LCH Group Holdings Limited

Report and Consolidated Financial Statements

For the year ended 31 December 2020

Company Registration Number 04743602

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LCH GROUP HOLDINGS LIMITED
DIRECTORS AND OFFICERS

Board of Directors

Name	Type of director	Note
Daniel Maguire (CEO)	Executive	
Diane Michele Bouwmeester	Executive	Appointed 9 September 2020
Matthew Charles Anthony Couch	Executive	Appointed 9 September 2020
John Horkan	Executive	Appointed 9 September 2020
Dennis McLaughlin	Executive	Appointed 9 September 2020
Marshall Charles Bailey, OBE (Chairman)	Independent	Resigned 9 September 2020
Leonard (Lex) Hoogduin	Independent	Resigned 9 September 2020
Jill Considine	Independent	Resigned 30 April 2020
Shona Milne	Independent	Resigned 9 September 2020
James Andrew Hudis	Independent	Resigned 9 September 2020
Ronaldus Berndsen	Independent	Resigned 9 September 2020
Jonathan Desler	Shareholder representative	Resigned 9 September 2020
Puneet Malhi	Shareholder representative	Resigned 9 September 2020
Jonathan Cossey	Shareholder representative	Resigned 9 September 2020
David Schwimmer (LSEG)	Shareholder representative	Resigned 9 September 2020
Chris Corrado (LSEG)	Shareholder representative	Resigned 6 January 2020
David Warren (LSEG)	Shareholder representative	Resigned 9 September 2020

Company Secretary

Simon Tutton

Registered Office

Aldgate House
33 Aldgate High Street
London
EC3N 1EA

Independent Auditors

Ernst & Young LLP
25 Churchill Place
London
E14 5EY

Telephone: +44 (0) 20 7426 7000

LCH Group Holdings Limited (the “group”) is a majority owned subsidiary of London Stock Exchange Group plc (“LSEG”) and is the parent of the LCH group of companies.

Business model

The LCH group ("LCH" or the "group") is a leading multinational clearing house, with clearing operations in the UK, Eurozone, US, and an expanding presence in the Asia-Pacific region. LCH provides services to mitigate counterparty risk across multiple asset classes for clearing members and their clients, operating through an open access model that clears for the group's markets and other major exchanges and platforms as well as a range of over-the-counter ("OTC") markets.

LCH sits in the middle of a trade as the buyer to every seller and the seller to every buyer. If either party defaults on the trade, LCH owns the defaulter's risk and becomes accountable for its liabilities. Fundamental to LCH's risk process is its collection of quality collateral from clearing members and clients as insurance to recover or replace defaulted risk. During the life of a trade, or that of a portfolio of trades, LCH processes all cashflows and marks the trade or book to market, calling variation and initial margin in relation to prevailing risk of the overall portfolio.

LCH earns its revenue in the OTC derivatives markets by charging members either an annual fee for all clearing or a lower annual fee with variable fees based on volume. Additional fees are levied for services such as compression. Clients pay a fee based on OTC volume cleared. In non-OTC markets, all users pay a fee based on volumes or value cleared. Net treasury income is earned on cash held for margin and default funds.

Operating subsidiaries

LCH Limited continues to satisfy the requirements of the Bank of England as a recognised clearing house in the UK and the requirements of all other regulatory bodies to whose rules it is subject (note 25). It provides central counterparty ("CCP") clearing services in respect of a broad range of cash and derivative products traded on or through various exchanges and trading platforms in the UK, Europe, Asia and the US as well as those traded in OTC markets.

LCH SA (Banque Centrale de Compensation SA), regulated by the L'Autorité de Contrôle Prudentiel et de Résolution ("ACPR"), acts as the clearing house for regulated markets in France, the Netherlands, Belgium and Portugal and for fixed income products and credit default swaps ("CDS") traded either on regulated markets or trading platforms located in France, the UK and Italy. Its principal business is the provision of CCP clearing services in respect of equities and bonds, interest rate and commodity futures and options, equity and index futures and options, OTC bonds and repurchase agreements and CDS.

LCH SwapAgent Limited launched in May 2017, and provides processing, margining, and settlement of bilateral, non-cleared derivatives as an agent. The company is not regulated.

Strategic objectives

The group's strategic objectives are to:

- provide market leading risk management and clearing solutions;
- manage our members' and clients' risk by providing effective and efficient clearing services; and
- promote a safe and stable financial market foremost in all that we do.

The strategy for achieving these objectives is to continue to offer our proven risk management capabilities across a range of asset classes with a commitment to partner with our members to develop the services that make markets more efficient and safe.

Key performance indicators

Non-financial key performance indicators utilised by the directors to measure the group's progress are as follows:

	2020	2019	Variance
SwapClear			
Notional cleared (US$ trillion)	1,059	1,230	-14%
Client trades ('000)	1,784	1,681	6%
CDSClear: notional cleared (€ billion)	2,395	1,507*	59%
ForexClear: notional cleared (US$ billion)	18,987	18,050	5%
Fixed income: notional cleared (€ trillion)	205	212*	-3%
Listed derivatives: contracts cleared (million)	341	290*	18%
Cash equities: trades cleared (million)	1,962	1,396*	41%
Average cash collateral (€ billion)	110	98	12%

Discussion of the key performance indicators is included in the development and performance section below.

*Please note that the basis of some KPI's have changed to be consistent with other publications.

Development and performance

Total income was up 12% to €966.7 million with good performance from clearing fees and strong growth in net treasury income and non-cash collateral. Operating expenses were up 9% to €292.7 million on an underlying basis.

OTC derivatives clearing revenue was broadly flat at €347.5 million. Non-OTC clearing revenue was €184.7million, up 16% on 2019, driven by strong growth in fixed income volumes cleared.

Other revenue, which includes compression services, fees for managing non-cash collateral, pass-through cost, and revenue share, increased by 9% to €154.6 million.

Net treasury income was up 29% to €302.8m.

SwapClear

SwapClear is the global market leader for OTC Interest Rate Swap ("IRS") clearing, offering access to a deep pool of liquidity across 27 currencies.

In 2020 total notional cleared was US$1.1 quadrillion (2019: US$1.2 quadrillion). Client trades increased by 6% to 1,784,000 (2019: 1,681,000). In 2020, US$747.2 trillion in notional, and 5.2 million trades were compressed over the period, enabling members and their clients to benefit from capital and operational efficiencies.

During the year, LCH continued to support the global efforts to reform reference rates, successfully completing the switch to €STR discounting in July 2020, with €81.3 trillion in notional transitioned. The transition to SOFR discounting saw US$120 trillion in notional transitioning to the risk-free rate in October 2020.

SwapClear also became the first clearing house to offer Singapore Dollar swaps benchmarked to SORA and launched clearing for Israeli Shekel-denominated swaps in September 2020. SwapClear now offers clearing for interest rate derivatives across 27 currencies.

SwapAgent

SwapAgent, LCH's service which is designed to simplify the processing, margining and settlement of non-cleared derivatives, saw membership increased from 16 to 29 members during the year and the service registered $2.0 trillion in notional at the end of 2020, up from $0.7 trillion in 2019. In September, the service processed its first SONIA/SOFR cross-currency basis swap, highlighting SwapAgent's commitment to reference rates reform. The service also facilitated the transition of non-cleared derivatives to €STR and SOFR discounting.

ForexClear

ForexClear continued to demonstrate growth in its deliverable and client clearing service in 2020, with US$19 trillion cleared across the service in 2020, up from US$18 trillion in notional cleared during 2019. Of this, US$689.5 billion in notional in deliverable options and forwards was cleared through ForexClear, up from US$456.5 bn in 2019. US$167.2 billion was cleared by clients in 2020, up from US$60.8 billion in 2019.

ForexClear successfully launched non-deliverable FX options clearing across nine currency pairs, complementing clearing of non-deliverable FX forwards, deliverable FX options and deliverable FX forwards. Clearing the new product creates further opportunities for clearing members and their clients to achieve operational and capital efficiencies through portfolio netting with products already cleared at ForexClear.

The Uncleared Margin Rules ("UMR") continue to provide economic incentives for institutions when they clear their FX trades and we expect to add more members and clients to this service as counterparties are captured by the widening UMR requirements. In April 2020, the final two implementation phases of the UMR were delayed by 12 months due to the Covid-19 pandemic, this delay will result in their implementation in September 2021 and 2022.

CDSClear

CDSClear showed strong growth with €2.4 trillion in Options, Index and Single Name notional cleared in 2020, up from €1.5 trillion in 2019. This includes €193 billion up from €42.9 billion in 2019 in client cleared notional and €70 billion options notional cleared in 2020 up from €17.1 billion in 2019. CDSClear also significantly expanded its broad product offering, launching clearing of US credit index options in December 2020 and European Subordinated Financials Index and Single Names CDS in February. It also went live clearing the iTraxx MSCI ESG Screened Europe Index in September.

RepoClear

In 2020, RepoClear had a nominal value cleared of €205 trillion (2019: €212 trillion). In 2020, RepoClear onboarded new members from jurisdictions including Canada and Luxembourg, as well as welcoming the European Investment Bank as the first supranational clearing member of LCH SA. In terms of product offering, LCH went live clearing the EU's SURE bonds at LCH SA. These bonds are also eligible for posting as collateral at LCH.

EquityClear

EquityClear clears for more than 16 different trading venues, demonstrating our commitment to an open access approach. The number of trades cleared in 2020 increased by 41% to 1,962 million (2019: 1,396 million). EquityClear implemented a new LSEG Technology Post Trade Platform, which successfully processed all-time record equity clearing volumes in March 2020. In Q4 2020, LCH SA went live offering clearing for Cboe Europe for equities clearing and connected to Oslo Børs Derivatives Market to provide clearing for listed equity derivatives contracts.

Net treasury income

The increase in net treasury income in 2020 was largely driven by the increase in average cash collateral held, which rose by 12% to €110 billion (2019: €98 billion), which in turn is primarily driven by volumes cleared and market volatility during the first half of 2020.

Section 172 (1) statement

Section 172 of the Companies Act 2006 requires a director of a company to act in the way he or she considers, in good faith, would most likely promote the success of the company for the benefit of its members as a whole. In doing this, section 172 requires a director to have regard, amongst other matters, to the:

- likely consequences of any decisions in the long-term;
- interests of the company's employees;
- need to foster the company's business relationships with suppliers, customers, and others;
- impact of the company's operations on the community and environment;
- desirability of the company maintaining a reputation for high standards of business conduct, and
- need to act fairly as between members of the company.

In discharging our section 172 duties we have regard to the factors set out above and give careful consideration to those factors when discharging those duties. We also have regard to other factors which we consider relevant to our decisions. Those factors, for example, include the interests and views of LCH group's customers, workforce, and regulators. We acknowledge that every decision we make will not necessarily result in a positive outcome for all of our stakeholders, however we do aim to make sure that our decisions are informed and appropriate in the circumstances. The board recognises that building strong relationships with LCH group's stakeholders will help deliver the LCH group's strategy in line with our long-term values and operate the business in a sustainable way.

As the Company's primary purpose is to act as a holding company for the other entities in the LCH Group and as it is a majority owned subsidiary of LSEG, certain engagement practices take place at a subsidiary level and/or LSEG level. For details of these engagement practices, please refer to the LCH Limited Annual Report and Accounts for the financial period ended 31 December 2020 and the London Stock Exchange Group Plc Annual Report and Accounts for the financial period ended 31 December 2020.

As is normal for large companies, we delegate authority for day-to-day management of the Company to the executives and then engage management in setting, approving, and overseeing execution of the business strategy and related policies. We periodically reviewed financial and operational performance, customer-related matters, and legal and regulatory compliance. We also review other areas over the course of the financial year including the Company's business strategy, key risks, and workforce matter (including culture, diversity, and wellbeing). This was achieved through consideration and discussion of reports which are sent to directors in advance each Board meeting and through presentations to the board. As a result of this we have had an overview of engagement with stakeholders and other relevant factors which allows us to understand the nature of the stakeholders' concerns and to comply with our section 172 duty to promote success of the Company.

In each board pack, the board are provided with a memorandum reminding them of, and providing guidance in connection with, their duties and responsibilities, including those set out in section 172 (1)(a)-(f).We set out below some examples of how we have had regard to the matters set out in section 172(1)(a)-(f) when discharging our section 172 duty and the effect of that on decisions taken by us.

Regulators

During the year, members of the board met with the Company's regulators and those of its subsidiaries to continue to foster its relationships and to better understand their perspective and expectations on matters that are critical to our businesses including Brexit, operational resilience including cyber preparedness and regulatory capital. The Company also regularly participates in regulatory consultations on proposed future developments impacting our businesses.

Workforce

Engagement with our workforce includes formal and informal meetings, an annual engagement survey and town hall meetings to keep the workforce up-to-date on business developments and financial and economic factors affecting the Company's performance. Many of these provide a forum in which employees can ask and management can answer questions.

During the year, the board received an update on the initiatives being taken to ensure the wellbeing of staff whilst they worked on a remote basis due to the Covid-19 pandemic. pandemic, including financial support for purchasing IT equipment. The Board also received the results of the 2019 Have Your Say survey and the work being undertaken by management in partnership with the You Matter group to address the findings, in particular on career development, training, diversity and inclusion. You Matter is a LCH employee driven supporting a change for a healthier working environment.

Directors have also had opportunities to directly engage with management and other colleagues through their attendance at board meetings, where employee matters are aired and feedback from employee representatives is considered.

Workforce engagement and activity is also supported by LSEG-led mechanisms, including the opportunity to participate in a share option scheme, details of which can be found the London Stock Exchange Group Plc Annual Report and Accounts for the financial period ended 31 December 2020. For details on some of the engagement that takes place with the Company's workforce at a group level, please refer to the London Stock Exchange Group Plc Annual Report and Accounts for the financial period ended 31 December 2020.

Customers

The boards of the Company's subsidiaries LCH Limited and LCH SA include within their membership representatives of clearing members, and shareholders, thereby allowing these groups of stakeholders to be part of decision making on the design of services, rules, overall strategy and major decisions, including approval of the annual budget and LCH Group's approach to reference rate reform. In addition, the Risk Committee of LCH Limited and LCH SA include in within their members representatives of clearing members and clients. The Risk Committees act as forums for consultation on recommendations to be made to the relevant board on risk matters including matters relating to new clearing activity. For example, in 2020 the Risk Committee of LCH Limited recommended for approval the introduction of clearing for Israeli Shekel-denominated swaps by SwapClear.

Governance Changes

During the year the Board approved changes to its composition and governance arrangements, which were subject to shareholder and regulatory approvals.

The Company's Board composition and governance arrangements were established in May 2013, following LSEG's acquisition of a majority stake (57.8%)in the Company, to reflect the ownership of the Company at that time, as well as LSEG's requirements for appropriate controls as majority shareholder and the need for significant stakeholder representation. Since May 2013, LSEG has incrementally increased its ownership of the Company (through its wholly owned subsidiary, London Stock Exchange (C) Limited ("LSE.C")) by 24.81 per cent., taking its shareholding up to 82.61 per cent. In light of LSEG's increased ownership of the Company, the pre-existing governance arrangement were deemed to be overly complex.

The governance changes considered by the board were designed to streamline the Board and its associated governance framework and to remove duplication of governance between the Company and its subsidiaries, thereby achieving efficiency of decision-making and cost savings, whilst preserving Customer involvement in the CCPs' commercial and governance arrangements. The governance changes approved by the Board relating to the Company included;

- Termination of the Relationship Agreement between the Company, LSEG and LSE.C;
- Removal of all independent non-executive directors and non-executive directors representing customers who are shareholders of the Company from the Board's composition;
- Dissolution of all Board sub-committees; and
- Adoption of new articles of association of the Company in order to (i) reflect the changes in the board's composition and quorum requirements, (ii) simplify the articles given the changes to the share register of the Company, (iii) removal of historic provisions and the provisions relating to certain capital securities in the event of a capital deficiency event which are no longer applicable, and (iv) other minor changes of an administrative nature.

