in unconsolidated structured entities recognised 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. The maximum exposure for derivatives and off balance sheet commitments such as guarantees, liquidity facilities and loan commitments is reflected by the notional amounts.

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.

24. Unconsolidated structured entities (continued)

		Interest in unconsolidated structured entities			
	Fair value of assets held by SPE	Financial assets and liabilities at fair value through profit and loss	Loans and advances to customers	Other	Total
31 December 2018	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Residential mortgage-backed vehicles	91,778,882	800,314			800,314
Commercial mortgage-backed vehicles	13,372,402	189,934			189,934
Other asset-backed vehicles	20,757,993	303,173			303,173
Credit-related notes and asset swap vehicles	56,176,838	1,142,205			1,142,205
Covered Bonds	53,948,945	125,059			125,059
Commercial collateralised paper	3,360,147	—			—
Other	6,771,097	646,359			646,359
Total assets	246,166,304	3,207,044	—	—	3,207,044
Maximum exposure to loss	246,166,304	3,207,044	—	—	3,207,044
Total liabilities	—	266,182	—	3,349,427	3,615,609

		Interest in unconsolidated structured entities			
	Fair value of assets held by SPE	Financial assets and liabilities at fair value through profit and loss	Loans and advances to customers	Other	Total
31 December 2017	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Residential mortgage-backed vehicles	41,499,967	946,036	—	—	946,036
Commercial mortgage-backed vehicles	3,326,241	49,690	—	—	49,690
Other asset-backed vehicles	34,832,976	490,698	—	—	490,698
Credit-related notes and asset swap vehicles	73,776,415	255,094	—	—	255,094
Covered Bonds	122,148,567	75,266	—	—	75,266
Other	167,451,690	1,653,563	—	—	1,653,563
Total assets	443,035,856	3,470,347	—	—	3,470,347
Maximum exposure to loss	443,035,856	3,470,347	—	—	3,470,347
Total liabilities	—	533,309	—	—	533,309

25. Financial liabilities at fair value through profit and loss

	2018	2017
	$'000	**$'000**
Debt and equity instruments	55,228,556	46,215,803
Derivative payables	240,484,339	241,407,619
Other financial liabilities	16,512,205	20,664,646
	312,225,100	308,288,068

Financial liabilities at fair value through profit and loss includes $147 billion held with JPMorgan Chase undertakings (2017: $166 billion).

26. Other liabilities

	2018	2017
	$'000	$'000
Trade creditors [(a)]	55,301,485	30,479,035
Other liabilities:		
Accruals and deferred income	1,957,488	1,766,668
Taxation and social security [(b)]	101,623	311,635
Other [(c)]	25,668,487	25,271,893
Total other liabilities	27,727,598	27,350,196
Total trade creditors and other liabilities	83,029,083	57,829,231

(a) Trade creditors predominantly consists of unsettled trades, brokerage fees payable and liabilities in respect of assets transferred but not derecognised (note 36) and includes $12.5 billion with other JPMorgan Chase undertakings (2017: $3.5 billion). Amounts owed to JPMorgan Chase undertakings presented on the balance sheet represents financing and collateral arrangements with other JPMorgan Chase undertakings.

(b) Taxation and social security includes provisions for corporate tax, overseas tax and bank levy.

(c) Other includes $25.7 billion (2017: $25.2 billion) of cash collateral received related to OTC derivatives.

27. Subordinated liabilities with JPMorgan Chase undertakings

The following loan is unsecured and is subordinated in right of payment to the ordinary creditors, including depositors, as follows:

Lender	Dated	Interest	2018	2017
			$'000	$'000
J.P. Morgan Capital Holdings Limited	2028	1.55 % above on month LIBOR	12,000,000	—

The loan is comprised of tier 2 qualifying subordinated notes issued as part of the Firm's strategy to comply with a 'minimum requirement for own funds and eligible liabilities' ("MREL").

28. Called-up share capital

	2018	2017
	$'000	$'000
Issued and fully paid share capital		
At 1 January		
1,244,343 ordinary shares (2017: 1,039,262) of $10,000 each	12,443,430	10,392,620
0 preferred ordinary shares (2017: 34,648) of $10,000 each	—	346,480
0 preference shares (2017: 680,685) of $10,000 each	—	6,806,850
50,000 ordinary shares (2017: 50,000) of £1.24 each	100	100
2 ordinary shares (2017: 2) of £1 each	—	—
Movements during the year		
205,081 ordinary shares issued of $10,000 each	—	2,050,810
34,648 preferred ordinary shares of $10,000 each	—	(346,480)
680,685 preference shares of $10,000 each	—	(6,806,850)
At 31 December		
1,244,343 ordinary shares (2017: 1,244,343) of $10,000 each	12,443,430	12,443,430
50,000 ordinary shares (2017: 50,000) of £1.24 each	100	100
2 ordinary shares (2017: 2) of £1 each	—	—
	12,443,530	12,443,530

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Notes to the financial statements (continued)

29. Dividends

No interim dividend (2017: nil) was paid on the ordinary shares of the Company for 2018. No final dividend was paid or proposed for 2018 (2017: nil).

As at 11 September 2017, the Company no longer had any preference shares or preferred ordinary shares in issue. In 2017, interim dividends of $359,303,501 were paid on the preference shares and $6,696,499 on the preferred ordinary shares of the Company.

30. Notes to the statement of cash flows

	2018	2017
	$'000	$'000
Profit before income taxation	4,362,431	3,599,049
Adjustments for:		
Depreciation of tangible fixed assets	1,495	1,760
Impairment of investments in JPMorgan Chase undertakings	1,196,609	—
Other non-cash movements	(75,352)	(2,554,965)
Operating cash flows before changes in operating assets and liabilities	**5,485,183**	**1,045,844**
Changes in operating assets		
Decrease in loans and advances to customers	458,414	487,731
Increase in securities purchased under resale agreements	(19,698,971)	(4,968,759)
Increase in securities borrowed	(18,435,325)	(1,241,493)
Decrease/(increase) in financial assets at fair value through profit and loss	644,816	(17,212,805)
Increase in financial assets designated at fair value through profit or loss	—	(25,943)
Decrease/(increase) in debtors and other assets	(3,147,798)	(23,259,302)
Increase in prepayments and accrued income	(64,837)	(208,958)
	(40,243,701)	**(46,429,529)**
Changes in operating liabilities		
Increase in securities sold under repurchase agreements	16,760,394	13,279,887
Increase/(decrease) in securities loaned	8,096,554	(7,583,285)
Increase in financial liabilities at fair value through profit and loss	3,937,032	14,762,322
(Decrease)/increase in financial liabilities designated at fair value through profit or loss	(228,771)	1,465,247
Increase in trade creditors	24,822,451	723,525
(Decrease)/Increase in other liabilities	186,584	1,453,703
Increase in accruals and deferred income	190,820	367,212
	53,765,064	**24,468,611**
Cash generated from/(used in) operating activities	**19,006,546**	**(20,915,074)**

The Company maintains certain client money balances which principally arise where it acts on behalf of its clients as a clearing member for derivatives that are cleared through central counterparties. Loans and advances to banks contain an amount of $379 million (2017: $235 million) placed in a segregated account to allow the Company to make good a shortfall in client money.

31. Commitments

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.

	2018	2017
	$'000	$'000
Contractual amount		
Unused commitments on loans	19,298,797	18,615,564
Standby letters of credit and guarantees	816,742	1,839,881
Total unused lending related commitments	20,115,539	20,455,445
Other unused commitments	1,595,468	2,410,565
Total unused contractual commitments	**21,711,007**	**22,866,010**
Expected credit loss on unused lending related commitments (note 9)	6,220	—

There are no lending commitments to other JPMorgan Chase undertakings (2017: nil). Other unused commitments consist of certain guarantees and commitments associated with the Company's membership in clearing houses. Prior year amounts have been adjusted to conform with current year presentation.