In approving the changes to the Company's governance arrangements, in particular the change of the removal of independent non-executive directors and representatives of customers from the board's composition, the board considered LSEG's demonstrable commitment to the LCH Group's open access model whereby market participants are able to clear eligible trades regardless of the venue they are traded on, which the Company believes helps drive innovation, lower clearing costs and provide improved service standards for all users.

In addition, the board also took into consideration LSEG's open and trusted dialogue and relationships with LCH Group's regulators and strong partnership with LCH Group customers, which rendered the governance arrangements unduly complicated.

The Board also approved the changes as some aspects of its governance arrangements had ceased to have relevance given the change in circumstances of the LCH Group, the Company's shareholder register, the changing regulatory landscape, and the evolving market infrastructure sector.

Capital Considerations

The Covid19 pandemic has had a far-reaching impact across the world in 2020. As the immediate parent company of a systemically important institution, the board's focus remained on LCH Group's commitment to maintain financial stability, operational resilience, and continuity of service for its customers, as well as the wellbeing of its workforce.

The board has reviewed the capital requirements of its subsidiaries, to ensure they maintain strong balance sheets, taking into account future prospects relative to uncertainties in the external environment. In doing so, the board has taken into consideration the views of the Company's regulators and the interests of its shareholders.

In order to preserve the Company's and LCH Group's strong capital position, in response to the Covid19 pandemic, the board approved the delay and subsequent cancellation of the 2019 final dividend to its shareholders, to ensure sufficient capital was preserved in the event of further market volatility and uncertainty caused by the Covid19 pandemic.

In making its decisions the board considered, amongst other things, the impact on the long-term position of the Company, as well as feedback received from engagement exercises conducted with the workforce throughout the year and dialogue with its customers and regulators.

Principal risks and uncertainties

The group's activities expose it to a number of risks, principally market risk (financial market volatility, interest rate risk, foreign exchange risk), sovereign risk, credit risk, liquidity risk, operational risk, regulatory risk, and capital risk. The group manages these risks through various control mechanisms and its approach to risk management is to be prudent yet responsive to changes in the risk environment.

Note 2 provides descriptions of these risks and details the means by which the group mitigates them.

Details of the group's capital management processes are provided in note 25.

By order of the board:

Daniel Maguire
CEO
LCH Group Holdings Limited
2 March 2021

The directors of LCH Group Holdings Limited (the "Company"), registered in England and Wales with company number 04743602, present their report to the shareholders, together with the audited consolidated financial statements for the year ended 31 December 2020. The principal activity of the Company is the holding of investments in operating subsidiaries.

Directors

The current directors and changes made during the year ended and subsequent to 31 December 2020 are detailed on page 1.

Indemnity of directors

Directors are entitled to be indemnified by the group against all costs, charges, losses, and liabilities incurred by them in the proper exercise of their duties. Directors who have resigned during the year may also benefit from the same indemnity arrangement.

Transactions with directors and related parties

Details of transactions with related parties are set out in note 27 to the consolidated financial statements. There were no transactions, other than those disclosed in note 19, with directors during the year.

Statement of directors' responsibilities

The directors are responsible for preparing the strategic report, directors' report, and financial statements in accordance with applicable United Kingdom law and International Accounting Standards (IAS) in conformity with the requirements of the Companies Act 2006.

Under company law the directors must not approve the financial statements unless they are satisfied that they present fairly the financial position, financial performance, and cash flows of the Company for that period. In preparing the financial statements the directors are required to:

- select suitable accounting policies in accordance with IAS 8, Accounting Policies, Changes in Accounting Estimates and Errors, and then apply them consistently;
- present information, including accounting policies, in a manner that provides relevant, reliable, comparable, and understandable information;
- provide additional disclosures when compliance with specific requirements in IAS is insufficient to enable users to understand the impact of particular transactions, other events and conditions on the Company's financial position and financial performance;
- state that the Company has complied with IAS, subject to any material departures disclosed and explained in the financial statements; and
- make judgements and estimates that are reasonable and prudent.

The directors are responsible for keeping adequate accounting records which disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Staff

It is the policy of the group as a whole to ensure that no staff members or job applicants face discrimination on the grounds of ethnic origin, colour, religion, gender, sexual orientation, age, or disability. The Group encourages and assists employees with a disability with training, career development and promotion opportunities, and where existing employees become disabled, our policy is to provide continuing employment and training wherever possible. Staff involvement is encouraged through regular meetings and information is shared with staff through web based communication. The Group recognises its responsibilities to provide a safe working environment for its staff and measures are in place to ensure that the appropriate health and safety at work regulations are strictly observed in all workplaces.

Employee and stakeholder engagement

For details of the group's employee and stakeholder engagement, please see the section 172(1) statement in the strategic report on page 6.

Corporate responsibility

The group, as part of LSEG, has a zero-tolerance approach to modern slavery. A 'Slavery and Human trafficking statement' is published on LSEG's website (https://www.lseg.com/about-london-stock-exchange-group/corporate-responsibility/modern-slavery-act-statement) that describes the action plan and steps to be taken during 2021 to improve the supply chain management and procurement processes and procedures.

Other policies relating to the group's corporate responsibility are also published on the website.

During the year, the group made charitable donations of €0.6 million (2019: €0.5 million) to organisations based in the UK.

Dividends

On 25 February 2021, the directors of the Company recommended a full year dividend for the year ended 31 December 2020 of €5.20 per ordinary share, subject to appropriate regulatory review and shareholder approval.

The final dividend for 2019 of €210.0 million was delayed and then cancelled by the Board of Directors on 22 December 2020 in order to preserve capital during the Covid-19 pandemic uncertainty and in line with regulatory guidance.

Financial instruments

Details of the group's financial instruments are provided in note 20.

Going concern and liquidity risk

The directors have made an assessment of the Group's ability to continue as a going concern and to meet current and future regulatory capital. This has been done using the Group's Medium Term Financial Plan ("MTFP"), sensitivity analysis and stress testing possible scenarios. The impact of the Covid-19 pandemic has been considered as part of the going concern assessment. The directors are satisfied that it has the resources to continue in business for the foreseeable future, at least twelve months from when the financial statements are authorised for issue. Contracts for the majority of the exchanges for which the Group clears have a notice period of at least 1 year. The Group has a large number of clearing members and is not unduly reliant on any single clearing member or group of clearing members.

Furthermore, the directors are not currently aware of any material uncertainties that may cast significant doubt upon the Group's ability to continue as a going concern. Therefore, the financial statements continue to be prepared on the going concern basis.

COVID-19

The ongoing impact of Covid-19 on the Group has been considered in the preparation of these financial statements. At the reporting date, no material short-term negative impacts have crystallised and the Group remains confident about its long-term future performance but remains vigilant in monitoring day-to-day changes as the global situation evolves. Staff and customer safety remain the paramount concerns of the Group and it has adapted successfully to the new ways of working. The Group has activated contingency arrangements and the majority of its employees are working from home. The Group has received no government grants and has not furloughed any staff in relation to the Covid-19 pandemic.

Overseas branches

The group's CCP companies have a number of overseas branches which are detailed in full in note 30.

Government grants

The group receives government grants in the form of tax credits in both the UK and France for research and development work carried out. The amounts have been recognised in the results of the group when it is deemed likely that the credits will be received (note 28). The group carries out research and development into software for future use.

Brexit

Under the time-limited equivalence (until June 2022) granted by the European Commission for UK CCP's, LCH Limited is now officially recognised as a Third Country CCP in the EU and the Tier 2 status means LCH Limited is still directly subject to EMIR standards and directly supervised by ESMA.

From a customer perspective, this means no change either in standards or day-to-day operations. All processes and services remain unchanged.

LCH SA have also been granted approval to continue to offer services to the UK.

Disclosure of information to the auditors

Each of the persons who is a director at the date of approval of this report confirms that:

- so far as the director is aware there is no relevant audit information of which the group's auditors are unaware; and
- the director has taken all steps that they ought to have taken as director in order to make themselves aware of any relevant audit information and to establish that the group's auditors are aware of that information.

Auditors

Ernst & Young LLP are deemed to have been reappointed as the Company's auditor under the provisions of the Companies Act 2006.

By order of the board:

Daniel Maguire
CEO
LCH Group Holdings Limited
2 March 2021

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF LCH GROUP HOLDINGS LIMITED

Opinion

We have audited the financial statements of LCH Group Holdings Limited ('the parent company') and its subsidiaries (the 'group') for the year ended 31 December 2020 which comprise the Consolidated Income Statement, the Consolidated Statement of Comprehensive Income, the Consolidated Statement of Financial Position, the Consolidated Statement of Cashflows, the Consolidated Statement of Changes in Equity, the parent company Statement of Financial Position, the parent company Statement of Cash Flows, the parent company Statement of Changes in Equity and the related Notes 1 to 36, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and International Accounting Standards in conformity with the requirements of the Companies Act 2006 and, as regards the parent company financial statements, as applied in accordance with section 408 of the Companies Act 2006.

In our opinion:

- the financial statements give a true and fair view of the group's and of the parent company's affairs as at 31 December 2020 and of the group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with International Accounting Standards in conformity with the requirements of the Companies Act 2006;
- the parent company financial statements have been properly prepared in accordance with International Accounting Standards in conformity with the requirements of the Companies Act 2006 as applied in accordance with section 408 of the Companies Act 2006; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Our evaluation of the directors' assessment of the group and parent company's ability to continue to adopt the going concern basis of accounting included:

- Obtaining an understanding of management's basis for use of the going concern basis of accounting through reviewing the going concern assessment and underlying forecasts and assumptions, and through inquiries of management and those charged with governance;
- Assessing the appropriateness of key assumptions made by management in the Group's business plan by comparing them to historical performance and challenging the achievability of budgeted growth. In assessing the reasonableness of management's key assumptions, we considered the impact of COVID-19, the trading environment, principal risks and appropriate mitigating factors. We performed back-testing by comparing the budget of prior periods to actual results to assess the accuracy of management's historical business plan;
- Testing the clerical accuracy of management's going concern model including the data used in stress testing;

- Evaluating the reasonableness of management's adverse forecasts by benchmarking the stress testing scenario assumptions against external data and evaluated the plausibility of management actions available to mitigate the impact of the reverse stress test;
- Evaluating the level of liquidity of the Group to support ongoing requirements; and
- Assessing the appropriateness of the going concern disclosures by evaluating its consistency with management's assessment and its compliance with International Accounting Standards and its conformity with the requirements of the Companies Act 2006.

We have observed that the Group was not adversely impacted by the COVID 19 pandemic but actually benefited from the market volatility especially in the month of March 2020. Separately, the Group is also not impacted by Brexit due to a time-limited equivalence until June 2022 granted by the European Commission to LCH Limited, the Group's wholly owned UK CCP subsidiary. LCH Limited is now officially recognised as a Third Country CCP in the EU and the Tier 2 status means LCH Limited is still directly subject to EMIR standards and directly supervised by ESMA. Additionally, the Board of Directors of the Group has taken a prudent step in cancelling the final dividend of €210m for 2019 in order to preserve and maintain a high level of liquidity and capital buffer during the COVID-19 pandemic uncertainty and in line with regulatory guidance.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group and parent company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the group's ability to continue as a going concern.

Other information

The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. The directors are responsible for the other information contained within the annual report.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

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 course of the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and directors' report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

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

Responsibilities of directors

As explained more fully in the directors' responsibilities statement set out on page 9 the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors 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 group's and the parent 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 group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's 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 auditor's 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.

Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud. 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. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below. However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management.

Our approach was as follows:

- We obtained an understanding of the legal and regulatory frameworks that are applicable to the Group and determined that the most significant are the Companies Act 2006, the International Accounting Standards in conformity with the requirements of the Companies Act 2006, and tax legislation (governed by HM Revenue and Customs).

- We understood how the Group is complying with those frameworks by making enquiries of senior management, including the Group Chief Financial Officer, the Group General Counsel, the Group Chief Risk Officer, the Group Head of Compliance and the Group Head of Internal Audit. We also reviewed significant correspondence between the Group and regulatory bodies, reviewed minutes of the Board, Risk Committee and gained an understanding of the Group's approach to governance, demonstrated by the Board's approval of the Group's governance framework and the Board's review of the Group's risk management framework and internal control processes.
- We assessed the susceptibility of the Group's financial statements to material misstatement, including how fraud might occur by considering the risk of management override to be a fraud risk. We considered the controls that the Group has established to address risks identified by the Group, or that otherwise seek to prevent, deter or detect fraud. We also considered performance and incentive plan targets and their potential to influence management to manage earnings or influence the perceptions of key stakeholders.
- Based on this understanding we designed our audit procedures to identify non-compliance with such laws and regulations. Our procedures involved journal entry testing and inquiries of senior management, internal audit, the money laundering reporting officer (MLRO) and those responsible for legal, risk and compliance at the Group. We then corroborated our enquiries through review of board and committee minutes, whistleblowing log, Group policies and correspondence with relevant regulatory authorities.

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

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Ernst & Young LLP

Nicholas Dawes (Senior statutory auditor)
for and on behalf of Ernst & Young LLP, Statutory Auditor
London
2 March 2021

Notes:

1. The maintenance and integrity of the LCH Group Holdings Limited web site is the responsibility of the directors; the work carried out by the auditors does not involve consideration of these matters and, accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially presented on the web site.
2. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

LCH GROUP HOLDINGS LIMITED
CONSOLIDATED INCOME STATEMENT
Year ended 31 December 2020

		2020			2019		
	Note	Underlying €m	Non-underlying €m	Total €m	Underlying €m	Non-underlying €m	Total €m
Clearing fees	4	532.2	-	532.2	510.0	-	510.0
Other fee income	4	154.6	-	154.6	141.4	-	141.4
Revenue sharing arrangements	4	(32.5)	-	(32.5)	(24.2)	-	(24.2)
Net revenue		654.3	-	654.3	627.2	-	627.2
Treasury income	20	661.0		661.0	1,327.8	-	1,327.8
Treasury expense	20	(358.2)		(358.2)	(1,092.8)	-	(1,092.8)
Net treasury income		302.8	-	302.8	235.0	-	235.0
Settlement fees recovered	4	43.2	-	43.2	33.0	-	33.0
Settlement fees paid	4	(34.2)	-	(34.2)	(33.5)	-	(33.5)
Net settlement fees		9.0	-	9.0	(0.5)	-	(0.5)
Other income	4	0.6	-	0.6	-	-	-
Total income		966.7	-	966.7	861.7	-	861.7
Cost of sales		(151.8)	-	(151.8)	(129.9)	-	(129.9)
Gross profit		814.9	-	814.9	731.8	-	731.8
Operating expenses	5	(292.7)	0.5	(292.2)	(267.4)	(6.9)	(274.3)
Earnings before interest, tax, depreciation, amortisation and impairment		522.2	0.5	522.7	464.4	(6.9)	457.5
Depreciation, amortisation and impairment	5	(78.7)	-	(78.7)	(86.0)	-	(86.0)
Operating profit/(loss)		443.5	0.5	444.0	378.4	(6.9)	371.5
Finance income	7	3.0	-	3.0	2.7	-	2.7
Finance expense	7	(5.2)	-	(5.2)	(4.1)	-	(4.1)
Net finance expense		(2.2)	-	(2.2)	(1.4)	-	(1.4)
Profit/(loss) before tax		441.3	0.5	441.8	377.0	(6.9)	370.1
Taxation	8	(99.1)	(0.1)	(99.2)	(88.6)	1.7	(86.9)
Profit/(loss) for the year		342.2	0.4	342.6	288.4	(5.2)	283.2
Profit/(loss) attributable to:							
Equity holders		332.4	0.4	332.8	280.3	(5.1)	275.2
Non-controlling interests		9.8	-	9.8	8.1	(0.1)	8.0

The transactions in the current and prior years were derived from continuing operations.

The notes on pages 22 to 74 form an integral part of these consolidated financial statements.

LCH GROUP HOLDINGS LIMITED
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 December 2020

	Note	2020 €m	2019 €m
Profit for the year		342.6	283.2
Items that may be subsequently reclassified to profit or loss:			
Net gains/(losses) on the revaluation of financial assets through OCI		19.4	1.9
Net (gains)/losses on amounts reclassified to the income statement		(4.6)	(1.8)
Exchange gain/(loss) on retranslation of foreign operations		(0.8)	0.9
Tax on revaluation of financial assets that may be reclassified to profit or loss	8	(2.1)	(0.1)
		11.9	0.9
Items that will not be subsequently reclassified to profit or loss:			
Remeasurement gains/(losses) on UK defined benefit plan		(0.5)	12.1
Deferred tax relating to remeasurement of the UK defined benefit plan	8	(1.1)	(3.5)
Exchange (losses)/gains on translation of deferred tax on UK defined benefit plan		1.2	(1.1)
Remeasurement gains on overseas defined benefit plans	19	(0.3)	0.1
Deferred tax relating to the remeasurement of overseas defined benefit plans	8	0.3	0.3
		(0.4)	7.9
Total comprehensive income for the year		354.1	292.0
Total comprehensive income attributable to:			
Equity holders		344.3	284.0
Non-controlling interests		9.8	8.0
Total comprehensive income for the year		354.1	292.0

The transactions in the current and prior years were derived from continuing operations.

The notes on pages 22 to 74 form an integral part of these consolidated financial statements.

LCH GROUP HOLDINGS LIMITED
CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 31 December 2020

	Note	2020 €m	2019 €m
Non-current assets			
Intangible assets	9	373.6	387.3
Property, plant and equipment	11	28.3	33.8
Trade and other receivables	13	1.0	4.3
Employment benefits	19	70.0	69.1
Deferred tax assets	8	6.8	6.9
Total non-current assets		479.7	501.4
Current assets			
Trade and other receivables	13	248.3	174.6
Group relief receivable		0.4	3.8
Current tax asset		11.4	-
Loans and borrowings	17	249.0	46.8
Balances with clearing members	12	703,745.1	667,589.7
Clearing business investments in financial assets	20	21,320.8	22,189.2
Clearing business cash and cash equivalents	20	84,841.1	75,159.3
Cash and cash equivalents	14	1,102.8	949.3
Total current assets		811,518.9	766,112.7
Total assets		811,998.6	766,614.1
Liabilities			
Current liabilities			
Trade and other payables	15	(316.5)	(390.5)
Current tax liabilities		(18.9)	(33.0)
Provisions	21	(0.2)	(3.8)
Balances with clearing members	12	(795,485.2)	(749,377.1)
Default funds	18	(14,489.4)	(15,467.3)
Total current liabilities		(810,310.2)	(765,271.7)
Non-current liabilities			
Trade and other payables	15	(20.8)	(26.2)
Provisions	21	(0.6)	(0.6)
Deferred tax liabilities	8	(16.6)	(14.0)
Retirement benefit obligations	19	(7.3)	(6.8)
Total non-current liabilities		(45.3)	(47.6)
Total liabilities		(810,355.5)	(765,319.3)
Net assets		1,643.1	1,294.8
Equity: Capital and reserves attributable to the Company's equity holders			
Ordinary share capital	23	72.5	72.5
Share premium	23	316.1	316.1
Merger reserve		15.3	15.3
Capital redemption reserve		61.2	61.2
Translation reserve		4.5	5.3
Retained earnings		1,121.2	774.1
Total shareholders' funds		1,590.8	1,244.5
Non-controlling interests		52.3	50.3
Total equity		1,643.1	1,294.8

The notes on pages 22 to 74 form an integral part of these consolidated financial statements.

The financial statements were approved by the board on 2 March 2021 and signed on its behalf by:

Daniel Maguire
CEO
LCH Group Holdings Limited
2 March 2021

LCH GROUP HOLDINGS LIMITED
CONSOLIDATED STATEMENT OF CASHFLOWS
Year ended 31 December 2020

	Note	2020 €m	2019 €m
Cashflows arising from operating activities			
Net cash (out)/inflow from operations	29	(306.9)	6,222.8
Tax paid		(118.4)	(61.3)
Net cash (out)/inflow from operating activities		(425.3)	6,161.5
Cashflows arising from investing activities			
Investment in intangible assets		(99.1)	(93.7)
Disposals in intangible assets		41.5	-
Purchase of property, plant and equipment		(0.8)	(4.0)
Redemption of clearing business other financial assets		868.3	(5,840.1)
Net cash in/(out)flow from investing activities		809.9	(5,937.8)
Cashflows arising from financing activities			
Interest received		0.1	0.7
Interest paid		(5.2)	(3.7)
Loan repaid from parent company		-	41.2
Loan granted to parent company		(201.2)	-
Dividends paid		(7.8)	(208.0)
Share-based payments contribution		(10.1)	(7.4)
Lease interest payment		(0.2)	(0.3)
Finance lease principal payments		(5.6)	(7.9)
Net cash outflow from financing activities		(230.0)	(185.4)
Increase in cash and cash equivalents		154.6	38.3
Cash and cash equivalents at 1 January		949.3	903.3
Effects of foreign exchange movements		(1.1)	7.7
Cash and cash equivalents at 31 December		1,102.8	949.3
Cash and cash equivalents at 31 December comprise:			
Short-term deposits		784.9	599.0
Cash at bank and in hand		317.9	350.3
		1,102.8	949.3

The notes on pages 22 to 74 form an integral part of these consolidated financial statements.

LCH GROUP HOLDINGS LIMITED
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
As at 31 December 2020

	Called-up share capital €m	Share premium €m	Other reserves €m	Translation reserve €m	Retained earnings €m	Non-controlling interests €m	Total €m
Shareholders' equity at 1 January 2019	72.5	316.1	76.5	3.7	695.1	47.5	1,211.4
Adjustment on adoption of IFRS 16					(2.8)	-	(2.8)
Shareholders' equity at 1 January 2019 (restated)	72.5	316.1	76.5	3.7	692.3	47.5	1,208.6
Profit/(loss) for the year ended 31 December 2019	-	-	-	-	275.2	8.0	283.2
Other comprehensive income	-	-	-	1.6	7.2	-	8.8
Total comprehensive income	-	-	-	1.6	282.4	8.0	292.0
Dividend approved during the year	-	-	-	-	(203.0)	(5.2)	(208.2)
Share-based payments contribution	-	-	-	-	7.4	-	7.4
Share-based payments expense net of tax	-	-	-	-	(5.0)	-	(5.0)
Shareholders' equity at 31 December 2019	72.5	316.1	76.5	5.3	774.1	50.3	1,294.8
Shareholders' equity at 1 January 2020	72.5	316.1	76.5	5.3	774.1	50.3	1,294.8
Profit/(loss) for the year ended 31 December 2020	-	-	-	-	332.8	9.8	342.6
Other comprehensive income	-	-	-	(0.8)	12.3	-	11.5
Total comprehensive income	-	-	-	(0.8)	345.1	9.8	354.1
Dividends approved during the year	-	-	-	-	-	(7.8)	(7.8)
Share-based payments contribution	-	-	-	-	10.1	-	10.1
Share-based payments expense net of tax	-	-	-	-	(8.1)	-	(8.1)
Shareholders' equity at 31 December 2020	72.5	316.1	76.5	4.5	1,121.2	52.3	1,643.1

The notes on pages 22 to 74 form an integral part of these consolidated financial statements.

1. Basis of preparation and accounting policies

Basis of preparation

These consolidated financial statements have been prepared in accordance with International Accounting Standards (IAS) in conformity with the requirements of the Companies Act 2006.

No standards have been early adopted during the year.

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the periods presented, unless otherwise stated.

The financial statements are prepared under the historical cost convention as modified by the revaluation of assets and liabilities held at fair value and on the basis of the group's accounting policies.

The group uses a columnar format for the presentation of its consolidated income statement. This provides the reader with supplemental data relating to the financial condition and results of operations. The group presents profit for the year before any non-underlying items as this highlights more clearly trends in the group's business and gives an indication of the group's ongoing sustainable performance. Items of income and expense that are material by their size and/or nature are not considered to be incurred in the normal course of business and are classified as non-underlying items on the face of the income statement within their relevant category. Underlying profit is reconciled to profit before taxation on the face of the income statement.

Consolidation
The consolidated financial statements comprise the financial statements of the Company and its subsidiary companies with all intercompany balances and transactions eliminated. As permitted by Section 408 of the Companies Act 2006, the Company's income statement has not been included in these financial statements. The Company's financial statements and related notes for the year are disclosed on pages 75 to 79.

Subsidiaries are consolidated from the date on which the Group obtains control and continue to be consolidated until the date that such control ceases. Control comprises the power to direct the activities of the subsidiary so as to obtain a variable return from its activities. This is achieved in general through direct ownership of voting rights.

The financial statements of the subsidiaries are prepared for the same reporting year as the Group using consistent accounting policies. Adjustments are made to bring into line any dissimilar accounting policies that may exist. All significant intra-group balances and transactions have been eliminated on consolidation.

The group applies a policy of treating transactions with non-controlling interests through the economic entity model. Transactions with non-controlling interests are recognised in equity.

Going concern
The directors have made an assessment of the Group's ability to continue as a going concern and to meet current and future regulatory capital. This has been done using the Group's Medium Term Financial Plan ("MTFP"), sensitivity analysis and stress testing possible scenarios. The impact of the Covid-19 pandemic has been considered as part of the going concern assessment. The directors are satisfied that it has the resources to continue in business for the foreseeable future, at least twelve months from when the financial statements are authorised for issue. Contracts for the majority of the exchanges for which the Group clears have a notice period of at least 1 year. It has a large number of clearing members and is not unduly reliant on any single clearing member or group of clearing members.

Furthermore, the directors are not currently aware of any material uncertainties that may cast significant doubt upon the Group's ability to continue as a going concern. Therefore, the financial statements continue to be prepared on the going concern basis.

Recent accounting developments

The following amendments have been endorsed pursuant to Regulation (EC) No 1606/2002 as it applies in the EU and adopted in these financial statements:

Amendments to References to the Conceptual Framework in IFRS Standards
Amendments to IFRS 3 Business Combinations
Amendments to IAS 1 and IAS 8: Definition of Material
Amendments to IFRS 9, IAS 39 & IFRS 7: Interest Rate Benchmark Reform
Amendments to IFRS 16 Leases, Covid-19-Related Rent Concessions

The adoption of these amendments did not have a material impact on the results of the group.

The following standards and interpretations have been issued by IASB and IFRIC but have not been adopted because they are not yet mandatory and the group has not chosen to early adopt. The group plans to adopt these standards and interpretations when they become effective. The impact on the group's financial statements of the future standards, amendments and interpretations is still under review, and where appropriate, a description of the impact of certain standards and amendments is provided below:

International accounting standards and interpretations	Effective date
Amendments to IFRS 4 Insurance Contracts – deferral of IFRS 9	1 January 2021
Amendments to IFRS 9, IAS 39 & IFRS 7: Interest Rate Benchmark Reform – Phase 2	1 January 2021
Amendments to IFRS 3, IAS 16 and IAS 37 and Annual Improvements 2018-2020	1 January 2022
Amendments to IAS 1 Presentation of Financial Statements classification of liabilities	1 January 2023
IFRS 17 Insurance Contracts, including Amendments to IFRS 17	1 January 2023

The above amendments and standards are not expected to have a material impact on the results of the group.

Presentation currency

The group's consolidated financial statements are presented in euros, which is also the functional currency of the Company. Items included in the financial statements of each of the group's entities are measured using their functional currency.

Judgements and key sources of estimation uncertainty

The preparation of financial statements in conformity with IAS requires the use of judgements, estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Although these judgements and estimates are based on management's best knowledge of the amounts, events or actions, actual results ultimately may be different.

Estimates
The key sources of estimation uncertainty that have a significant risk of causing material adjustments to the carrying amounts of assets and liabilities within the next financial year are:

- The measurement of defined benefit pension obligations: measurement of defined benefit pension obligations requires estimation of inflation as well as mortality rates, the expected return on assets and the choice of a suitable discount rate (see note 19).
- The measurement of the clearing member balances. The group nets significant balances where there is a legal right of offset and an intention to settle net and discloses the net balances in the statement of financial position. However, as the group acts as principal in these trades and has an equal liability for every asset, there is no material risk to the net asset position of the group, should these estimates prove to be inaccurate.

Judgements

- The group uses its judgement to carry out the offsetting within clearing member balances. The carrying values of the balances are offset at what the group considers an appropriate level to arrive at the net balances reported in the statement of financial position. The group has aligned the basis of estimation for its CCP subsidiaries to ensure the principles are applied using a consistent methodology across similar assets and liabilities. The basis will be reviewed from time to time to ensure the approach used is the most appropriate.
- The group has recognised a pension asset on the LCH section of the UK LSEG pension fund. The Trust Deed provides the group with an unconditional right to a refund of surplus plan assets on a winding up of the scheme and the group believes this amount to be recoverable in current circumstances. Should the asset be derecognised, there would be no impact to the income statement, with all movements recognised in the statement of other comprehensive income. The recognition of the asset will be kept under review, particularly in the light of any developments in IFRIC 14.

Accounting policies

Income Statement

Revenue recognition

Revenue is generated from clearing and other post trade services, including investment income earned on collateral. Revenue is shown net of discounts, sales taxes, pass-through costs, and certain revenue share arrangements.

Clearing fee income and rebates, together with other fee income are recognised when the service is rendered on a per transaction basis, or in cases where there is a fixed annual fee, monthly in arrears, in accordance with the Group's fee scales net of all applicable sales taxes.

Other post trade services include revenue from client connectivity services which is recognised as revenue on a straight-line basis over the service period as this reflects the continuous transfer of services.

Customer contracts across the group that contain a single performance obligation at a fixed price do not require variable consideration to be constrained or allocated to multiple performance obligations. However, the group also provides services to customers under a tiered and tariff pricing structure that generates a degree of variability in the revenue streams from the contract. Where the future revenue from a contract varies due to factors that are outside of the group's control, the group limits the total transaction price at contract inception and recognises the minimum expected revenue guaranteed by the terms of the contract. Any variable element is subsequently recognised in the period in which the variable factor occurs.

Fee income accrued, but not yet invoiced at the balance sheet date is shown as fees receivable within trade and other receivables.

Net treasury income is the total of income earned on the cash and other financial assets held that have been generated from clearing member activity, less interest paid on clearing members' margin and other monies lodged with the group. Interest expense or income is recorded using the effective interest rate method, which is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the net carrying amount of the financial instrument.

In conditions where negative interest rates apply, the group recognises interest paid on cash and other assets as an expense and interest received on clearing members' margin as income.

Revenue sharing arrangements - amounts deducted from revenue

Amounts deducted from revenue include revenue share arrangements whereby, as part of an operating agreement, amounts are due back to the other party to the operating agreement.

Cost of sales

Items of expense that are directly attributable to creating a product or provide a service that directly generates revenue or has the ability to generate revenue are classified as cost of sales.

Revenue sharing arrangements - cost of sales

Revenue share costs relate to revenue share arrangements with clearing members where the revenue share is not limited to the amount of revenues receivable from the specific clearing members. As such these have been classified within cost of sales, as they arise, rather than as a deduction from revenue.