32. Assets and liabilities measured at fair value

Fair value

Valuation process

The Company 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 (such as maturity) and use as inputs observable or unobservable market parameters, including yield curves, interest rates, volatilities, equity or debt prices, foreign exchange rates, and credit curves.

The level of precision in estimating unobservable market inputs or other factors can affect the amount of gain or loss recorded for a particular position. Furthermore, while the Company believes its valuation methods are appropriate and consistent with those of other market participants, the methods and assumptions used reflect management judgement and may vary across the Company's businesses and portfolios. The use of different methodologies or assumptions to those used by the Company could result in a different estimate of fair value at the reporting date.

Risk-taking functions are responsible for providing fair value estimates for assets and liabilities carried on the balance sheet at fair value. The Firm's valuation control function, which is part of the Firm's Finance function and independent of the risk-taking functions, is responsible for verifying these estimates and determining any fair value adjustments that may be required to ensure that the Company's positions are recorded at fair value. The valuation control function verifies fair value estimates provided by the risk-taking functions 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 Company, and the funding risk inherent in certain derivatives. The credit and funding risks of the derivative portfolio are generally mitigated by arrangements provided to the Company by JPMorgan Chase Bank, N.A. and therefore the Company takes account of these arrangements in estimating the fair value of its derivative portfolio.

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 that consider relevant transaction data such as maturity and use as inputs market-based or independently sourced parameters. The Model Risk function is independent of the model owners and reviews and approves valuation models used by the Company.

Fair value hierarchy

The Company 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 categorisation within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement.

J.P. MORGAN SECURITIES PLC
Notes to the financial statements (continued)

32. Assets and liabilities measured at fair value (continued)

Valuation methodologies

The following table describes the valuation methodologies used by the Company 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 where available.	Level 1
	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 2 or 3
Derivatives and fully funded OTC instruments	Exchange-traded derivatives that are actively traded and valued using the exchange price.	Level 1
	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 the Company 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 are as follows: *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 - FX correlation *Commodity derivatives specific inputs include*: • Commodity volatility • Forward commodity price	Level 2 or 3
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 Company, by industry and credit rating • Prepayment speed • Collateral characteristics	Level 2 or 3

32. Assets and liabilities measured at fair value (continued)

Valuation methodologies (continued)

Product/instrument	Valuation methodology, inputs and assumptions	Classifications in the valuation hierarchy
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 Company'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 modelled 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

32. Assets and liabilities measured at fair value (continued)

Assets and liabilities measured at fair value on a recurring basis

The following table presents the asset and liabilities reported at fair value as of 31 December 2018 and 2017, by major product category and fair value hierarchy.

	Level 1	Level 2	Level 3	Total
	$'000	$'000	$'000	$'000
At 31 December 2018				
Securities financing agreements:				
Securities purchased under agreements to resell	—	135,952,356	—	135,952,356
Securities borrowed	—	45,507,924	—	45,507,924
Financial assets at fair value through profit and loss:				
Debt and equity instruments	49,954,944	46,786,919	1,686,704	98,428,567
Derivative receivables	182,811	235,481,636	5,436,423	241,100,870
Loans	—	102,092	323,870	425,962
Financial assets held at FVOCI:				
Loans	—	—	1,325,151	1,325,151
Total financial assets	50,137,755	463,830,927	8,772,148	522,740,830
Securities financing agreements:				
Securities sold under agreements to repurchase	—	91,697,552	—	91,697,552
Securities loaned	—	20,646,594	—	20,646,594
Financial liabilities at fair value through profit and loss:				
Debt and equity instruments	38,760,396	16,452,579	15,581	55,228,556
Derivative payables	237,239	228,896,761	11,350,339	240,484,339
Other financial liabilities	—	9,135,324	7,358,136	16,493,460
Financial liabilities designated at fair value through profit or loss:				
Debt and equity instruments	—	1,236,476	—	1,236,476
Other liabilities:				
Deposits	—	18,745	—	18,745
Total financial liabilities	38,997,635	368,084,031	18,724,056	425,805,722

32. Assets and liabilities measured at fair value (continued)

Assets and liabilities measured at fair value on a recurring basis (continued)

	Level 1	Level 2	Level 3	Total
	$'000	$'000	$'000	$'000
At 31 December 2017				
Securities financing agreements:				
Securities purchased under agreements to resell	—	1,799,061	—	1,799,061
Securities borrowed	—	3,049,423	—	3,049,423
Financial assets at fair value through profit and loss:				
Debt and equity instruments	50,259,349	56,288,802	1,336,743	107,884,894
Derivative receivables	158,218	228,171,775	4,043,726	232,373,719
Financial assets designated at fair value through profit or loss:				
Debt and equity instruments	—	—	341,602	341,602
Total financial assets	50,417,567	289,309,061	5,722,071	345,448,699
Securities financing agreements:				
Securities sold under agreements to repurchase	—	3,052,613	—	3,052,613
Financial liabilities at fair value through profit and loss:				
Debt and equity instruments	32,709,118	13,505,976	712	46,215,806
Derivative payables	543,061	234,225,800	6,638,758	241,407,619
Other financial liabilities	—	13,671,674	6,992,969	20,664,643
Financial liabilities designated at fair value through profit or loss:				
Debt and equity instruments	—	1,465,247	—	1,465,247
Other liabilities:				
Deposits	—	108,101	—	108,101
Total financial liabilities	33,252,179	266,029,411	13,632,439	312,914,029

32. Assets and liabilities measured at fair value (continued)

Assets and liabilities measured at fair value on a recurring basis (continued)

Level 3 valuations

The Firm has established well structured processes for determining fair value, including for instruments where fair value is estimated using significant unobservable inputs (level 3).

Estimating fair value requires the application of judgement. The type and level of judgement required is largely dependent on the amount of observable market information available to the Company. For instruments valued using internally developed valuation models and other valuation techniques that use significant unobservable inputs and are therefore classified within level 3 of the fair value hierarchy, judgements used to estimate fair value are more significant than those required when estimating the fair value of instruments classified within levels 1 and 2.

In arriving at an estimate of fair value for an instrument within level 3, management must first determine the appropriate valuation model or other valuation technique to use. Second, due to the lack of observability of significant inputs, management must assess all relevant empirical data in deriving valuation inputs including, transaction details, yield curves, interest rates, prepayment speed, default rates, volatilities, correlations, equity or debt prices, valuations of comparable instruments, foreign exchange rates and credit curves.

The following table presents the Company'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 significance of the unobservable inputs to the overall fair value measurement, level 3 financial instruments typically include observable components (that is, components that are actively quoted and can be validated to external sources) in addition to the unobservable components.

The range of values presented in the table is representative of the highest and lowest level input used to value the significant groups of instruments within a product/instrument classification. Where provided, the weighted averages of the input values presented in the table are calculated based on the fair value of the instruments that the input is being used to value.

In the Company's view, the input range and the weighted average value do not reflect the degree of input uncertainty or an assessment of the reasonableness of the Company's estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by the Company and the relative distribution of instruments within the range of characteristics. For example, two option contracts may have similar levels of market risk exposure and valuation uncertainty, but may have significantly different implied volatility levels because the option contracts have different underlying's, tenors, or strike prices.

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 Company at each balance sheet date.