Where a liability has been created following the recognition of assets used to generate a revenue share, it will be recognised in the income statement on a systematic basis over the useful life of those assets and offset against the related revenue share costs.

Employee benefits

The group operates defined benefit and defined contribution pension schemes for its employees.

The cost of providing benefits under the defined benefit plans is determined using the projected unit method. Under this method each participant's benefits under the schemes are estimated based on the total pension to which each participant is expected to become entitled at retirement. The liability is the total present value of the individuals' attributed benefits for the valuation purposes at the measurement date and is based on actuarial advice. Past service costs are recognised in the income statement on a straight line basis over the vesting period or immediately if the benefits have vested. When a settlement or a curtailment occurs, the change in the present value of the scheme liabilities and the fair value of the plan assets reflects the gain or loss which is recognised in the income statement.

The net interest amount charged to profit or loss is calculated using actuarial assumptions fixed at the start of the annual report period and the defined benefit liability and asset value at the start of the annual reporting period adjusted for the actual contributions and benefit payments made during the period.

Actuarial gains and losses are recognised in full in the statement of comprehensive income in the period in which they occur. The defined benefit pension liability in the statement of financial position comprises the total for each plan of the present value of the defined benefit obligation (using a discount rate based on high quality corporate bonds that have been rated at AA or equivalent status), less the fair value of plan assets out of which the obligations are to be settled directly. Fair value is based on market price information, and in the case of quoted securities is the published bid market price.

Where the currency of the benefits will be recognised in a different currency from the functional currency of the employing company, any exchange differences arising on the asset or liability will be recognised in the statement of comprehensive income.

The contribution payable to a defined contribution plan is in proportion to the services rendered by the employees and is recorded as an expense in the income statement within employee benefits as incurred.

Share-based compensation

The group operates share-based compensation plans for employees, settled in shares of the ultimate parent company, LSEG. The charge to the income statement is determined by the fair value of the options granted or shares awarded at the date of grant as an indirect measure of the value of employee services received by the group and recognised over the relevant vesting period.

The share-based compensation plans are accounted for as equity-settled. The group does record a cost for these transactions, representative of the fact that the group has received a capital contribution from LSEG which has been spent on share-based compensation, with the corresponding credit recorded in equity. A debit will then also be recorded in equity and an intercompany payable recorded reflecting the group's investment.

Taxation

Deferred and current tax assets and liabilities are only offset when they arise in the same reporting tax group and where there is both a legal right of offset and the intention to settle on a net basis or to realise the asset and settle the liability simultaneously.

Income tax relating to items recognised directly in other comprehensive income is charged or credited as appropriate to other comprehensive income and there is no effect on profit for the year.

Current tax

Current tax assets and liabilities for current and prior periods are measured at the amount expected to be recovered from or paid to relevant taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted on the balance sheet date.

Deferred tax

Deferred income tax is provided using the liability method on temporary differences at the statement of financial position date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes using tax rates and laws enacted or substantively enacted by balance sheet date.

Deferred tax liabilities are recognised for all temporary differences. Deferred income tax assets are recognised for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilised, except where the deferred income tax asset arises through investments in subsidiaries and it is not probable that the temporary differences will reverse in the foreseeable future.

Foreign currencies

Monetary assets and liabilities denominated in currencies other than the functional currency of individual entities are translated into the functional currency of the entity at the rates of exchange ruling on the statement of financial position date and the resulting exchange differences are recorded in the income statement, except for differences arising on the pension assets or liabilities which are recognised in other comprehensive income.

Transactions in foreign currencies are recorded at the prevailing foreign exchange rates on the date of the transaction in the income statement and are not revalued.

On consolidation, the results of non-Euro denominated businesses are translated into Euros at the average exchange rates for the period. The assets and liabilities of these businesses are translated into Euros at the exchange rate prevailing at the reporting date; any exchange differences arising are recognised within other comprehensive income.

In the consolidated statement of cashflows, cashflows denominated in foreign currencies are translated into Euros at the average exchange rates for the year or at the rate prevailing at the time of the transaction where more appropriate.

Non-underlying items

Items of income and expense that are material by size and/or nature or items that are not considered to be incurred in the normal course of business are classified as non-underlying items on the face of the income statement within their relevant category. The separate reporting of these items helps give an indication of the sustainable performance of the group.

Government grants

Grants or other similar assistance receivable are recognised in the income statement over the period in which the expenses are incurred when there is an expectation that the amounts will be received.

Statement of Financial Position

Investments

In its separate financial statements, the Company recognises its investments in subsidiaries at cost less the value of any impairment provision that may be necessary. Income is recognised from these investments in relation to any distributions received.

Goodwill

Goodwill arising on an acquisition is the fair value of consideration less the fair value of the net assets acquired. Goodwill is capitalised in the statement of financial position within intangible assets. Following initial recognition goodwill is measured at initial value less any accumulated impairment losses.

Intangible assets other than goodwill

Intangible assets other than goodwill are initially recognised at cost and are capitalised on the statement of financial position. Where assets are acquired as a result of a business acquisition or the negotiation of an operating agreement, fair values are attributed to the assets acquired. Following initial recognition, the assets are amortised at rates calculated to write off their cost on a straight line basis over their estimated useful lives.

An internally generated intangible asset arising from the group's business development is created if the asset can be identified, its cost measured reliably and it is probable that it will generate future economic benefits. Amortisation is charged from the date the developed product, service, process, or system is available for use. Self-developed software is generally amortised on a straight line basis over periods of between 3-5 years, occasionally it will be longer if applicable. Licenses for software acquired are amortised over 7 years.

Property, plant and equipment

Property, plant and equipment is initially recognised at cost and capitalised in the statement of financial position and is stated at cost less accumulated depreciation and accumulated impairment losses. Depreciation is provided on all property, plant and equipment at rates calculated to write off the cost, less estimated residual value based on current prices, of each asset over its expected useful life as follows:

- leasehold refurbishment over the term of the lease (up to a maximum of 10 years)
- computer equipment and purchased software over 3-5 years
- office equipment and other fixed assets over 3-5 years

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected to arise from continued use of the asset. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the item) is included in the income statement in the year the item is derecognised.

Impairment of goodwill, intangible assets, and property, plant and equipment

Goodwill and intangible assets in the course of development are subject to an annual impairment review or a more frequent review if there are events or changes in circumstances that indicate that the carrying amount of the asset may not be fully recoverable. Other intangible assets and property, plant and equipment are subject to an impairment review if there are events or changes in circumstances that indicate that the carrying amount of the asset may not be fully recoverable.

For the purpose of impairment testing, goodwill and other assets are allocated to cash generating units ("CGU") monitored by management. The impairment review involves a comparison of the carrying amount of the goodwill or other asset allocated to the related cash generating units, with its recoverable amount, which is the higher of fair value less costs to sell and value in use. Fair value less costs to sell is calculated by reference to the amount at which the asset could be disposed of less the costs associated with the sale.

Value in use is calculated by discounting the expected future cashflows obtainable as a result of the assets continued use, including those resulting from its ultimate disposal, at a market based discount rate on a pre-tax basis. The carrying values of goodwill, intangible assets or property, plant and equipment are written down by the amount of any impairment and this loss is recognised in the income statement in the year in which it occurs.

The carrying amount of goodwill allocated to a cash generating unit is taken into account when determining the gain or loss on disposal of the unit.

Financial instruments

The group classifies its financial instruments as fair value through profit or loss ("FVPL"), fair value through other comprehensive income ("FVOCI") or amortised cost. The classification depends on the group's business model for managing its financial instruments and whether the cashflows generated are "solely payments of principal and interest" ("SPPI").

a) Financial assets at amortised cost are financial assets that are held in order to collect the contractual cashflows and the contractual terms give rise to cashflows that are solely payments of principal and interest. This will include the group's cash and cash equivalents and trade and other receivables. Clearing member trading balances relating to sale and buy back transactions and other receivables from clearing members of the CCP businesses also fall within this category.

b) Financial assets at FVOCI are assets where the objective is achieved by both collecting the contractual cashflows or selling the asset. The contractual cashflows received are solely payments of principal and interest. This category includes investments in financial assets and quoted debt instruments (predominantly government bonds) held by the CCP businesses of the group, which are used under the business model to both collect the contractual cashflows and also to benefit from a sale. The assets must also pass the SPPI test to be considered as FVOCI. Any asset which fails this test is immediately transferred to the FVPL classification and treated accordingly. Any profit or loss recognised in other comprehensive income on debt instruments is recycled to the income statement if the asset is sold prior to maturity.

   Where the group holds an equity investment at FVOCI, any profit or loss on the investment remains in other comprehensive income and is not recycled on disposal.

c) Financial assets at FVPL include all other financial assets not classified as amortised cost or FVOCI. This category includes CCP businesses' clearing member trading balances comprising derivatives, equity and debt instruments that are marked to market on a daily basis.

d) Financial liabilities at amortised cost are all financial liabilities that are not included within financial liabilities at FVPL. This comprises the group's trade and other payables, borrowings, and other payables to clearing members.

e) Financial liabilities at FVPL are liabilities that must be held at fair value. This includes all the CCP businesses' clearing member trading balances, comprising derivatives, equity, and debt instruments, which are marked to market on a daily basis.

The group adopts a forward-looking approach to estimate impairment losses on financial assets. An expected credit loss ("ECL") is calculated based on the difference between the contractual cashflows due and the expected cashflows. The difference is discounted at the asset's original effective interest rate.

Financial assets at amortised cost – the ECL for trade receivables and cash and cash equivalents is calculated using IFRS 9's simplified approach using lifetime ECL. The provision is based on the group's historic experience of collection rates, adjusted for forward looking factors specific to each counterparty and the economic environment at large to create an expected loss matrix.

Financial assets held at FVOCI – the group's financial assets held at FVOCI consist of high quality government bonds that have a low credit risk. The group's policy is to calculate a 12-month ECL on these assets. If there is a significant increase in credit risk, then a lifetime ECL will be calculated. A significant increase in credit risk is considered to have occurred when contractual payments are more than 30 days past due or there is a significant deterioration in the credit rating of the counterparty.

Financial assets at FVPL – in accordance with IFRS 9, no ECL is required for assets held at FVPL.

Impairment losses on the remaining financial assets are measured using the general approach. The group calculates a loss allowance based on the 12-month ECL at each reporting date until there is a significant increase in the financial instrument's credit risk, at which point the group will calculate a loss allowance based on the lifetime ECL, as described above for FVOCI assets.

Financial assets and liabilities are offset and the net amount reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

The group establishes fair value using recognised valuation techniques. These include the use of externally available market prices, discounted cashflow analysis and other valuation techniques commonly used by market participants. Where discounted cashflow analysis and other valuation techniques are used assumptions are validated against market observable inputs.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank, short-term deposits, and other instruments and structures that are readily convertible to known amounts of cash and are subject to insignificant risk of changes in value. These amounts relate to funds generated in relation to the operating activities of the group and can be deposited with banks, including central banks, or invested securely in overnight reverse repurchase contracts ("reverse repos").

Clearing business cash and cash equivalents represent amounts received from the clearing members to cover initial and variation margins and default fund contributions that are not invested in bonds. These amounts are deposited with banks, including central banks, or invested securely in overnight reverse repos.

Default fund and margin deposits

Default fund contributions paid by clearing members are in cash. Clearing members may elect to use cash or securities to cover initial margin requirements; realised variation margin may only be covered in cash. Members may pledge securities directly using a bilateral delivery mechanism. Cash initial margin, variation margin and default fund deposits are reflected in the statement of financial position as assets and liabilities.

The amount of margin deposits on hand will fluctuate over time as a result of, among other things, the extent of open positions held at any point in time by market participants in contracts and the margin rates then in effect for such contract.

Non-cash initial margin is not reflected in the statement of financial position. These non-cash assets are held in safe-keeping, and the group does not take legal ownership of the assets as the risks and rewards remain with the clearing member, unless and until such time as the clearing member defaults on its obligations to the group.

Derecognition of financial assets and financial liabilities

A financial asset or liability is generally derecognised when the contract that gives rise to it is settled, sold, cancelled, or expires. Where an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, such that the difference in the respective carrying amounts together with any costs or fees incurred are recognised in the income statement.

Provisions

Provisions are recognised for current obligations arising as consequences of past events where it is probable that a transfer of economic benefits will be necessary to settle the obligation and it can be reliably estimated. All provisions, except for those arising under pension liabilities, are undiscounted where the effect of discounting would be immaterial.

Leases

The group is a lessee of assets.

Group as lessee

Right-of-use assets are disclosed within property, plant and equipment (note 11).

The group has applied discount rates specific to the country and entity for all leases of property and other assets. The maturity of the group's lease commitments is disclosed within the risk management note (note 2). Lease liabilities are included within trade and other payables (note 15).

Variable lease payments are linked to a publicly available index and adjustments to the value of the assets are made accordingly.

Fair value measurement

The group measures financial instruments such as derivatives at fair value at each balance sheet date.

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 in an arm's length transaction at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability or in the absence of a principal market, in the most advantageous market for the asset or liability. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

The group uses valuation techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs. All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described in note 20.

For assets and liabilities that are recognised in the financial statements on a recurring basis, the group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period. For the purpose of fair value disclosures, the group has determined classes of assets and liabilities on the basis of the nature, characteristics and risks of the asset or liability and the level of fair value hierarchy as explained above.

Equity and related items

Share capital

Ordinary share capital comprises ordinary shares. Other capital reserves are described in note 23. Other instruments are classified as liabilities if there is an obligation to transfer economic benefits and if not, they are included in shareholder's funds. The finance cost recognised in the income statement in respect of capital instruments other than equity shares is allocated to periods over the term of the instrument at a constant rate on the carrying amount.

The share premium comprises the difference between the issue proceeds of shares and their nominal value.

Dividend distributions

Dividend distributions to the Group's equity holders are recognised as a liability in the group financial statements in the period in which the dividends are approved by the Group's shareholders. The group maintains a sustainable progressive dividend policy. The interim dividend will generally be payable each year in October and final dividend in May.

2. Risk management

The group's activities expose it to a number of financial risks, principally market risk (financial market volatility, interest rate risk, foreign exchange risk), sovereign risk, credit risk, and liquidity risk. In addition to the financial risks, the group is also exposed to other risks such as operational, legal, compliance and reputational risk. The group manages these risks through various control mechanisms and its approach to risk management is to be prudent yet responsive to changes in the risk environment.

Overall responsibility for risk management rests with the group board. Day-to-day responsibility is delegated to the group Chief Risk Officer, who ensures effective delegation to the relevant executives on the basis of risk policies which are calibrated to the board's risk appetite and are discussed and agreed by the group's risk committees and boards. The application of these policies is undertaken by the business functions as the 1st line of defence and by the group risk management team forming the 2nd line of defence, who control and manage the exposures arising from the various clearing activities. The continued appropriateness of risk policies and key risk data are regularly reviewed by the group and CCP boards and the board risk sub-committees, and audits of processes within risk management are undertaken periodically.

Enterprise risk management framework

Each of the risks identified in this section are governed by the risk governance framework, issued, and refreshed at least annually by the boards. The framework describes the overall risk appetite of the Group and its CCPs; defines each risk type and specifies ownership and the tolerance levels. The framework also requires that all risks are measured, monitored, and reported periodically via an enterprise risk management framework coordinated by the CCP Chief Risk Officers.

For each of the principal risk types, a description and outline of the risk management approach is provided below.

Financial market volatility (latent market risk)

Risk description
Volatility within the financial markets in which the group operates can adversely affect its earnings and its ability to meet its business objectives. The group CCPs run a balanced position in all cleared contracts and run no significant market risk unless a clearing member defaults. In such an event the group is exposed to the market risk in the defaulter's portfolio as it closes out the contracts.

Risk management approach
The market and credit risk management policies of the group are reviewed and approved by its risk committees and boards at least annually. A range of measurement methodologies, including both empirical and analytical margin models and stress testing, are used daily to quantify and assess the levels of credit and market risk to which the group may be exposed, and hence the amount of resources that should be held to cover such risks.

Potential market risk is reduced by collecting variation margin on marked-to-market positions and by establishing initial margin requirements which are the group's estimate of market risk. Initial margins for all clearing services are calibrated and back-tested to a 99.7% confidence level. This has the effect of reducing the probability of loss from the default of a clearing member with the worst acceptable credit to the level of an AAA rated credit over a 12-month time horizon.

Initial margin add-ons are calculated, where required, for clearing member specific concentration, liquidity, wrong way risk and credit risk. Both variation and initial margin are collected daily and replenished intraday subject to credit related thresholds.

The group CCPs accept both cash in major currencies and high quality liquid non-cash collateral to cover margin requirements. The list of acceptable non-cash collateral issuers is restricted and haircuts are set for each security type taking into account market, credit, foreign exchange, country, and liquidity risks and are calibrated to a 99.7% confidence level. All non-cash collateral is revalued daily.

Total collateral held	2020 €bn	2019 €bn
Margin received in cash	108.9	85.2
Margin received in non-cash securities	157.7	136.4
Guarantees	3.0	3.9
Total margin liability	269.6	225.5

The maximum margin liability during the year for LCH Limited was €248.8 billion (2019: €211.7 billion) and for LCH SA €62.0 billion (2019: €46.4 billion).

New applicants for clearing must meet strict credit, financial and operational criteria, which are regularly reviewed as part of the group's risk policies. All clearing members are assigned an internal credit score ("ICS") and the ICS methodology is subject to independent validation at least annually.

The operating subsidiaries also require all clearing members to contribute to pre-funded default funds to be used should the margins of a defaulted clearing member not fully cover close out costs. Supplementary financial resources include a proportion of the CCPs' own capital and further clearing member contributions to ensure the continuity of ongoing operations. The pre-funded default funds are segregated by clearing service and sized to be sufficient at all times to cover the default of the 2 clearing member groups giving rise to the greatest losses above margin under a wide range of plausible scenarios of extreme market conditions.

As at 31 December 2020 the total of clearing member contributions to the default funds amounted to €14.5 billion (2019: €15.5 billion) (note 18). The maximum amount during the year for LCH Limited was €10.6 billion (2019: €10.3 billion) and for LCH SA €6.3 billion (2019: €5.3 billion). Clearing members are committed to contribute further amounts in the event of a clearing member default equivalent to approximately twice this amount, should they be required.

The models which calculate margins, collateral haircuts, counterparty credit scores, stress losses and default fund contributions are independently validated at least annually and meet all applicable regulatory requirements.

Sovereign risk

Risk description
Distress amongst sovereigns through market concerns over the levels of government debt and the ability of certain governments to service their debts over time could have adverse effects on the value and liquidity of the group's cleared products, margin collateral and investments, and on the clearing membership, their clients, and the financial industry as a whole.

Risk management approach
Specific risk frameworks manage sovereign risk for both fixed income clearing and margin collateral, and all clearing members' portfolios are monitored regularly against a suite of sovereign stress scenarios which model escalations in sovereign risk. In addition, investment limits and both counterparty and clearing membership monitoring frameworks are sensitive to changes in economic and financial market indicators, ensuring that the group is able to measure, monitor and mitigate exposures to sovereign risk and respond quickly to actual or anticipated changes.

The risk committees and board monitor such risks and the sovereign risk framework continues to protect the group against potentially severe market volatility in the sovereign debt markets.

The group has investments in the following sovereigns (or equivalent issuer) as at 31 December 2020:

	2020		2019	
	Investment value	Proportion of portfolio	Investment value	Proportion of portfolio
Sovereign (or equivalent)	€bn	%	€bn	%
France	31.2	44%	20.5	36%
USA	11.4	16%	14.3	25%
Netherlands	11.4	16%	9.5	17%
United Kingdom	11.0	15%	6.8	12%
European Union	2.6	4%	2.6	5%
Germany	1.5	2%	1.1	2%
Other	1.9	3%	1.5	3%
	71.0	100%	56.3	100%

The above total includes other financial assets of €21,320.8 million (2019: €22,189.2 million) along with central bank cash deposits.

Credit risk

Risk description
Credit risk arises if a counterparty of the group is unable or unwilling to meet a financial commitment to the group. Credit risk exposure arises as a direct result of the reinvestment of the cash which the group holds, primarily as part of its CCP activities in collecting margin and default fund contributions from its clearing members.

Risk management approach
The group's investment portfolio is invested in accordance with clear risk policies which require secure investment of a significant portion of the portfolio either via reverse repos with credit and financial institutions, receiving high quality government, government guaranteed or supranational securities as collateral; or by investing directly in such securities or by the placement of cash with central banks.

The investment risk policy requires that securities received as collateral are subject to a haircut on their market value, that the average maturity of the portfolio will not exceed 2 years, and that while cash may be deposited on an unsecured basis, this can only be short term with high quality banking institutions and limited to a 12-month average of 5% and a maximum of 10% of all credit institution investment.

The amount of LCH Limited's capital at risk to the default of a banking institution or the issuer of a debt instrument is limited to €15.0 million by the non-default loss provision to be applied in respect of losses that arise other than from a clearing member's default and which threaten the CCP's solvency. These rules were introduced in response to the revision of UK CCP recognition requirements which became effective on 1 May 2014. Treasury default losses in excess of €15.0 million would be allocated among clearing members.

The investment portfolio at 31 December 2020 was €107.3 billion (2019: €98.3 billion), of which 99% (2019: 99%) was invested securely. The maximum portfolio size during the year for LCH Limited was €119.5 billion (2019: €95.2 billion) and for LCH SA €39.1 billion (2019: €23.8 billion). Note 20 contains further analysis of the investment portfolio including by type and fair value hierarchy.

All counterparties, including clearing members, interoperating CCPs, investment counterparties, custodians and settlement and payment institutions, sovereigns, and central banks, are assessed according to the LCH group internal credit scoring framework. This framework incorporates elements of the counterparty's financial profile, including funding, liquidity, capital, profitability and asset quality, and a detailed operational capability assessment. The scoring framework is independently validated at least annually. Minimum credit scores are set for joining any clearing service and also for institutions to be eligible for investment or as interoperating CCPs and payment, settlement, and custodial intermediaries. These minimum credit scores are set within the risk policies which are reviewed and approved by the CCP boards annually. Risk policy also requires that increased margins be applied to clearing members when their credit score deteriorates below the entry level. Other actions may include reduced credit tolerances and forced reduction of exposures. Investment counterparties and intermediaries whose credit score falls below the minimum set by policy will no longer be eligible.

The group currently interoperates with several other CCPs in Europe for cash cleared products. Interoperability with another CCP poses risks similar to the risks to which the group is exposed with its clearing members. Credit risk is managed according to the same credit assessment framework applied to clearing members and other counterparties. To cover the latent market risk arising on interoperating exposures, all interoperating CCPs are subject to daily margining. Under European regulations, CCPs are not permitted to contribute to another CCP's default fund but equivalent margin add-ons are applied to interoperating exposures which ensure full protection is pre-funded at all times.

As at 31 December 2020 the total interoperating margin placed with and received under reciprocal arrangements with other CCPs amounted to €4.4 billion and €2.7 billion (2019: €3.9 billion and €3.0 billion) respectively. The maximum credit risk exposure relating to financial assets is represented by the carrying value as at the statement of financial position date.

Analysis by credit rating

The table below shows the group's clearing member balances and investment portfolio by reference to the credit rating (Fitch) of the counterparties. The treasury portfolio includes cash at bank and other financial assets.

Fair value of transactions with clearing members (ratings assigned with reference to major agencies)	2020 €m	2019 €m
Clearing members rated:		
AAA/AA+/AA/AA-	56,158.9	85,833.7
A+/A/A-	510,227.2	412,879.7
BBB+/BBB/BBB-	91,944.5	120,184.0
Other, <BBB-, unrated	36,012.3	43,543.0
Total outstanding transactions with clearing members	694,342.9	662,440.4

Group investment and cash portfolio (ratings assigned with reference to major agencies)	€m	€m
AAA/AA+/AA/AA- Government backed	71,071.3	56,226.5
AA/AA+/AAA Secured	35,383.8	2,078.8
A/A-/A+/A/A-/BBB+ Secured	793.6	39,971.4
A/A+/AA- Unsecured	16.0	21.1
Total investment and cash portfolio	107,264.7	98,297.8

The total credit risk of the group is represented by the total financial assets of the group as disclosed in note 20.

Concentration risk

Risk description
Concentration risk may arise through having significant exposures to individual markets either through a single large position or a group of positions.

Risk management approach
Direct concentration risk arises in several areas of the group CCPs' activities, and in order to avoid excessive concentrations of risk, the group maintains a diversified portfolio of high quality liquid investments and uses a diversified range of custodians, payment and settlement banks and agents.

Indirect concentration risks, conditional upon a clearing member default, are managed under risk policy through various means, including margin add-ons for large concentrated positions, restrictions on certain non-cash collateral issuers and limits on aggregated exposures to member groups across clearing and investment activities.

The largest concentration of investment exposures as at 31 December 2020 was 29.1% of the total investment portfolio to the French government (2019: 21.0% to the French government).

Procyclicality

Risk description
Systemically important CCPs recognise that they have an important responsibility towards their clearing members and other market participants to ensure that their actions do not unnecessarily amplify existing market stresses. Indeed, risk mitigating actions that are excessively procyclical are undesirable to the group CCPs from a narrow risk management perspective as well as from a macro-economic and regulatory perspective.

Risk management approach
The LCH CCPs acknowledge that while some level of procyclicality may be unavoidable, as they must protect themselves by ensuring adequate margins are held against risk, standards have been introduced for ensuring that procyclicality concerns are appropriately addressed in the risk framework and the margin, haircut and credit scoring models. These standards require all models which are used for setting the levels of resources called from participants, and which therefore may be sources of procyclical outputs, to be tested using an extended period of historical inputs.

Interest rate risk

Risk description
The group is exposed to interest rate risk arising from the cash and investment balances it maintains, the margin and default fund balances it holds from clearing members and the loans and borrowings it has issued.

Risk management approach
Interest bearing assets are generally invested for a longer term than the interest bearing liabilities, whose interest rate is generally reset daily. This makes treasury income vulnerable to volatility in overnight rates and shifts in spreads between overnight and term rates. Interest rate exposures are managed within defined risk appetite parameters against which sensitivities are monitored daily. The risk to the group's capital is managed within interest rate risk limits expressed as a percentage of each subsidiary's capital and calculated under stressed scenarios. The maximum fixed coupon exposure on any asset in the treasury portfolio is 1 year.

Interest rate sensitivity analysis
The group aims to minimise its exposure to interest rate fluctuations. Any exposure is predominantly due to the mismatch between the group's interest bearing assets and interest bearing member liabilities. Since the return paid on member liabilities is generally reset to prevailing market interest rates on an overnight basis the group is exposed for the time it takes to reset the interest rates on its investments and the shifts in spreads between overnight and term rates.

The following table shows the estimated impact of the exposure described in the paragraph above on the consolidated profit after tax and on retained earnings within shareholders' equity:

	2020			2019		
	+25bp	+50bp	+100bp	+25bp	+50bp	+100bp
	€m	€m	€m	€m	€m	€m
Net exposure of cash and member margin balances	(17.7)	(35.5)	(71.0)	(11.4)	(22.7)	(45.5)
Tax effect of above	3.6	7.1	14.3	2.2	4.3	8.6
Decrease in profit after tax	(14.1)	(28.4)	(56.7)	(9.2)	(18.4)	(36.9)
	-25bp	-50bp	-100bp	-25bp	-50bp	-100bp
	€m	€m	€m	€m	€m	€m
Net exposure of cash and member margin balances	17.7	35.5	71.0	11.4	22.7	45.5
Tax effect of above	(3.6)	(7.1)	(14.3)	(2.2)	(4.3)	(8.6)
Increase in profit after tax	14.1	28.4	56.7	9.2	18.4	36.9

Liquidity risk

Risk description
Liquidity risk is the risk that the group is unable to meet its payment obligations when they fall due.

Liquidity risk exists as a result of day-to-day operational flows such as repayments of cash collateral to clearing members, provision of liquidity to facilitate settlement and cashflows resulting from investment activity. In the case of a clearing member default, the group must transfer or liquidate the defaulter's portfolio. This default management process may give rise to additional liquidity requirements to meet losses arising from portfolio hedging or close out as well as fulfilling the defaulter's settlement and margin obligations until the portfolio is fully closed out or transferred.

Risk management approach
Liquidity risk is managed by ensuring that the CCPs in the group have sufficient cash to meet their payment obligations supported by facilities to meet short-term imbalances between available cash and payment obligations. The CCPs maintain liquidity buffers against expected daily operational liquidity needs, based on the maximum relevant liquidity outflow observed from an extensive data history, and against the modelled default of the 2 clearing member groups with the largest liquidity requirements when additional liquidity will be required so that the CCPs can continue to meet their obligations to clearing members and other counterparties.

The group's liquidity management is subject to strict minimum liquidity targets set by senior executives within its Risk and Collateral & Liquidity Management ("CaLM") departments. These targets are reviewed regularly and reported to the risk committees and boards. On a day-to-day basis CaLM is tasked with ensuring that each group CCP can meet its financing needs at all times, in particular to ensure the business continues to operate smoothly even in the event of the default of one or more clearing members.

The ability to access liquidity under extreme market conditions is modelled daily. Liquid resources include available cash balances, secured financing facilities and for LCH SA, which is a bank within the Eurozone, access to central bank liquidity. LCH uses central bank money where such facilities are available to it as a CCP and are practicable as determined through internal review.

The table below analyses the group's financial liabilities into relevant maturity groupings based on the remaining period from the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cashflows.

As at 31 December 2020	Less than 3 months €m	3 months to 1 year €m	1 to 5 years €m	Total €m
Transactions with clearing members	(658,099.9)	(36,243.0)	-	(694,342.9)
Initial margin and other clearing member balances	(101,142.3)	-	-	(101,142.3)
Default funds	(5,835.5)	(8,653.9)	-	(14,489.4)
Trade and other payables	(168.4)	(130.9)	(20.8)	(320.1)

As at 31 December 2019	Less than 3 months €m	3 months to 1 year €m	1 to 5 years €m	Total €m
Transactions with clearing members	(634,933.5)	(27,252.8)	(254.1)	(662,440.4)
Initial margin and other clearing member balances	(86,936.7)	-	-	(86,936.7)
Default funds	(5,270.2)	(10,197.1)	-	(15,467.3)
Trade and other payables	(269.3)	(104.0)	(26.2)	(399.5)

Interest due on the financial liabilities is based upon rates set on a daily basis.

For the default funds, the tenor of the liability is matched with the interest reset dates of the asset. The weighted average maturity of the total treasury portfolio is 44 days (2019: 96 days), with strict risk criteria related to interest rate exposure being applied.

Foreign exchange risk

Risk description
Foreign exchange risk arises because group companies generally incur expenses in their respective local currencies while earning revenues and treasury income in several major currencies. Group companies translate net assets and liabilities arising in other currencies (principally Pounds Sterling and US Dollars within LCH Limited) to their functional currencies.

Risk management approach
LCH Limited converts surplus foreign currency balances to Euros where practicable on a monthly basis. This partially mitigates the impact of exchange rate fluctuations on the group's financial performance. Any exchange differences on the translation of net assets and liabilities that remain are recorded in the income statement.

The group has no designated hedges but seeks to manage its risk by matching currency liabilities against monetary assets. Volatility as a result of foreign exchange movements is monitored for all subsidiaries' income statements and, in the case of the CCPs, for regulatory capital as well.