32. Assets and liabilities measured at fair value (continued)

Level 3 valuations (continued)

Product/instrument	Asset	Liability	Net fair value	Principal valuation technique	Unobservable input	Range of input values	Weighted average
31 December 2018	$'000	$'000	$'000				
Debt and equity instruments and loans	**3,335,725**	**(15,581)**	**3,320,144**				
Corporate debt securities and other				Market comparables	Price	$0 - $107	$57
Residential mortgage-backed securities and loans				Discounted cash flows	Yield	0% - 19%	6%
					Prepayment speed	0% - 24%	9%
					Conditional default rate	0% - 9%	1%
					Loss severity	0% - 100%	6%
Commercial mortgage-backed securities and loans				Market comparables	Price	$0 - $103	$90
Loans through FVOCI				Discounted cash flows	Credit spreads	5bps - 817bps	77bps
					Utilisation given default	0% - 100%	33%
					CDS recovery rate	20% - 80%	37%
					Loan recovery rate	25% - 90%	52%
Loans at fair value				Discounted cash flows	Yield	8%	8%
Derivatives	**5,436,423**	**(11,350,339)**	**(5,913,916)**				
Net interest rate derivatives				Option pricing	Interest rate spread volatility	16bps – 38bps	
					Interest rate correlation	(45)% – 97%	
					Interest rate - FX correlation	45% - 60%	
				Discounted cash flows	Prepayment speed	4% - 30%	
Net credit derivatives				Discounted cash flows	Credit correlation	25% – 55%	
					Credit spread	10bps - 1,487bps	
					Recovery rate	20% - 70%	
					Conditional default rate	3% - 72%	
					Loss severity	100%	
				Market comparables	Price	$1 - $115	
Net foreign exchange derivatives				Option pricing	Interest rate - FX correlation	(45)% – 60%	
				Discounted cash flows	Prepayment speed	8% - 9%	
Net equity derivatives				Option pricing	Equity volatility	14% – 57%	
					Equity correlation	20% - 98%	
					Equity - FX correlation	(75)% - 61%	
					Equity - interest rate correlation	20% - 60%	
Net commodity derivatives				Option pricing	Forward commodity price	$39 – $56 per barrel	
					Commodity volatility	5% - 68%	
					Commodity correlation	(51%) - 95%	
Other financial liabilities	—	(7,358,136)	(7,358,136)	Option pricing	Interest rate spread volatility	16bps – 38bps	
					Interest rate correlation	(45)% – 97%	
					Interest rate - FX correlation	(45)% – 60%	
					Equity correlation	20% – 98%	
					Equity - FX correlation	(75%) - 61%	
					Equity - interest rate correlation	20% - 60%	
Total	**8,772,148**	**(18,724,056)**	**(9,951,908)**				

32. Assets and liabilities measured at fair value (continued)

Level 3 valuations (continued)

Product/instrument	Asset	Liability	Net fair value	Principal valuation technique	Unobservable input	Range of input values	Weighted average
At 31 December 2017	**$'000**	**$'000**	**$'000**				
Debt and equity instruments	**1,678,345**	**(712)**	**1,677,633**				
Corporate debt securities and other				Market comparables	Price	$3 - $111	$82
Residential mortgage-backed securities and loans				Discounted cash flows	Yield	3% - 16%	6%
					Prepayment speed	0% - 13%	9%
					Conditional default rate	0% - 5%	1%
					Loss severity	0% - 84%	3%
Commercial mortgage-backed securities and loans				Market comparables	Price	$0 - $100	$94
Loans				Market comparables	Price	$4 - $103	$84
Derivatives	**4,043,726**	**(6,638,758)**	**(2,595,032)**				
Net interest rate derivatives				Option pricing	Interest rate spread volatility	27bps – 38bps	
					Interest rate correlation	(50)% – 98%	
					Interest rate - FX correlation	60% - 70%	
				Discounted cash flows	Prepayment speed	0% - 30%	
Net credit derivatives				Discounted cash flows	Credit correlation	40% – 75%	
					Credit spread	6bps - 1,489bps	
					Recovery rate	20% - 70%	
					Yield	1% - 20%	
					Prepayment speed	4% - 21%	
					Conditional default rate	0% - 100%	
					Loss severity	4% - 100%	
				Market comparables	Price	$10 - $98	
Net foreign exchange derivatives				Option pricing	Interest rate - FX correlation	(50)% – 70%	
				Discounted cash flows	Prepayment speed	7%	
Net equity derivatives				Option pricing	Equity volatility	20% – 55%	
					Equity correlation	0% - 85%	
					Equity - FX correlation	(50)% - 30%	
					Equity - interest rate correlation	10% - 40%	
Net commodity derivatives				Option pricing	Forward commodity price	$54 – $68 per barrel	
					Commodity volatility	5% - 46%	
					Commodity correlation	(40%) - 70%	
Other financial liabilities	—	(6,992,969)	(6,992,969)	Option pricing	Interest rate spread volatility	27bps – 38bps	
					Interest rate correlation	(50)% – 98%	
					Interest rate - FX correlation	(50)% – 70%	
					Equity correlation	0% – 85%	
					Equity - FX correlation	(50%) - 30%	
					Equity - interest rate correlation	10% - 40%	
Total	**5,722,071**	**(13,632,439)**	**(7,910,368)**				

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.

32. Assets and liabilities measured at fair value (continued)

Changes in and ranges of unobservable inputs

The following discussion provides a description of the impact on a fair value measurement of a change in each unobservable input in isolation, and the interrelationship between unobservable inputs, where relevant and significant. 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; where relationships exist between two unobservable inputs, those relationships are discussed below. Relationships may also exist between observable and unobservable inputs (for example, as observable interest rates rise, unobservable prepayment rates decline); 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 amount of additional annualised return over the market interest rate that a market participant would demand for taking exposure to the credit risk of an instrument. 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 in a fair value measurement.

Prepayment speed - The prepayment speed is a measure of the voluntary unscheduled principal repayments of a prepayable obligation in a collateralised pool. Prepayment speeds generally decline as borrower delinquencies rise. An increase in prepayment speeds, in isolation, would result in a decrease in a fair value measurement of assets valued at a premium to par and an increase in a 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 collateralised 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 in a fair value measurement.

Loss severity - The loss severity (the inverse concept is the recovery rate) is the expected amount of future realised 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 in a fair value measurement.

Utilisation 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 in the other parameter. When parameters are negatively correlated, an increase in one parameter will result in a decrease in the other parameter. An increase in correlation can result in an increase or a decrease in a fair value measurement. Given a short correlation position, an increase in correlation, in isolation, would generally result in a decrease in a 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 in a fair value measurement.

32. Assets and liabilities measured at fair value (continued)

Fair value financial instruments valued using techniques that incorporate significant unobservable inputs

The potential impact as at 31 December 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			Favourable change	Unfavourable change
	Asset	Liability	Net	Statement of comprehensive income	
At 31 December 2018	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Corporate debt securities and other	1,667,433	(15,581)	1,651,852	53,943	(53,943)
Residential mortgage-backed securities	17,596	—	17,596	1,625	(1,625)
Commercial mortgage-backed securities	1,675	—	1,675	91	(91)
Loans	323,870	—	323,870	11,901	(11,901)
Total debt and equity instruments and loans	**2,010,574**	**(15,581)**	**1,994,993**	**67,560**	**(67,560)**
Derivatives*	**5,436,423**	**(11,350,339)**	**(5,913,916)**	**83,828**	**(83,828)**
Other financial liabilities*	**—**	**(7,358,136)**	**(7,358,136)**	**104,300**	**(104,300)**
Loans at FVOCI	**1,325,151**	**—**	**1,325,151**	**16,252**	**(16,252)**
Total	**8,772,148**	**(18,724,056)**	**(9,951,908)**	**271,940**	**(271,940)**

Sensitivity analysis of valuations using unobservable inputs	Fair Value			Favourable change	Unfavourable change
	Asset	Liability	Net	Income statement	
At 31 December 2017	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Debt and equity instruments					
Corporate debt securities and other	1,664,449	(712)	1,663,737	83,031	(83,031)
Residential mortgage-backed securities	11,565	—	11,565	328	(328)
Commercial mortgage-backed securities	2,331	—	2,331	503	(503)
Total debt and equity instruments	**1,678,345**	**(712)**	**1,677,633**	**83,862**	**(83,862)**
Derivatives*	**4,043,726**	**(6,638,758)**	**(2,595,032)**	**39,996**	**(39,996)**
Other financial liabilities*	**—**	**(6,992,969)**	**(6,992,969)**	**107,781**	**(107,781)**
Total	**5,722,071**	**(13,632,439)**	**(7,910,368)**	**231,639**	**(231,639)**

* Given significant hedging between derivatives and other financial liabilities the net risk is considered to calculate the favourable/ unfavourable changes with the result then allocated to the two lines individually.