Foreign exchange sensitivity
The group reviews sensitivities to movements in exchange rates which are appropriate to market conditions. As at 31 December 2020, the group has considered movements in LCH Limited in Pounds Sterling and US Dollars during 2020 and has concluded that a 10% movement in rates is a reasonable level to measure the risk to the group. At 31 December 2020, if the Euro had weakened or strengthened by 10% against Pounds Sterling and/or the US Dollar with all other variables held constant, the impact on LCH Limited's post-tax profit for the year ended 31 December 2020 and on equity as at 31 December 2020 is set out, with comparatives, in the table below. Movements in other currencies and entities are not significant.

In addition, the net assets of the group are exposed to foreign exchange exposure on the retranslation of subsidiaries net assets at the balance sheet date in US Dollars and Pounds Sterling. This retranslation does not affect the net profit of the group but passes through other comprehensive income and affects equity.

The table below also includes the impact on equity if the Euro had moved 10% against the US Dollar and Pounds Sterling.

	2020		2019	
	Post-tax profit	Equity	Post-tax profit	Equity
	€m	€m	€m	€m
Pounds Sterling – Euro strengthens	1.5	(6.7)	3.5	(4.3)
Pounds Sterling – Euro weakens	(1.5)	6.7	(3.5)	4.3
US Dollar – Euro strengthens	(0.8)	(1.2)	(1.3)	(1.8)
US Dollar – Euro weakens	0.8	1.2	1.3	1.8

If the average Euro exchange rate for the year ended 31 December 2020 had moved 10p against Pounds Sterling and 10 cents against the US Dollar, this would have changed the group's operating profit for the year by up to €42.8 million (2019: €29.6 million).

Settlement risk

Risk description
Settlement risk is the risk that the group makes a payment or delivery without simultaneously receiving the delivery or payment from the counterparty.

Risk management approach
The group materially mitigates this risk through the use of guaranteed and irrevocable delivery versus payment mechanisms where available.

Settlement bank risk

Risk description
The group is exposed to the risk that a settlement bank could fail, creating credit losses and liquidity pressures for the group.

Risk management approach
The group uses a combination of central bank, payment agent and commercial settlement bank models. The policy requires that only minimal unsecured balances at commercial settlement banks are permitted to remain overnight, with the majority placed with central banks. Any such unsecured balances reduce commercial bank deposit limits. Intraday credit exposures to commercial concentration banks are also monitored and closely controlled.

For monies due from clearing members, if the payment agent or commercial settlement bank is not able to transfer funds to the group, the clearing members remain liable for the fulfilment of their payment obligations to the group CCPs.

Risk policies specify minimum credit scores for all payment and settlement intermediaries and that these are monitored continually, with a full counterparty credit review conducted annually and a full due diligence exercise carried out at least every 2 years. The counterparty credit scores are derived from the framework described under credit risk above.

Custody risk

Risk description
Custody risk is the risk of loss on securities in safekeeping as a result of the custodian's insolvency, negligence, misuse of assets, poor administration or inadequate record keeping.

Risk management approach
Although the risk of insolvency of central securities depositories or custodian banks used by the group is low, the group mitigates this risk through a due diligence framework which ensures that appropriate legal arrangements and operational processes are in place. In addition, policy sets minimum eligibility requirements, and requires regular credit assessment and back-up contingency arrangements to be in place.

Capital risk

Risk description
Capital risk is the risk that the group's entities may not maintain sufficient capital to meet their obligations. This includes the risks that regulators may increase capital requirements or that own capital levels may become eroded. Capital is specifically allocated, and therefore at risk ahead of clearing member resources, in the event of either a clearing member or investment counterparty default. In addition, capital may be at risk to operational losses in excess of insurance protection.

Risk management approach
The group's approach to capital management and a review of the current regulatory requirements are detailed in note 25. In addition:

- the default waterfalls for each clearing service, within each of the subsidiary CCPs, feature LCH capital at the CCP subsidiary level, to be utilised after the defaulted clearing member's collateral and default fund contributions and before the balance of the mutualised default funds and further, non-prefunded, resources available from the clearing members. In aggregate this capital at risk is equivalent to 25% of regulatory capital requirement for each CCP in the group;
- the non-default loss provision for LCH Limited (as detailed under Credit risk) limits the amount of capital at risk to the investment default/loss of a banking institution or the issuer of a debt instrument to €15.0 million for this entity;
- the group can manage its capital structure by varying returns to shareholders, issuing new shares or increasing or reducing borrowings.

Pension risk

Risk description
Pension risk arises from the potential deficit in the group's defined benefit pension plans due to a number of factors such as mortality rates or changes in inflation assumptions. The schemes are exposed to inflation, interest rate risks and changes in the life expectancy for members. As the schemes' assets include a significant investment in equity shares, the group is exposed to equity market risk.

Risk management approach

The main pension obligation in the group relates to the LCH section of the London Stock Exchange Group pension scheme in the UK. It is governed under the relevant laws and managed by the trustees who are required to undertake a formal funding valuation every 3 years and, where assets are deemed to be insufficient, to agree a schedule of contributions to be paid by LCH Limited to make good any shortfall over a period of time. Details of the pension scheme and assumptions used in valuing their assets and liabilities are included in note 19.

Operational risk

Risk description

Operational risk is the risk of loss arising through failures associated with personnel, processes, or systems or from external events. It is inherent in every business organisation and covers a wide spectrum of issues. First line operational risk is managed by the business, for example through procedures, documentation of processes, independent authorisation, and reconciliation of transactions.

Risk management approach

The group has adopted a framework to identify, assess, monitor, and manage operational risks. This is achieved through self-assessment of risks and controls using a group-wide comprehensive risk and control library and the development of key risk indicators as appropriate, enabling the embedding of operational risk awareness within the corporate culture. An independent department performs second line operational risk management, validating the self-assessments of risks and controls and reporting on operational risk to senior management and both to the group board and to the CCP boards.

Business operations are subject to a programme of internal audit reviews, which are independent of line management, and the results are reported directly to the group's senior management and audit committees. Following each review, management will put in place an action plan to address any issues identified. Internal audit evaluates the adequacy and effectiveness of the group's systems of internal control, as well as the level of compliance with policies, and reports, in addition to management's own combined assurance reporting, to the audit committees and senior management. Any significant weaknesses are reported to the relevant boards.

The group maintains comprehensive contingency plans to support its operations and ensure business continuity. These facilities are regularly tested.

Other risks

Legal, compliance and regulatory risk

These categories include the risk that unenforceable contracts, lawsuits, or adverse judgements can disrupt or otherwise negatively affect the operations or condition of the organisation, and the risk of loss of license or other penalties imposed due to non-compliance with regulations governing clearing house activities in each jurisdiction in which LCH operates.

It is the responsibility of the heads of the legal, regulatory and compliance functions to provide assurance to the boards that these risks are measured and monitored, while the responsibility for any mitigation actions resides with the relevant business and functional heads.

In the normal course of business, the group receives legal claims in respect of commercial, employment and other matters. Where a claim is more likely than not to result in an economic outflow of benefits from the group (and is measurable), a provision is made representing the expected cost of settling such claims.

Reputational risk
The maintenance of the group's strong reputation is key to its continued profitability and is the responsibility of the boards, management, and staff. In particular the efficiency, reliability, and effectiveness of the day-to-day operations of the group are paramount to its reputation.
Business and strategic risks
Business risk is the risk of loss or of profit decrease where declining volumes lead to lower revenues which cannot be offset by adjusting variable costs within a reasonable time period, while strategic risk is the risk of reduction in earnings or capital arising from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry changes. Business heads are responsible for managing these risks and liaising closely with the boards when issues arise.

Brexit
Under the time-limited equivalence (until June 2022) granted by the European Commission for UK CCPs, LCH Limited is now officially recognised as a Third Country CCP in the EU and the Tier 2 status means LCH Limited are still directly subject to EMIR standards and directly supervised by ESMA.

From a customer perspective, this means no change either in standards or day-to-day operations – all processes and services remain unchanged.

LCH SA have also been granted approval to continue to offer services to the UK.

Project risk and business continuity, information security and cyber risks
These risk categories include the risk to earnings and capital arising from project execution deficiencies, the risk of loss arising from the disruption of critical business or IT processes due to adverse circumstances or events, and the risk that valuable and sensitive LCH data is compromised, lost or misused. The heads of dedicated business functions and of each business are responsible for managing these risks.

Model risk
This is the risk that, for example, a margin model may not capture the essence of the stress loss/events being modelled, or that there are mistakes in the underlying calculation, which may result in systemic under-margining for the products in question. Model risk management is the responsibility of the heads of business lines which place reliance on the models, and is effected through appropriate testing and maintenance of the models and in particular through the strict governance required for model change, including independent expert validation and senior executive approval. Board approval is required for material changes to important models.

Default management risk
This is the risk arising from not having a well-defined and rehearsed process in place prior to a default event, leading to inefficiencies in the handling of a default such that a material deterioration in the market value of assets held may result in the erosion of CCP capital and the default funds.

For each service, it is the responsibility of the business head to ensure that a functioning default management group is in place in accordance with the group default management policy and guidelines (owned by the chief risk officer). Fire drill tests are held regularly to assess the CCP default management process and identify any areas for improvement.

Emerging risks
The group has also included a category of emerging risks which are new and difficult to quantify due to their remote or evolving nature. In most cases, the mitigation for such risks is to establish appropriate contingency plans and monitor the development of the risk until it can be quantified and removed or included as a principal risk.

Climate-related risks
International organisations, governments and regulators are focused on integrating climate risks and opportunities into investment decision making, to enable transition to a low carbon economy. This is an area of emerging and wide-ranging policy making, impacting financial market participants and corporates.

The group supports consistent global standards and encourage continued alignment between the EU and UK on sustainable finance. The group has developed climate-related risks scenario over both the medium and longer term, and how these may impact credit, operational, market and liquidity risks.

Pandemic

Due to the international lockdown relating to the Covid-19 virus, LCH has activated contingency arrangements and the majority of its employees are working from home, continuing to deliver our services to members and markets.

3. Exchange rates

The most significant exchange rates to the Euro for the group are as follows:

	2020		2019	
	Closing rate	Average rate	Closing rate	Average Rate
Euro to US Dollar	1.23	1.14	1.12	1.12
Euro to Pounds Sterling	0.90	0.89	0.85	0.88

4. Revenue

Further information on the composition of the group's revenue is given below:

	2020	2019
	€m	€m
SwapClear clearing fees	292.6	291.2
Other OTC clearing fees	54.9	59.2
Non-OTC clearing fees	184.7	159.6
Clearing fees	532.2	510.0
Other fee income	165.5	153.0
Less pass-through costs recharged	(10.9)	(11.6)
Other fee income	154.6	141.4
Revenue sharing arrangements	(32.5)	(24.2)
Revenue	654.3	627.2
Treasury income	661.0	1,327.8
Treasury expense	(358.2)	(1,092.8)
Net treasury income	302.8	235.0
Settlement fees etc. recovered	43.2	33.0
Settlement fees etc. paid	(34.2)	(33.5)
Net settlement fees	9.0	(0.5)
Other income	0.6	-
Total income	966.7	861.7

The group's revenue from contracts with customers disaggregated by timing of revenue recognition is shown below:

	2020	2019
	€m	€m
Services satisfied at a point in time	656.2	619.8
Services satisfied over time	7.7	6.9
Total revenue from contracts with customers	663.9	626.7

Although total income includes net treasury income, this is excluded from the disaggregation table as it is outside scope of IFRS 15 because it is not earned through a contract with a customer.

5. Operating expenses

The following items are included in operating expenses before depreciation and amortisation (total operating expenses include impairment and non-underlying items; an analysis is given in note 6):

	2020	2019
	€m	€m
Staff costs	183.6	172.5
Foreign exchange (gains)/losses	3.0	(2.0)
Research expenditure	15.8	10.7
Other operating expenses	89.8	93.1
Operating expenses before depreciation and amortisation	292.2	274.3
Depreciation, amortisation and impairment		
Amortisation - Intangible fixed assets	68.9	62.6
Depreciation of property, plant and equipment	7.2	11.6
Impairment - intangible assets	2.6	10.9
Lease term modification	-	0.9
Total depreciation, amortisation and impairment	78.7	86.0
Auditor's remuneration		
Fees payable for the audit of the Company	0.1	0.1
Fees payable to the auditor of the Company for other services	-	-
Fees payable for the audit of the Company’s subsidiaries	0.9	0.8
Total auditor's remuneration	1.0	0.9

6. Non-underlying items

	2020 €m	2019 €m
Restructuring programme	0.5	(6.9)
Tax effect of non-underlying items	(0.1)	1.7
Net non-underlying items	0.4	(5.2)

During 2019, the board approved a restructuring programme to improve the efficiency of the Company. In 2020 a provision in relation to the programme was released due to redeployment.

7. Finance income and expense

	2020 €m	2019 €m
Net finance expense on pension liabilities	-	(0.1)
Lease interest expense	(0.1)	(0.3)
Interest paid on cash and cash equivalents	(5.1)	(3.7)
Finance expense	(5.2)	(4.1)
Net finance income on pension assets	1.4	1.6
Interest received on cash and cash equivalents	1.6	1.1
Finance income	3.0	2.7
Net finance expense	(2.2)	(1.4)

8. Taxation

The major components of taxation are as follows:

	2020 €m	2019 €m
Current tax		
United Kingdom current tax charge	(58.0)	(49.0)
Adjustment in respect of current tax in previous years	(0.6)	0.9
Overseas current tax charge	(40.4)	(36.0)
Adjustment in respect of overseas current tax previous years	0.6	0.4
Total current taxation	(98.4)	(83.7)
Deferred tax		
Deferred tax relating to origination and reversal of temporary differences	(0.3)	(1.0)
Adjustments in respect of prior years	(0.8)	(1.5)
Adjustments arising from changes in tax rates	0.3	(0.7)
Tax expense reported in the consolidated income statement	(99.2)	(86.9)

Consolidated statement of comprehensive income	2020 €m	2019 €m
Tax on remeasurement of overseas defined benefit pension plan	0.3	0.3
Tax on remeasurement of UK defined benefit pension plan	(1.1)	(3.5)
Tax on revaluation of financial assets that may be reclassified to profit or loss	(2.1)	(0.1)
Tax expense	(2.9)	(3.3)

Consolidated statement of changes in equity		
Tax allowance on share awards in excess of expense recognised	1.7	2.4
Tax credit	1.7	2.4

Reconciliation of tax expense

The income statement tax charge for the year differs from the standard rate of corporation tax in the UK as explained below:

	2020 €m	2019 €m
Profit before taxation	441.8	370.1
Tax at UK statutory corporation tax rate of 19.0% (2019: 19.0%)	(83.9)	(70.3)
Effect of:		
Adjustments in respect of prior periods	0.8	(0.2)
Expenses not deductible for tax	(0.8)	(0.9)
Adjustments arising from changes in tax rates	0.3	(0.6)
Effect of higher rates of tax on overseas earnings	(15.4)	(14.9)
Deferred tax (derecognised)/previously not recognised	-	(0.4)
Foreign exchange adjustment	(0.2)	0.4
Total tax charge	(99.2)	(86.9)
Effective corporation tax rate	22.5%	23.5%

On 11 March 2020 it was announced (and received Royal Assent on 22 July 2020) that the UK corporation tax rate would remain at 19% and not reduce to 17% (the previously enacted rate) from 1 April 2020. The deferred tax balances included within the accounts have been calculated with reference to the rate of 19%, as required by IAS. The deferred tax balances in other countries are recognised at the substantively enacted rates at the balance sheet date.

Exchange differences have arisen on the translation of the closing sterling balances which are due to HMRC.

Deferred tax

	Consolidated statement of financial position		Movement	
	2020	2019	2020	2019
	€m	€m	€m	€m
Post-employment benefits	(22.5)	(22.2)	(0.3)	(8.5)
Accelerated tax depreciation	4.2	4.4	(0.2)	0.5
Share of profit to be redistributed to employees	1.4	1.1	0.3	1.1
IFRS transformation entries (fixed assets and intangibles)	(0.1)	(0.1)	-	(0.1)
Employee benefits (other comprehensive income)	0.9	0.8	0.1	0.8
Tax on provisions and other temporary differences	4.5	7.0	(2.5)	3.3
Tax losses	1.4	1.1	0.3	(1.7)
Tax on items not recognised in the statement of comprehensive income	0.4	0.8	(0.4)	(0.8)
Deferred tax charge			(2.7)	(5.4)
Net deferred tax asset/(liability)	(9.8)	(7.1)		

	US	UK	France	Total
	€m	€m	€m	€m
Net deferred tax asset/(liability) at 1 January 2020	1.8	(14.0)	5.1	(7.1)
Deferred tax recognised in the income statement	(0.4)	(0.5)	0.1	(0.8)
Deferred tax recognised in the statement of comprehensive income	-	(3.2)	0.3	(2.9)
Deferred tax recognised in equity	-	(0.2)	-	(0.2)
Change in group relief in year	0.2	-	-	0.2
Foreign exchange movements	(0.2)	1.3	(0.1)	1.0
Net deferred tax asset/(liability) at 31 December 2020	1.4	(16.6)	5.4	(9.8)

	US	UK	France	Total
	€m	€m	€m	€m
Net deferred tax asset/(liability) at 1 January 2019	2.8	(9.1)	4.6	(1.7)
Restatement as a result of IFRS 16	-	0.5	-	0.5
Net deferred tax asset/(liability) (restated) at 1 January 2019	2.8	(8.6)	4.6	(1.2)
Deferred tax recognised in the income statement	(1.1)	(2.3)	0.3	(3.1)
Deferred tax recognised in the statement of comprehensive income	-	(3.5)	0.3	(3.2)
Deferred tax recognised in equity	-	1.6	-	1.6
Change in group relief in year	-	(0.7)	-	(0.7)
Foreign exchange movements	0.1	(0.5)	(0.1)	(0.5)
Net deferred tax asset/(liability) at 31 December 2019	1.8	(14.0)	5.1	(7.1)

9. Intangible assets

	2020			2019		
	Self-developed software	Goodwill	Total	Self-developed software	Goodwill	Total
	€m	€m	€m	€m	€m	€m
Cost						
At 1 January	680.3	534.1	1,214.4	595.0	534.1	1,129.1
Additions	99.1	-	99.1	93.7	-	93.7
Asset transfer (note 11)	1.1	-	1.1	1.1	-	1.1
Disposals and write offs	(41.5)	-	(41.5)	(10.9)	-	(10.9)
Exchange differences	(1.8)	-	(1.8)	1.4	-	1.4
At 31 December	737.2	534.1	1,271.3	680.3	534.1	1,214.4
Accumulated amortisation and impairment						
At 1 January	403.4	423.7	827.1	339.7	423.7	763.4
Amortisation charge for the year	68.9	-	68.9	62.6	-	62.6
Impairment in the year	2.6	-	2.6	10.9	-	10.9
Asset transfer	-	-	-	0.7	-	0.7
Disposals and write offs	-	-	-	(10.9)	-	(10.9)
Exchange differences	(0.9)	-	(0.9)	0.4	-	0.4
At 31 December	474.0	423.7	897.7	403.4	423.7	827.1
Net book value at 31 December	263.2	110.4	373.6	276.9	110.4	387.3

Asset transfer relates to WIP assets being brought into use and transferred to their respective classification.

The portion of capitalised self-developed software costs disclosed above that relates to software not currently brought into use amounted to €80.3 million (2019: €118.7 million). No amortisation has been charged during the year against these assets (2019: €nil), but instead they are tested for impairment (see note 10) and no write off (2019: €nil) was recognised in the year.

Goodwill consists of the amount arising from the acquisition of LCH SA in 2003 (see note 10). Self-developed software includes the group's trading systems, which are being continually improved and enhanced.

10. Impairment testing of intangible assets

The group carries out annual impairment testing on goodwill and self-developed software in December of each year, or more often if circumstances show that an impairment may be likely.

Goodwill is carried in relation to LCH SA, which is also the cash generating unit ("CGU") to which the goodwill is allocated. The recoverable amount associated with this subsidiary is determined based on value-in-use calculations.

For self-developed software, impairment is assessed by reviewing the carrying value of the asset against its recoverable amount, which is determined by value-in-use calculations for the relevant CGU using discounted cashflow projections.

Assumptions

The key assumptions used in the valuations relate to discounted cashflow projections prepared by management covering a 5-year period. The cashflow projections are based on the group's budget for 2021 and the group approved plan for the 2 financial years following the last financial year in the budget. Cashflows beyond this period are extrapolated using the estimated long term growth rates and applying the pre-tax discount rates.

Management has based its value-in-use calculations for each CGU on key assumptions about short and medium term revenue and cost growth, long term economic growth rates (used to determine terminal values) and pre-tax discount rates, as follows:

i) The values assigned to short and medium term revenue and cost growth are based on the 2021 budget and the group approved plan. The assumptions are derived from an assessment of current trends, anticipated market and regulatory developments, discussions with customers and suppliers and management's experience. These factors are considered in conjunction with the group's long term strategic objectives to determine appropriate short and medium growth assumptions;
ii) Long term growth rates for LCH Limited of 3.0% (2019: 3.4%) and LCH SA 2.3% (2019: 2.7%) represent management's internal forecasts based on external estimates of GDP and inflation;
iii) The pre-tax discount rate of 10.8% (2019: 10.4%) is based on a number of factors including the risk-free rate, the group's estimated market risk premium and a premium to reflect inherent risks.

Impairment results

- The following test was carried out on the value of goodwill, which was found not to be impaired:
  - The discounted cashflow approach. The excess of value-in-use over carrying value was found to be €1,037 million (2019: €1,157 million) at 31 December 2020;
  - A sensitivity analysis showed that reasonable changes in key assumptions and rates (e.g. growth and weighted average cost of capital ("WACC")) would not lead to any impairment.

- A discounted cashflow test for self-developed software found that assets of €2.6 million were impaired (2019: €10.9 million) due to the uncertainty of the future cashflows that relate to this asset. No self-developed software not yet in use was found to be impaired (2019: €nil).

11. Property, plant and equipment

At 31 December 2020	Property right of use assets €m	Property right of use asset other €m	Leasehold refurbishment €m	Computer equipment €m	Office equipment and other fixed assets €m	Total €m
Cost						
At 1 January	30.8	0.3	8.7	38.0	9.7	87.5
Additions	-	-	-	-	0.8	0.8
Lease term modification	1.9	0.1	-	-	-	2.0
Asset transfer (note 9)	-	-	-	0.7	(1.8)	(1.1)
Disposals	-	-	-	(2.9)	-	(2.9)
At 31 December	32.7	0.4	8.7	35.8	8.7	86.3
Accumulated depreciation						
At 1 January	4.9	0.1	7.5	36.1	5.0	53.6
Depreciation charge for the	5.0	0.1	0.6	1.5	-	7.2
Disposals	-	-	-	(2.8)	-	(2.8)
At 31 December	9.9	0.2	8.1	34.8	5.0	58.0
Net book value at 31 December 2020	22.8	0.2	0.6	1.0	3.7	28.3

At 31 December 2019	Property right of use assets €m	Property right of use other €m	Leasehold refurbishment €m	Computer equipment €m	Office equipment and other fixed assets €m	Total €m
Cost						
At 1 January	-	-	10.7	46.2	6.3	63.2
Adjustment on adoption of new standard	32.7	0.3	-	-	-	33.0
At 1 January (restated)	32.7	0.3	10.7	46.2	6.3	96.2
Additions	0.7	-	0.2	-	3.8	4.7
Asset transfer	-	-	-	-	(0.3)	(0.3)
Disposals	(2.6)	-	(2.2)	(8.2)	(0.1)	(13.1)
At 31 December	30.8	0.3	8.7	38.0	9.7	87.5
Accumulated depreciation						
At 1 January	-	-	8.2	39.7	5.1	53.1
Depreciation charge for the	5.4	0.1	1.5	4.6	-	11.6
Lease term modification	2.1	-	-	-	-	2.1
Disposals	(2.6)	-	(2.2)	(8.2)	(0.1)	(13.1)
At 31 December	4.9	0.1	7.5	36.1	5.0	53.7
Net book value at 31 December 2019	25.9	0.2	1.2	1.9	4.7	33.8

The group leases a number of properties in countries in which it operates and these are represented above as property right of use assets.

In 2021, LCH SA extended their property lease. The disposal and impairment in 2019, under property right of use assets, relates to the partial termination that occurred in March 2019 for the NY office lease. The lease was subsequently disposed of following the move to LCH's US operations into the main LSEG office in the final quarter of the year.

Asset transfer relates to WIP assets being brought into use and transferred to their respective classification.

12. Balances with clearing members

	2020	2019
	€m	€m
Assets		
Transactions with clearing members at fair value through profit or loss	694,342.9	659,577.3
Transactions with clearing members at amortised cost	3,221.2	2,863.1
Other clearing member balances at amortised cost	6,181.0	5,149.3
	703,745.1	667,589.7
Liabilities		
Transactions with clearing members at fair value through profit or loss	(694,342.9)	(659,577.3)
Transactions with clearing members at amortised cost	(3,221.2)	(2,863.1)
Initial margin and other clearing member balances at amortised cost	(97,921.1)	(86,936.7)
	(795,485.2)	(749,377.1)

The transactions with clearing members of €697,564.1 million (31 December 2019: €662,440.4 million) are fully secured by collateral held by the group. As at 31 December 2020 the total of fully collateralised loans in respect of fixed income transactions was €691,235.6 million (31 December 2019: €655,970.9 million). This collateral has in turn been passed on to fixed income counterparties to secure the group's liabilities in respect of fixed income contracts.

Other clearing member balances include €4.4 billion (31 December 2019: €3.9 billion) due from, and €2.7 billion (31 December 2019: €3.0 billion) due to Cassa di Compensazione Garanzia S.p.A ("CCG"), a fellow LSEG subsidiary company. Net treasury income also includes interest paid of €21.9 million (31 December 2019: €21.1 million) and interest received of €17.3 million (31 December 2019: €13.9 million) on these balances.

13. Trade and other receivables

	2020 €m	2019 €m
Non-current		
Other receivables	1.0	4.3
Total non-current	1.0	4.3
Current		
Trade receivables:		
Fees receivable	64.9	61.6
Interest accrued on investment portfolio	36.3	93.0
	101.2	154.6
Amounts due from parent companies	1.0	-
Amounts due from companies under common control	10.0	6.0
Other receivables	15.0	2.1
Prepayments	9.1	8.8
Margin receivable on reverse repurchase contracts	112.0	3.1
Total current	248.3	174.6

The non-current assets include deposits on the group's office premises.

Fees receivable are the group's rights to consideration for work completed but not invoiced at the reporting date. The balance of €64.9 million arises solely from services provided in 2020 and is invoiced shortly after the balance sheet date.

The group collects virtually all its fees receivable via PPS (Protected Payment System) which members are required to sign up to on admission as a clearing member. More than 99% of fees are collected in this way less than 5 days after the invoice date. The group does not calculate an expected credit loss allowance on its fees receivable as it expects to receive all amounts due in a timely manner.

14. Cash and cash equivalents

	2020 €m	2019 €m
Cash at bank and in hand	317.9	350.3
Short-term deposits	784.9	599.0
Cash and cash equivalents	1,102.8	949.3

Cash and cash equivalents are held with authorised counterparties of a high credit standing. Management does not expect any losses from non-performance by counterparties holding cash and cash equivalents and there are no material differences between book and fair values.

Short-term deposits are fully collateralised by sovereign and investment grade corporate securities in accordance with eligibility criteria approved by the group's risk committees. The group defines short-term as less than 90 days, but these deposits are predominantly overnight only.

€124.9 million (31 December 2019: €121.2 million) of cash and cash equivalents is restricted as the group's CCP-level own resources to be used in the default waterfalls. This is allocated by default fund on a pro-rata basis for LCH Limited and LCH SA. The remaining cash represents the balance of default funds and margin monies placed on deposit for the purpose of earning treasury income.

15. Trade and other payables

	2020 €m	2019 €m
Non-current		
Accruals	1.4	2.4
Lease liabilities	19.4	23.8
Total non-current	20.8	26.2
Current		
Trade payables	6.3	15.8
Amounts owed to companies under common control	41.2	22.5
Amounts owed to group undertakings	1.1	-
Social security and other taxes	14.3	14.8
Accruals	83.6	83.3
Contract liabilities	2.9	2.4
Other payables	141.2	115.5
Lease liabilities	5.3	5.5
Margin payable on reverse repurchase contracts	20.6	130.7
Total current	316.5	390.5

Other payables include amounts accrued under the group's revenue share agreements.

The movement in deferred income has been recognised in the income statement during the year. The contract liabilities arose entirely from activities carried out during the year and are expected to be recognised in 2020.

The group's contract liabilities represent the aggregate amount of transaction prices allocated to performance obligations that are unsatisfied, or partially unsatisfied at the balance sheet date in respect of the group's RepoClear service. All amounts are expected to be recognised during the 12 months after the reporting date.

16. Leases

Movements in the lease liabilities during the year were as follows:

	2020 €m	2019 €m
1 January	29.3	-
Adoption of IFRS 16 (note 1)	-	37.9
1 January (restated)	29.3	37.9
Lease term modification	1.9	(1.2)
Interest expense recognised	0.2	0.3
Lease payments	(5.8)	(8.2)
Foreign exchange	(0.9)	0.5
31 December	24.7	29.3

In 2021, LCH SA extended their property lease. The disposal and impairment in 2019, under property right of use assets, relates to the partial termination that occurred in March 2019 for the NY office lease. The lease was subsequently disposed of following the move to LCH's US operations into the main LSEG office in the final quarter of the year.

17. Loans and borrowings

	2020 €m	2019 €m
Current		
Loan to parent company	249.0	46.8

Loan to related company

During 2020, the group increased its loan to its parent company, LSE (C) Limited, to €249.0 million. The loan is repayable with 5 days' notice and attracts interest at the rate of EURIBOR with a 0% floor +1%.

Bank overdraft

In order to assist with day-to-day liquidity management, the group maintains a number of uncommitted money market and overdraft facilities with a number of major banks. Effective interest rates on these facilities vary depending on market conditions.

18. Default funds

The purpose of the default funds is to absorb any losses incurred by the group in the event of clearing member default if margin collateral is insufficient to cover the management and close out of the positions of the defaulting clearing member. Default funds are held separately by each CCP entity to cover the risks that each company faces and are split into several different funds in each company to cover the different business lines of that company. The total default funds held by the group as at 31 December 2020 were €14,489.4 million (31 December 2019: €15,467.3 million).

19. Employee benefits

i) Staff costs

All staff and directors	2020 €m	2019 €m
Salaries and other benefits	138.5	130.3
Social security costs	25.4	23.1
Pension costs	10.3	5.5
Share-based compensation	9.9	7.4
Staff costs before non-underlying items	184.1	166.3
Staff costs included in non-underlying items	(0.5)	6.2
Total staff costs	183.6	172.5

The average number of staff on a full-time equivalent basis during the year was 842 (2019: 797). The Company has no employees.

Staff costs and the average number of staff include the costs of contract staff who are not on the payroll but fulfil a similar role to employees.