32. Assets and liabilities measured at fair value (continued)

Changes in level 3 recurring fair value measurements

The following tables include a rollforward 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.

Movement in assets and liabilities in Level 3 during year ended 31 December 2018

Financial assets	Loans at FVOCI	Debt and equity instruments and loans	Derivative receivables	Total financial assets
	$'000	$'000	$'000	$'000
At 31 December 2017	—	1,678,345	4,043,726	5,722,071
Adoption of IFRS 9 - reclassification	1,459,106			1,459,106
Adoption of IFRS 9 - remeasurement	(13,663)	—	—	(13,663)
At 1 January 2018	1,445,443	1,678,345	4,043,726	7,167,514
Total gains/(losses) recognised in profit or loss	(16,775)	(153,170)	969,006	799,061
Total gains/(losses) recognised in other comprehensive income	12	—	—	12
Purchases		1,869,459	2,581,194	4,450,653
Sales	(894,977)	(790,957)	(1,607,475)	(3,293,409)
Issuances	791,448	206,619	—	998,067
Settlements	0	(314,170)	(379,311)	(693,481)
Transfers in to Level 3	—	332,207	391,962	724,169
Transfers out of Level 3	—	(817,759)	(562,679)	(1,380,438)
At 31 December 2018	1,325,151	2,010,574	5,436,423	8,772,148
Change in unrealised gains related to financial instruments held at 31 December 2018	—	1,928	360,693	362,621

Financial liabilities	Debt and equity instruments	Derivative payables	Other financial liabilities	Total financial liabilities
	$'000	$'000	$'000	$'000
At 31 December 2017	712	6,638,758	6,992,969	13,632,439
Adoption of IFRS 9	—	—	—	—
At 1 January 2018	712	6,638,758	6,992,969	13,632,439
Total (gains)/loss recognised in profit or loss	8,799	1,640,313	(200,531)	1,448,581
Total (gains)/loss recognised in other comprehensive income	—	—	—	—
Purchases	(89,565)	503,933	—	414,368
Sales	81,210	5,074,333	—	5,155,543
Issuances	—	—	4,536,930	4,536,930
Settlements	16,581	(2,488,809)	(3,753,852)	(6,226,080)
Transfers in to Level 3	3,336	408,904	323,979	736,219
Transfers out of Level 3	(5,492)	(427,093)	(541,359)	(973,944)
At 31 December 2018	15,581	11,350,339	7,358,136	18,724,056
Change in unrealised losses related to financial instruments held at 31 December 2018	13,282	224,922	(5,855)	232,349

32. Assets and liabilities measured at fair value (continued)

Movement in assets and liabilities in Level 3 during year ended 31 December 2017

Financial assets	Debt and equity instruments	Derivative receivables	Total financial assets
	$'000	$'000	$'000
At 1 January 2017	1,124,428	6,507,790	7,632,218
Total gains recognised in profit or loss	82,639	2,143,878	2,226,517
Purchases	1,885,131	2,225,648	4,110,779
Sales	(1,369,048)	(3,541,844)	(4,910,892)
Issuances	—	1,157	1,157
Settlements	(103,870)	(2,370,600)	(2,474,470)
Transfers in to Level 3	490,559	987,507	1,478,066
Transfers out of Level 3	(431,494)	(1,909,810)	(2,341,304)
At 31 December 2017	1,678,345	4,043,726	5,722,071
Change in unrealised gains related to financial instruments held at 31 December 2017	134,692	729,155	863,847

Financial liabilities	Debt and equity instruments	Derivative payables	Other financial liabilities	Total financial liabilities
	$'000	$'000	$'000	$'000
At 1 January 2017	423	5,460,654	3,963,003	9,424,080
Total (gains)/loss recognised in profit or loss	(614)	1,674,657	675,116	2,349,159
Purchases	(39,710)	(1,437,553)	—	(1,477,263)
Sales	41,804	2,508,171	18,932	2,568,907
Issuances	—	3,588	5,350,163	5,353,751
Settlements	(399)	(2,991,676)	(3,515,814)	(6,507,889)
Transfers in to Level 3	—	3,422,465	705,568	4,128,033
Transfers out of Level 3	(792)	(2,001,548)	(203,999)	(2,206,339)
At 31 December 2017	712	6,638,758	6,992,969	13,632,439
Change in unrealised losses related to financial instruments held at 31 December 2017	(72)	(40,029)	(22,878)	(62,979)

Realised and unrealised gains/(losses) are reported in trading profits in the income statement.

Transfers between levels for instruments carried at fair value on a recurring basis

For the years ended 31 December 2018 and 2017, there were no significant transfers between levels 1 and 2.

During the year ended 31 December 2018, transfers in to and out of level 3 included the following:

- $0.3 billion of assets and $0.2 billion of liabilities transferred out of level 3 driven by an increase in observability of swaps and commodities;
- $0.2bn of assets and $0.1bn of liabilities transferred out of level 3 driven by an increase in observability of equity options;
- $0.8bn of assets transferred out of level 3 driven by an increase in observability of trading loans and corporate debt;
- $0.2bn of assets and $0.09bn of liabilities transferred in to level 3 driven by a decrease in observability of equity options;
- $0.4bn of assets transferred in to level 3 driven by a decrease in observability of trading loans; and
- $0.2bn of assets and $0.2bn of liabilities transferred in to level 3 driven by a decrease in observability of inputs on swaps.

32. Assets and liabilities measured at fair value (continued)

Transfers between levels for instruments carried at fair value on a recurring basis (continued)

During the year ended 31 December 2017, transfers in to and out of level 3 included the following:

- $1.1 billion of assets and $1.2 billion of liabilities transferred out of level 3 driven by an increase in observability of credit default swaps;
- $0.5bn of assets and $0.5bn of liabilities transferred out of level 3 driven by an increase in observability of equity options;
- $0.2bn of assets transferred out of level 3 driven by an increase in observability of trading loans and corporate debt;
- $0.2bn of liabilities transferred out of level 3 driven by in increase in other financial liabilities;
- $0.6bn of assets and $3.0bn of liabilities transferred in to level 3 driven by a decrease in observability of equity options;
- $0.2bn of assets transferred in to level 3 driven by a decrease in observability of trading loans; and
- $0.6bn of liabilities transferred in to level 3 driven by a decrease in other financial liabilities.

All transfers are assumed to occur at the beginning of the period in which they occur.

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 approximate fair value, due to their short-term nature and generally negligible credit risk. These instruments include securities purchased under agreements to resell, cash and balances at central banks, debtors, other assets, trade creditors and other liabilities.

The Company has $143.1 billion (2017: $272.0 billion) of current financial assets and $197.1 billion (2017: $266.1 billion) of current financial liabilities that are not measured at fair value, including loans and advances to customers of $0.8 billion (2017: $2.6 billion).

In estimating the fair value of these loans and advances to customers, typically a discounted cash flow model is applied with significant unobservable inputs and therefore would be classified as level 3 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.

33. 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:

	Effects of offsetting on balance sheet			Related amounts not offset		
	Gross amounts	Amounts offset	Net amounts reported on balance sheet	Master netting agreements and other	Cash & security collateral	Net amount
	$'000	$'000	$'000	$'000	$'000	$'000
At 31 December 2018						
Financial assets:						
Securities purchased under agreements to resell [(a)]	432,536,815	(277,452,233)	155,084,582	(22,035,763)	(127,778,723)	5,270,096
Securities borrowed [(a)]	45,507,924	—	45,507,924	(16,692,007)	(24,236,047)	4,579,870
Financial assets at fair value through profit and loss [(b)]	363,932,680	(23,977,281)	339,955,399	(202,101,306)	(24,629,365)	113,224,728
Total	841,977,419	(301,429,514)	540,547,905	(240,829,076)	(176,644,135)	123,074,694
Financial liabilities:						
Securities sold under agreements to repurchase [(a)]	369,149,785	(277,452,233)	91,697,552	(22,035,763)	(68,048,958)	1,612,831
Securities loaned [(a)]	20,646,594	—	20,646,594	(16,692,007)	(3,430,071)	524,516
Financial liabilities at fair value through profit and loss[(b)]	336,827,177	(24,602,077)	312,225,100	(194,432,535)	(25,154,787)	92,637,778
Total	726,623,556	(302,054,310)	424,569,246	(233,160,305)	(96,633,816)	94,775,125

33. Offsetting financial assets and financial liabilities (continued)

	Effects of offsetting on balance sheet			Related amounts not offset		
	Gross amounts	Amounts offset	Net amounts reported on balance sheet	Master netting agreements and other	Cash & security collateral	Net amount
	$'000	$'000	$'000	$'000	$'000	$'000
At 31 December 2017						
Financial assets:						
Securities purchased under agreements to resell [a]	284,606,993	(149,221,382)	135,385,611	(11,525,344)	(114,161,493)	9,698,774
Securities borrowed [a]	27,072,599	—	27,072,599	(9,100,106)	(15,846,294)	2,126,199
Financial assets at fair value through profit and loss [b]	362,065,083	(21,806,470)	340,258,613	(190,867,129)	(24,340,531)	125,050,953
Total	673,744,675	(171,027,852)	502,716,823	(211,492,579)	(154,348,318)	136,875,926
Financial liabilities:						
Securities sold under agreements to repurchase [a]	224,158,540	(149,221,382)	74,937,158	(11,525,344)	(61,149,668)	2,262,146
Securities loaned [a]	12,550,040	—	12,550,040	(9,104,687)	(3,170,688)	274,665
Financial liabilities at fair value through profit and loss [b]	330,722,398	(22,434,330)	308,288,068	(182,391,533)	(20,120,713)	105,775,822
Total	567,430,978	(171,655,712)	395,775,266	(203,021,564)	(84,441,069)	108,312,633

(a) The fair value of securities purchased under agreements to resell and securities borrowed accepted as collateral that the Company is permitted to sell or re-pledge in the absence of default, prior to netting adjustments, is $484,560 million (2017: $312,126 million). The fair value of securities sold under agreements to repurchase and securities loaned pledged to secure liabilities, prior to netting adjustments, is $364,579 million (2017: $212,797 million). A review of pledged assets identified that securities sold under agreements to repurchase and securities loaned pledged to secure liabilities was incorrectly disclosed in the footnotes in 2017. Accordingly, the amounts pledged to secure liabilities has decreased by $11,200 million.

(b) Included within 'amounts offset' are the respective collateral payable and receivables with certain clearing counterparties.

34. Pensions

During the year, the Company was involved in the following pension schemes in the UK:

- JPMorgan UK Pension Plan ("UKP") - a defined contribution scheme (as a participating employer);
- JPMC UK Retirement Plan - a defined benefit scheme; and
- JPMorgan Cazenove (1987) Pension Scheme ("UKS") - a defined benefit scheme (as a participating employer).

In Europe, the Company also operates defined benefit and defined contribution schemes for its employers in the overseas branches in Switzerland, Germany, France, Italy and Spain. Based on full actuarial valuations carried out during the year, the net liability in respect of these European schemes as at 31 December 2018 amounted to $7,031,000 (2017: $4,178,000). The charge for the year through the income statement was $1,137,000 (2017: $2,941,000), and total loss recognised through statement of comprehensive income was $3,920,000 (2017: gain of $4,542,000).

JPMorgan UK Pension Plan

The Company participates in the JPMorgan UK Pension Plan, a defined contribution scheme operated by the Firm, which is open to additional members and benefit accruals.

34. Pensions (continued)

JPMC UK Retirement Plan

The Firm maintains a defined benefit plan that is closed to additional benefit accruals known as the JPMC UK Retirement Plan. Whilst the Company is not a participating employer in this plan, it does have certain obligations calculated in accordance with paragraph 5 (2) of Schedule 1A to the Occupational Pension Schemes (Employer Debt) Regulations 2005 (as amended), as follows:

- Under a Withdrawal Agreement, dated 24 May 2011, that was entered into in relation to J.P. Morgan Services LLP ("LLP"), a JPMorgan Chase undertaking which had previously been a participating employer in the plan. Under the terms of this agreement, the Company became responsible for LLP's portion of the pension obligations.
- Under a Withdrawal Agreement, dated 21 December 2018, that was entered into in relation to J.P. Morgan Europe Limited ("EL"), a JPMorgan Chase undertaking which had previously been a participating employer of the plan. Under the terms of this agreement, the Company became responsible for EL's portion of the pension obligations.

The Company was not required to make any payments immediately or in relation to the ongoing funding of the plan under either of these Withdrawal Agreements.

However, payments may become due from the Company on the occurrence of the earliest of the following events:

- The commencement of the winding up of the plan;
- The insolvency of the plan's last remaining participating employer;
- The insolvency of the Company; or
- Any other date agreed between the Company and the Trustee of the Plan.

JPMorgan Cazenove (1987) Pension Scheme

The JPMorgan Cazenove (1987) Pension Scheme ("UKS") is a defined benefit plan with assets held in a separately administered fund. The Company has been a principal employer in relation to the UKS plan since August 2012. In May 2016, the Company agreed to and became responsible for 97.24% of the liabilities in respect of the UKS, taking over the obligation from its indirect subsidiary, JPMorgan Cazenove Service Company. As the Company is the principal employer, 100% of the assets and liabilities are recognised on balance sheet and disclosed below.

On 31 May 2016, the UKS was closed to future accrual of these benefits at which point the members, who had been contributing members prior to cessation of accrual, joined the UKP. The benefits under UKS due to future retirees are updated before retirement in line with the consumer price index, subject to certain caps and collars. In addition pensions in payment are increased, depending on when the benefit was accrued, at either fixed annual rates or rates linked to changes in the retail price index, with different caps.

The UKS liability is sensitive to changes in bond yields, life expectancy and inflation risk. Investment strategies for fund assets are based on reducing asset volatility and matching expected movements in the liability.

The UKS assets held in the fund are governed by local regulations and practice in the United Kingdom. Responsibility for the governance of the UKS - including investment decisions and contribution schedules is borne by the Trustee in conjunction with the Company.

The 5 April 2015 triennial actuarial valuation revealed a funding deficit in the Scheme of $43.4 million. A Recovery Plan (dated 24 May 2016), was agreed between the Company and the Trustee to eliminate the funding shortfall over a 10 year period. It was agreed annual contributions of $3.9 million would be paid by the company by 5 April each year, until 5 April 2025. The revised funding position and required deficit contributions are being reviewed as part of the subsequent actuarial valuation, being carried out as at 5 April 2018.

The principal assumptions adopted for the valuation of the UKS at 31 December were as follows:

	2018	2017
	% per annum	**% per annum**
Discount rate	2.7	2.4
Rate of salary increase	N/A*	N/A*
Rate of price inflation	3.5	3
Rate of pension increases	3	3.4

* The salary increase assumption no longer applies for the UKS as this plan was closed to future accruals on 31 May 2016.

34. Pensions (continued)

JPMorgan Cazenove (1987) Pension Scheme (continued)

Assumed life expectancy on retirement at age 65 were as follows:

	2018	2017
	years	years
Longevity at age 65 for current pensioners		
- Male	23.2	24.2
- Female	25.3	25.2
Longevity at age 65 for future pensioners		
- Male	25.2	26.9
- Female	27.5	27

The movements in the UKS' liability for the year ended 31 December was as follows:

	2018	2017
	$'000	$'000
Benefit obligation at beginning of the year	557,343	534,817
Current service costs	—	—
Prior service costs	495	—
Interest costs	12,939	13,721
Actuarial (gain)/ loss	(27,600)	(8,736)
Benefits paid from plan/Company	(21,368)	(32,222)
Exchange rate changes	(31,080)	49,763
Benefit obligation at end of the year	490,729	557,343

Guaranteed minimum pension ("GMP") is a portion of pension that was accrued by individuals who were contracted out of the State Second Pension prior to 6 April 1997. A High Court case concluded on 26 October 2018 that GMPs need to be equalised. This has been recognised in the prior service cost.

The movements in the UKS' assets for the year ended 31 December was as follows:

	2018	2017
	$'000	$'000
Fair value of plan assets at beginning of year	477,698	434,806
Expected return on plan assets	11,128	11,156
Actuarial gain on plan assets	(14,789)	18,594
Employer contributions (including employer direct benefit payments)	4,391	4,330
Administrative expenses paid from plan assets	(263)	(293)
Benefits paid from plan/Company	(21,368)	(32,222)
Exchange rate changes	(27,075)	41,327
Fair value of plan assets at end of the year	429,722	477,698

The equity investments and bonds which are held in the plan assets are quoted and are valued at the current bid price in accordance with IAS 19.

34. Pensions (continued)

JPMorgan Cazenove (1987) Pension Scheme (continued)

The sensitivity of the defined benefit obligation to changes in the weighted principal assumption is as follows:

	2018			2017		
	Change in assumption	Increase in assumption	Decrease in assumption	Change in assumption	Increase in assumption	Decrease in assumption
At 31 December	%	% per annum	% per annum	%	% per annum	% per annum
Discount rate	0.25%	(5.10)%	5.33 %	0.25%	(5.49)%	5.77 %
Rate of salary increase	0.25%	N/A*	N/A*	0.25%	N/A*	N/A*
Rate of pension increase	0.25%	2.02 %	(1.99)%	0.25%	1.89 %	(1.85)%
Rate of price inflation	0.25%	3.07 %	(2.97)%	0.25%	3.16 %	(3.17)%
Post-retirement mortality assumption	Increase by one year	3.83 %		Increase by one year	3.87 %	—

* The salary increase assumption no longer applies for the UKS as this plan was closed to future accruals on 31 May 2016.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant.

The expected return on scheme assets is determined by considering the expected returns available on the assets underlying the current investment policy. Expected yields on fixed interest investments are based on gross redemption yields as at the balance sheet date. Expected returns on equity investments reflect long-term real rates of return experienced in the respective markets.

Amounts recognised in the balance sheet arising from schemes that are wholly unfunded and those wholly or partly funded as at 31 December were as follows:

	2018	2017
	$'000	$'000
Present value of wholly or partly funded obligations	490,729	557,343
Fair value of plan assets	429,722	477,698
Deficit for funded plans - net liability	61,007	79,645
Effects of changes in demographic assumptions	(9,719)	—
Effects of changes in financial assumptions	(26,309)	4,813
Experience adjustments on plan assets	14,789	(18,594)
Experience adjustments on plan liabilities	8,427	(13,548)
Total remeasurements included in OCI	(12,812)	(27,329)

34. Pensions (continued)

JPMorgan Cazenove (1987) Pension Scheme (continued)

Movements in the UKS income statement for the year ended 31 December are as follows:

	2018	2017
	$'000	$'000
Current service cost	—	—
Prior services costs	495	—
Interest cost	12,939	13,721
Expected return on plan assets	(11,128)	(11,156)
Administrative expenses paid from plan assets	263	293
Total pension cost recognised in the income statement	2,569	2,858
Exchange rate changes	(4,005)	8,436
Net amount recognised in the income statement	(1,436)	11,294

Movements in the UKS statement of other comprehensive income for the year ended 31 December are as follows:

	2018	2017
	$'000	$'000
Actuarial gain immediately recognised	12,812	27,329

The asset allocation of the UKS defined benefit schemes was as follows:

	2018	2017
	Percentage of plan assets	Percentage of plan assets
	(%)	(%)
Equity securities	36.3	38.4
Bond securities	50.2	61.2
Investment funds	12.3	—
Cash	1.2	0.4
	100	100

35. Share based payments

The Firm has granted long-term stock-based awards to certain key employees under its Long Term Incentive Plan ("LTIP"), as amended and restated effective 19 May 2015 and further amended and restated effective 15 May 2018. Under the terms of the LTIP, as of 31 December 2018, 86 million shares of common stock were available for issuance through May 2019 (2017: 67 million shares). The LTIP is the only active plan under which the Firm is currently granting stock-based incentive awards. In the following discussion, the LTIP, plus prior Firm plans and plans assumed as the result of acquisitions, are referred to collectively as the "LTI Plans" and such plans constitute the Firm's stock-based incentive plans.

35. Share based payments (continued)

The Firm separately recognises compensation expense for each tranche of each award as if it were a separate award with its own vesting date. For each tranche granted, compensation expense is recognised in line with how awards vest from the grant date until the vesting date of the respective tranche, provided that the employees will not become full-career eligible during the vesting period. For awards with full-career eligibility provisions and awards granted with no future substantive service requirement, the Firm accrues the estimated value of awards expected to be awarded to employees as of the grant date without giving consideration to the impact of post-employment restrictions. For each tranche granted to employees of the Company who will become full-career eligible during the vesting period, compensation expense is recognised in line with how awards vest from the grant date until the earlier of the employee's full-career eligibility date or the vesting date of the respective tranche.

Restricted stock units

Restricted stock units ("RSUs") are awarded at no cost to the recipient upon their grant. RSUs are generally granted annually and generally vest at a rate of 50% after two years, 50% after three years, and convert into shares of common stock at the vesting date. In addition, RSUs typically include full-career eligibility provisions, which allow employees to continue to vest upon voluntary termination, subject to post-employment and other restrictions based on age or service-related requirements. All of these awards are subject to forfeiture until vested and contain clawback provisions that may result in cancellation prior to vesting under certain specified circumstances. RSUs entitle the recipient to receive cash payments equivalent to any dividends paid on the underlying common stock during the period the RSUs are outstanding.

Compensation expense for RSUs is measured based upon the number of shares granted multiplied by the stock price at the grant date, and for employee stock options and stock appreciation rights ("SARs") is measured at the grant date using the Black-Scholes valuation model. Compensation expense for these awards is recognised as described above.

Key employee stock options and SARs

Under the LTI Plans, stock options and SARs have generally been granted with an exercise price equal to the fair value of JPMorgan Chase & Co.'s common stock on the grant date. The Firm typically awards SARs to certain key employees once per year; the Firm also periodically grants employee stock options and SARs to individual employees. The 2013 grants of SARs to key employees vest rateably over five years (i.e. 20% per year) and awards contain clawback provisions similar to RSUs. The 2013 grants of SARs contain full-career eligibility provisions. SARs generally expire 10 years after the grant date.

The following table summarises additional information about options and SARs outstanding as at 31 December:

	31 December 2018			31 December 2017		
	Outstanding '000	**Weighted average exercise price $**	**Weighted average remaining contractual life (in years)**	Outstanding '000	Weighted average exercise price $	Weighted average remaining contractual life (in years)
Range of exercise prices						
$min - $20.00	95	19.49	0.05	175	19.49	1.05
$20.01 - $35.00	—	—	—	—	—	—
$35.01 - $50.00	533	43.34	2.01	806	43.56	3.00
$50.01 and above	—	—	—	—	—	—
Total	628	39.73	1.72	981	39.27	2.65

Broad-based employee stock options

No broad-based employee stock options were granted in 2018 or 2017. In prior years, awards were granted by the Firm under the Value Sharing Plan, a non-shareholder-approved plan. For each grant, the exercise price was equal to the Firm's common stock price on the grant date. The options become exercisable over various periods and generally expire 10 years after the grant date.

The weighted average share price during the year ended 31 December 2018 was $110.72 (2017: $92.01).

The total expense for the year relating to share based payments was $382 million (2017: $310 million), all of which relates to equity settled share based payments.

36. Transfers of financial assets

In the course of its normal business activities, the Company makes transfers of financial assets. Depending on the nature of the transaction, this may result in derecognition of the assets in their entirety, partial derecognition or no derecognition 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 derecognition

Assets are transferred under repurchase and securities lending agreements with other banks and financial institutions. In substance, these transactions constitute secured borrowings and therefore the assets are not derecognised 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 they are contractually required to repurchase at a later date. The counterparty's recourse is generally not limited to the transferred assets. The fair value of the collateral and the carrying amounts of the liabilities is disclosed in note 33.

The Company has transferred bonds to a third party, and subsequently entered into a forward sale agreement to repurchase the bond at an agreed price and future date. The Company is contractually required to repurchase the assets, therefore the derecognition criteria have not been met as the Company retains the risks and rewards associated with the financial assets. The assets continue to be recognised on balance sheet together with the related liability.

The Company has also transferred equity securities to third parties in consideration for cash, while simultaneously entering into derivative transactions, with the same counterparty, which are linked to the transferred assets. The derecognition criteria have not been met because the Company retains the risk and rewards associated with the transferred financial assets, therefore the assets continue to be recognised on balance sheet together with the related liability.

The following is a summary of the fair value of the assets and carrying amount of related liabilities:

Fair value of the assets

	Fair value of the assets		Carrying amount of the related liability	
	2018	2017	**2018**	2017
	$'000	$'000	**$'000**	$'000
Financial assets at fair value through profit and loss	2,144,400	1,467,000	1,990,396	1,303,000

Continuing involvement in financial assets that have been derecognised

In some cases, the Company transfers financial assets that it derecognises entirely even though it may have continuing involvement in them. This typically happens when the Company has sold a financial asset to an SPE with limited other assets and enters into a derivative with the SPE to provide investors with a specified exposure (examples include credit-linked note vehicles and asset swap vehicles that are established on behalf of investors). The Company is unlikely to repurchase derecognised financial assets.

The total notional and the market value of all derivatives executed by the Company with such SPEs amounted to $1.4 billion and $516 million as of 2018 ($1.7 billion and $572 million as of 2017). Due to the nature of the derivatives, the maximum exposure to loss is deemed to be the the mark to market on those derivatives.

The assets transferred are recorded at fair value, and as such there are immaterial gains and losses upon the transfer of assets. The year to date gains on the derivatives executed by the Company are $4.6 million as of 2018 ($7.3 million loss as of 2017). The cumulative gains and losses on these derivatives is immaterial. Improvements in analysis resulted in a smaller and more accurate population of assets transferred to SPEs where continued involvement exists. Prior year amounts have been adjusted to conform with current year presentation.

37. Financial risk management

Disclosures in relation to the Company's risk management and capital management have been presented in the Strategic report on pages 2 - 43 which forms part of these financial statements.

38. Transition to IFRS 9

Set out below are disclosures relating to the impact of the adoption of IFRS 9 on the Company.

Reclassification and remeasurement of financial assets and financial liabilities

The following table presents a comparison under IAS 39 and IFRS 9 of each balance sheet line item, measurement category and carrying amount of financial assets and financial liabilities:

		IAS 39		IFRS 9					
		Measurement category[1]	Carrying amount at 31 December 2017	Reclassification: of IAS 39 carrying amounts[2]	Reclassification: to other balance sheet line items	Remeasurement due to reclassification[3]	ECL[4]	Measurement category	Carrying amount at 1 January 2018
$'000	Note								
Assets									
Cash and balances at central banks		Amortised cost	21,677,066	—	—	—	—	Amortised cost	21,677,066
Loans and advances to banks		Amortised cost	9,812,066	—	—	—	—	Amortised cost	9,812,066
Loans and advances to customers	39a	Amortised cost	2,713,517	(1,617,157)	—	—	(584)	Amortised cost	1,095,776
				1,617,157	(56,857)	13,634	(128,492)	FVOCI	1,445,442
Provision for impairment loss		n/a	(101,195)	—	—	—	101,195	n/a	0
Securities purchased under agreements to resell[5]	39b	Amortised cost	133,586,550	(116,241,516)	—	—	—	Amortised cost	17,345,034
		FVTPL	1,799,061	116,241,516	—	48,341	—	FVTPL	118,088,918
Securities borrowed	39b	Amortised cost	24,023,176	(24,023,176)	—	—	—	n/a	—
		FVTPL	3,049,423	24,023,176	—	—	—	FVTPL	27,072,599
Financial assets at fair value through profit and loss[5]		FVTPL (Held for trading)	340,258,613	341,602	—	—	—	FVTPL	340,600,215
		Loans and advances to customers		—	56,857	—	—	FVTPL	56,857
Financial assets designated at fair value through profit or loss		FVTPL (designated)	341,602	(341,602)	—	—	—	n/a	0
Debtors		Amortised cost	79,646,622	—	—	—	—	Amortised cost	79,646,622
Other assets									
Accrued income		Amortised cost	652,028	—	—	—	—	Amortised cost	652,028
Prepayments		n/a	5,427	—	—	—	—	n/a	5,427
Deferred taxation		n/a	104,634	—	—	—	—	n/a	104,634
Investments in JPMorgan Chase undertakings		n/a	3,341,207	—	—	—	—	n/a	3,341,207
Tangible fixed assets		n/a	4,938	—	—	—	—	n/a	4,938
Total assets			**620,914,735**	**—**	**—**	**61,975**	**(27,881)**		**620,948,829**

38. Transition to IFRS 9 (continued)

		IAS 39		IFRS 9				
$'000	Note	Measurement category[1]	Carrying amount at 31 December 2017	Reclassification of IAS 39 carrying amounts[2]	Remeasurement due to reclassification[3]	ECL[4]	Measurement category	Carrying amount at 1 January 2018
Liabilities								
Securities sold under agreements to repurchase	39c	Amortised cost	71,884,545	(71,884,545)	—	—	Amortised cost	—
		FVTPL (designated)	3,052,613	71,884,545	(16,104)	—	FVTPL (designated)	74,921,054
Securities loaned	39c	Amortised cost	12,550,040	(12,550,040)	—	—	n/a	—
		FVTPL (designated)	—	12,550,040	—	—	FVTPL (designated)	12,550,040
Financial liabilities at fair value through profit and loss[5]		FVTPL	308,288,068	—	—	—	FVTPL	308,288,068
Financial liabilities designated at fair value through profit or loss		FVTPL (designated)	1,465,247	—	—	—	FVTPL (designated)	1,465,247
Trade creditors		Amortised cost	30,479,035	—	—	—	Amortised cost	30,479,035
Amounts owed to JPMorgan Chase undertakings		Amortised cost	124,330,471	—	—	—	Amortised cost	124,330,471
Other liabilities								
Accruals		Amortised cost	1,766,668	—	—	—	Amortised cost	1,766,668
Other liabilities		n/a	396,069				n/a	396,069
Other (collateral)		Amortised cost	25,166,853	—	—	—	Amortised cost	25,166,853
Provisions for lending-related commitments		n/a	20,606	—	—	(18,573)	n/a	2,033
Total liabilities			**579,400,215**	**—**	**(16,104)**	**(18,573)**		**579,365,538**
Equity								
Called-up share capital		n/a	12,443,530	—	—	—	n/a	12,443,530
Share premium account		n/a	9,950,724	—	—	—	n/a	9,950,724
Capital redemption reserve		n/a	4,996,040	—	—	—	n/a	4,996,040
Other reserves		n/a	1,563,559	—	—	—	n/a	1,563,559
Other comprehensive income reserve[6]		n/a	138,031	—	13,634	—	n/a	151,665
		n/a					n/a	
Retained earnings		n/a	12,422,636	—	64,445	(9,308)	n/a	12,477,773
Total equity			**41,514,520**	**—**	**78,079**	**(9,308)**		**41,583,291**
Total liabilities and equity			**620,914,735**	**—**	**61,975**	**(27,881)**		**620,948,829**

[1] Under IAS 39 all of the Company's financial assets measured at amortised cost were categorised as loans and receivables.

[2] Reclassifications constitute transfers from the previous IAS 39 categories of FVTPL, held-to-maturity, loans and receivables and available-for-sale to the IFRS 9 categories of amortised cost, FVTPL or FVOCI.

[3] Remeasurements constitute valuation changes relating to reclassification changes from the adoption of IFRS 9, such as a change from amortised cost to FVTPL or FVOCI.

[4] Prior year provision for impairment is separately shown to reflect the impact of ECL.

[5] The financial statement balance sheet lines financial assets held for trading and financial liabilities held for trading as presented in the 31 December 2017 financial statements have been renamed as financial assets held at fair value through profit and loss and financial liabilities at fair value through profit and loss.

[6] OCI reserve is shown as a separate balance sheet line item solely to illustrate the impact of the adoption of IFRS 9. Ordinarily, OCI reserve is included within other reserves on the balance sheet.

38. Transition to IFRS 9 (continued)

The following discussion explains how the Company applied the classification and measurement requirements of IFRS 9 to determine the treatment of certain financial assets and financial liabilities as shown in the table above:

a) Loans and advances to customers

Loans and advances to customers were previously classified as loans and receivables and they were measured at amortised cost under IAS 39. The Company determined these loans and advances have contractual terms that meet the SPPI criteria, but those loans within the Company's Trade Finance and Credit Portfolio Group portfolios are managed with the objective of both collecting contractual cash flows and realising cash flows from sales. Consequently, these loans, which amounted to $1,617 million, were reclassified as FVOCI under IFRS 9. Additionally, at the date of transition the Company identified certain portfolios of loans which it manages with the intention to sell in the short term. These loans, which amounted to $57 million, were classified as FVTPL under IFRS 9. The remainder of the Company's loans and advances to customers are held with the objective to collect contractual cash flows, and they continue to be measured at amortised cost under IFRS 9.

b) Securities purchased under agreements to resell and securities borrowed

Securities purchased under agreements to resell and securities borrowed were previously classified under IAS 39 as:

- loans and receivables measured at amortised cost for those that mature in 12 months or less; and
- designated as measured at fair value through profit or loss for those that mature in more than 12 months or contained an embedded derivative that would have otherwise have required bifurcation.

The Company has determined that these financial instruments within the Corporate and Investment Banking portfolios are managed on a fair value basis and they are therefore ineligible to be measured at amortised cost or FVOCI under IFRS 9. These financial instruments amounted to $116,242 million and $24,023 million, respectively, and were classified as FVTPL on adoption of IFRS 9.

c) Securities sold under agreements to repurchase and securities loaned

Securities sold under agreements to repurchase and securities loaned were previously classified under IAS 39 as:

- financial liabilities measured at amortised cost for those that mature in 12 months or less; and
- designated as measured at fair value through profit or loss for those that mature in more than 12 months or contained an embedded derivative that would have otherwise required bifurcation.

Within the Corporate and Investment Banking portfolio, these financial instruments are managed together with securities purchased under agreements to resell and securities borrowed respectively and on adoption of IFRS 9 these portfolios were measured at FVTPL and the Company elected to designate them as measured at FVTPL to eliminate or significantly reduce measurement inconsistencies (i.e., an accounting mismatch) that would have otherwise been created. The securities sold under agreements to repurchase and securities loaned amounted to $71,885 million and $12,550 million respectively, and were classified as FVTPL on adoption of IFRS 9.

38. Transition to IFRS 9 (continued)

Impairment of financial assets and lending-related commitments

The following table reconciles the 31 December 2017 closing impairment allowance measured under the IAS 39 incurred loss model to the new impairment allowance measured under the IFRS 9 expected credit loss model at 1 January 2018 for financial assets and lending-related commitments held at amortised cost and FVOCI:

Traditional credit products loss allowance on:

	IAS 39	Remeasurement	IFRS 9
$'000	**Loss allowance/ provisions at 31 December 2017**	**ECL**	**ECL at 1 January 2018**
Assets			
Amortised cost			
Loans and advances to customers	(101,195)	(584)	(101,779)
FVOCI			
Loans and advances to customers	—	(27,297)	(27,297)
Total	**(101,195)**	**(27,881)**	**(129,076)**
Liabilities			
Amortised cost			
Lending related commitments	(20,606)	18,573	(2,033)
Total	**(20,606)**	**18,573**	**(2,033)**

The Supplement and the Registration Document are available free of charge during normal business hours on any weekday (Saturdays and public holidays excepted) at the office of the Programme Agent (BNP Paribas Securities Services S.C.A., Frankfurt Branch, Europa-Allee 12, 60327 Frankfurt am Main, Germany) and furthermore are available on the website https://www.jpmorgan-zertifikate.de/en/library/legal-documents/ under the section "Legal documents".

Pursuant to article 16 para. 3 of the German Securities Prospectus Act, investors who have already agreed to purchase or subscribe for securities offered under a prospectus referring to the Registration Document before this Supplement has been published shall have the right, exercisable within a time period of two working days after the publication of this Supplement, to withdraw their acceptances, provided that the new factor, mistake or inaccuracy arose before the final closing of the offer to the public and the delivery of the securities. No grounds must be stated for the withdrawal, which must be made in text form. The timely dispatch of the withdrawal is sufficient to comply with the deadline.

Addressee of a withdrawal is BNP Paribas Securities Services S.C.A., Frankfurt Branch, Europa-Allee 12, 60327 Frankfurt am Main, Germany.