Key management personnel

	2020	2019
	€m	€m
Remuneration and other short-term employee benefits	8.6	8.0
Share-based payment costs	4.8	4.0
Pension contributions	0.4	0.3
Deferred bonus and other long-term employee benefits	1.1	1.9
Compensation for loss of office	-	0.4
Aggregate emoluments of key management personnel	14.9	14.6

The costs above include deferred bonuses, other long-term incentive plan (LTIP) awards and share-based payment costs on an accrued basis.

Key management personnel include the executive director and certain senior staff who manage the business on a day-to-day basis.

Directors' remuneration

	2020	2019
	€m	€m
Remuneration	7.5	3.5

Where directors left the board but have not yet been compensated for loss of employment, the full value of such costs has not been included in remuneration for the year and will only be included when paid. The costs above include deferred bonuses, and other LTIP awards only when they vest or become payable.

From time to time Directors may spend management time on associated Group companies, the cost of which is reflected in the above.

The highest paid director received total remuneration of €3,096,949 in the year (2019: €2,217,022).

Two directors are a deferred member of the LCH section of LSEG's defined benefit pension scheme (2019: one director). Contributions of €171,376 (2019: €80,394) have been made on behalf of four directors (2019: two directors) to a defined contribution scheme.

Four directors (including the highest paid director) participate in the share-based compensation plans detailed below. Four directors exercised share options during the year (2019: one director).

Independent non-executive directors receive fees for their services. The board determines fees that reflect the level of individual responsibilities, attendance of meetings and membership of board committees. Directors representing shareholders (including the parent company) do not receive fees from the group.

ii) Share-based payments

LCH group employees were eligible to participate in one or more of the following LSEG share option based arrangements during the financial year:

a) The LSEG Long Term Incentive Plan 2014 (LSEG LTIP)
b) The LCH Group Long Term Incentive Plan (LCH LTIP)
c) The LSEG SAYE Option Scheme and LSEG International Sharesave Plan 2018 (together SAYE schemes)
d) The LSEG Restricted Share Award Plan 2018 (Restricted Plan)
e) The LSEG International Share Incentive Plan (SIP)
f) The LSEG Deferred Bonus Plan Share Awards (DBP)

The LSEG LTIP has two elements, an award of Performance Shares and a conditional award of Matching Shares, which is linked to a co-investment being made by the executive. Awards are made in the form of nil-cost options. Under the Matching Shares arrangement, selected executives may invest up to the value of 50% of their net-of-tax base salary in LSEG shares (Invested Value). The Invested Value is then matched with a performance related Matching Share award, matched 2:1 on a pre-tax basis (up to a maximum Matching Share award of 100% of pre-tax base salary). The Group has not granted any Matching Share awards during the year.

Vesting of the LSEG LTIP awards is dependent upon LSEG's total shareholder return (TSR) performance and adjusted basic earnings per share growth (EPS) (over a 3-year period. The following targets applied to options granted in 2020.

EPS element (60%): Average growth over 3 years	TSR element (40%): Relative growth over 3 years	Proportion of element that vests
More than 12% p.a.	Upper quartile	100%
6% p.a.	Median	25%*
Less than 6% p.a.	Below median	0%

* Straight line pro-rating applies between this trigger and 100% vesting.

The LCH LTIP also has two elements, an award of Performance Shares and a conditional award of Matching Shares, which is linked to a co-investment being made by the executive. The Matching Shares element only applies to selected senior management. The Performance Shares are available to a wider group of executives. Awards are made in the form of nil-cost options. Under the Matching Shares arrangement, selected executives may invest up to the value of 50% of their net-of-tax base salary in LSEG shares (Invested Value). The Invested Value is then matched with a performance related Matching Share award, matched 2:1 on a pre-tax basis (up to a maximum Matching Share award of 100% of pre-tax base salary).

No further LCH LTIP awards will be granted from 2020 onwards.

Vesting of the LCH LTIP award is initially dependent upon the achievement of a risk management gateway. If this is achieved, the degree of vesting of the award is assessed against three conditions, measured independently over 3 years:

1) Resiliency metric: a qualitative assessment of performance on regulatory matters and enterprise risk incorporating operational risk (comprising up to 34% of the award)
2) Efficiency metric: a quantitative assessment of earnings before interest, tax, depreciation, and amortisation (EBITDA) margin performance period at the end of the performance period (comprising up to 33% of the award)
3) Annual growth metric: a quantitative assessment of earnings before interest and tax (EBIT) performance at the end of the performance period (comprising up to 33% of the award)

For internal audit, risk and compliance participants, the cost/efficiency and EBIT/growth metrics do not apply. Assuming the risk management gateway is achieved, the vesting of the award is assessed against the regulatory/resiliency metric only.

The risk management gateway will be assessed by the LCH Ltd and the LCH SA remuneration committees (the committees) who will assess if the risk has been managed effectively over the 3-year period. The award lapses in full if any of the CCPs suffers an aggregate loss of more than €12 million (higher level losses). Equally, if during the performance period any of the CCPs suffers losses below this level, or circumstances arise in the reasonable opinion of the committees that have, or could have, resulted in a significant adverse event which did, or could have, materially damaged future business operations, the committees shall determine whether management could, or should have, taken action to prevent such circumstances and may lapse the award accordingly.

The regulatory metric shall vest at 100% if it is determined that management actions in relation to regulatory matters were wholly effective during the performance period. If it is determined that management actions in relation to regulatory matters were not wholly effective during the performance period, then the committees shall determine a lesser level of vesting as it deems appropriate.

In order for the portion of the Performance Share, or Matching Share Award subject to the cost metric, to vest, the committees must determine the amount of cumulative net consolidated qualifying cost savings achieved over the performance period by reference to specified cost saving projections and adjustments set out in the rules of the plan.

The cost and EBIT metrics shall vest as follows:

Efficiency metric: EBITDA margin level	Annual Growth Metric: EBIT level	Percentage of shares that vest
2017 award:		
53% or more	€337 million or more	100%
48%	€306 million	62.5%
41%	€275 million	25%
Below 41%	Below €275 million	0%
2018 award:		
53% or more	€393 million or more	100%
50%	€357 million	62.5%
48%	€321 million	25%
Below 48%	Below €321 million	0%
2019 award:		
55% or more	€400million or more	100%
52.5%	€370 million	62.5%
50%	€340 million	25%
Below 50%	Below €340 million	0%

At the end of the performance period, the LCH Group EBIT or EBITDA margin will be assessed for the last financial year in the performance period, as approved by the LCH Group board. EBIT means earnings before interest, tax, and non-underlying items, as reported in the consolidated financial statements for LCH Group Holdings Limited, subject to such adjustments as the committees consider necessary to take account of matters that it considers to be appropriate. EBITDA margin level means the earnings before interest, tax, depreciation, and amortisation divided by the gross income as reported in the consolidated financial statements of LCH Group Holdings Limited.

If circumstances occur, which, in the reasonable opinion of the committees, justify a reduction to awards granted, the committees may at their discretion reduce an award or not grant future awards. In the event that an award has already vested, the committees may determine that a repayment is made. The circumstances and timeframe in which the committees may consider it appropriate to exercise such discretions are covered in the plan rules.

The SAYE plan provides for grants of options to employees who enter into a SAYE savings contract; options are granted at 20% below fair market value. The options vest in full after 3 years, providing the employee remains employed by the group or the wider LSEG group of companies.

The Restricted Plan allows for grants to be made in the form of conditional awards over ordinary shares of LSEG, in the form of nil-cost options to certain executives. The vesting of such awards granted to date under the plans are conditional upon tenure and furthermore, in the case of the LCH.C Companies' Retention Plan 2014 (Retention Plan), upon successful achievement of a risk management gateway. (included within LSEG LTIP numbers)

The SIP plan gives employees the option to buy LSEG shares monthly via a salary deduction. For every four shares purchased by the employee, the group awards them one additional share which vests after completion of a three year plan cycle (SIP Matching Share).

The DBP plan awards are structured as nil-cost options subject to continued employment and malus and clawback provisions. Such awards usually vest in full on the normal vesting dates.

Movements in the number of share options and awards outstanding and their weighted average exercise price in GBP are as follows:

	LSEG LTIP Number	LCH LTIP Number	SIP Number	SAYE Number	Weighted average exercise price
As at 1 January 2020	83,229	504,134	-	132,296	£33.69
Granted in year	124,615	-	51	28,179	£56.00
Net transfers	(5,038)	-	-	(3,050)	£34.20
Exercised in year	(47,734)	(143,980)	-	(60,377)	£31.15
Lapsed/forfeited in year	8,656	(34,492)	-	(5,471)	£36.44
As at 31 December 2020	163,728	325,662	51	91,577	£42.05

4,454 of the options were exercisable as at 31 December 2020 (31 December 2019: 578). The weighted average exercise price is nil for all other schemes except the SAYE. The weighted average share price of LSEG plc shares during the year was £81.75 (2019: £58.75). Transfers in or out relate to staff who are either newly employed or no longer employed directly by the group, but whose options have not been forfeited as they were or remain employees of other LSEG companies.

The range of exercise prices and weighted average remaining contractual life of awards and options outstanding are as follows:

As at 31 December 2020	Number outstanding	Weighted average remaining contractual life (years)
LSEG LTIP - nil	163,728	1.9
LCH LTIP - nil	325,662	0.8
SIP Matching – nil	51	2.2
SAYE - between £30.00 and £50.00	63,966	0.9
SAYE - more than £50.00	27,611	2.4
Total	581,018	1.2

The fair value of share options granted during the year was determined using a stochastic valuation model. The key assumptions used in the valuation were as follows:

	LSEG LTIP Performance Shares		Restricted Plan		
Grant date	22-Apr-20	14-Sep-20	16-Mar-20	22-Apr-20	14-Sep-20
Grant date share price (£)	76.22	89.60	63.12	76.22	89.6
Expected life (years)	3	3	1.0-3.0	0.9-4.9	0.5-3.5
Dividend yield	1.12%	0.92%	1.11%	1.12%	0.92%
Risk-free interest rate	0.11%	(0.12)%	0.09%-0.11%	0.11%-0.21%	(0.11)%-0.03%
Volatility	26.2%	27.1%	23.7%-32.1%	25.8%-38.5%	25.8%-41.2%
Fair value TSR (£)	65.64	76.80	-	-	-
Fair value EPS (£)	73.71	87.16	-	-	-
Fair value non-market conditions (£)	-	-	61.05-62.42	72.15-75.46	86.76-89.19

	SAYE	SIP	DBP
Grant date	28-Apr-20	Offer period 1 Jan 2020 to 31 Dec 2020	28-Apr-20
Grant date share price (£)	74.88	63.12-91.50	63.12
Expected life (years)	3.3	2.21-3.12	2.0-3.0
Exercise price	56.00-58.09	-	Nil
Dividend yield	1.15%	0.76%-1.11%	-
Risk-free interest rate	0.09%	-	0.9%-0.10%
Volatility	25.2%	-	26.6%-23.7%
Fair value non-market conditions (£)	20.18-21.45	78.33	63.12

The volatility is based on a statistical analysis of LSEG's weekly share price since its flotation in July 2001.

The fair value for LSEG LTIP performance and matching shares granted during the year is based on a TSR pricing model which takes into account the TSR vesting conditions. All other fair values of options granted are based on a Black-Scholes model. Holders of share awards and share options are not entitled to receive dividends declared during the vesting period.

iii) Pension commitments

Defined contribution scheme

The LCH group pays fixed contributions to a defined contribution pension scheme in the UK and there is no legal or constructive obligation to pay further contributions. The assets of the plan are held separately from those of the LCH group in a fund under the control of the trustees. The total expense charged in the income statement of €5.6 million (2019: €4.9 million) represents contributions payable to the plan by the LCH group at rates specified in the rules of the plan. Defined contribution schemes are also operated by the overseas branches of LCH Limited and €0.2 million contributions were made during the year (2019: €0.2 million).

Defined benefit schemes

The group operated a defined benefit pension scheme for its employees in the UK (now the LCH defined benefit section of the LSEG Pension Scheme), which required contributions to be made to a separate trustee administered fund. This was closed to new members from 30 September 2009 and closed to further employee contributions on 31 March 2013. The LCH Pension Scheme underwent a sectionalised merger into a new London Stock Exchange Group Pension Scheme on 5 September 2016. The scheme maintains separate LCH and LSE sections with LCH Limited sponsoring only the LCH section.

The valuations of the UK scheme conducted for financial reporting purposes are based on the triennial actuarial valuation as at 31 December 2017 carried out by an independent qualified actuary. The next triennial actuarial valuation is expected to be completed in Q1 2021. The group is not aware of any events subsequent to 31 December 2020, which would have a material impact on the results of the valuation.

The overseas schemes were subject to full valuations as follows:

The group has obligations in respect of retirement indemnity and long-service award schemes in Paris. The provisions have been calculated by a qualified independent actuary as at 31 December 2020.

The obligations in respect of certain staff in an independent defined benefit scheme in Porto were assumed in 2006. An updated valuation of these funds was carried out at 31 December 2020 by a qualified independent actuary.

A summary of the principal assumptions used is detailed below.

Weighted-average assumptions to determine benefit obligations

	UK	France	Porto
Discount rate	1.4%	0.5%	0.5%
Rate of salary increase	0.0%	2.5%	2.5%
Rate of price inflation	2.8%	1.8%	1.5%
Rate of pension increases in payments	2.1%	0.0%	1.5%
Implied life expectancy at age 60			
Male currently aged 60	27.1	23.3	20.6
Male currently aged 45	27.6	23.3	20.6
Female currently aged 60	28.9	27.5	20.6
Female currently aged 45	30.1	27.5	20.6

The discount rate for the UK scheme has been determined from a curve of AA corporate bond rates by duration which is consistent with the estimated weighted average duration of the scheme’s liabilities at around 24 years. Scheme assets are stated at their market value at the respective statement of financial position dates.

Changes in the present value of the defined benefit obligations during the year

	2020			2019		
	UK €m	France €m	Porto €m	UK €m	France €m	Porto €m
Benefit obligation as at 1 January	(266.4)	(6.8)	(0.6)	(219.5)	(6.2)	(0.5)
Pension expense:						
Current service cost	-	(0.7)	-	-	(0.5)	-
Past service loss	(2.6)	0.4	-	-	0.6	-
Net interest	(5.1)	-	-	(6.7)	(0.1)	-
Re-measurement losses/(gains):						
Effect of changes in demographic assumptions	(2.8)	-	-	3.1	-	-
Effect of changes in financial assumptions	(40.5)	(0.2)	-	(36.4)	(0.8)	(0.1)
Effect of experience adjustments	0.9	-	-	-	0.2	-
Other actuarial gains	-	-	-	-	-	-
Reduction in obligation due to settlement						
Benefits paid	14.5	-	0.3	6.7	-	-
Foreign exchange	14.0	-	-	(13.6)	-	-
Benefit obligation as at 31 December	(288.0)	(7.3)	(0.3)	(266.4)	(6.8)	(0.6)

Changes in scheme assets

	2020			2019		
	UK €m	France €m	Porto €m	UK €m	France €m	Porto €m
Fair value of scheme assets as at 1 January	335.5	-	0.6	270.7	-	0.6
Pension income:						
Net interest	6.5	-	-	8.3	-	-
Re-measurement gains:						
Return on plan assets (excluding interest income)	45.4	-	-	43.1	-	-
Employer contributions	3.7	-	-	3.5	-	-
Benefits paid	(14.5)	-	(0.3)	(6.7)	-	-
Admin expenses	(1.2)			-	-	-
Foreign exchange	(17.4)	-	-	16.6	-	-
Fair value of scheme assets as at 31	358.0	-	0.3	335.5	-	0.6

Fair value of scheme assets with a quoted market price

	2020		2019	
	UK	Porto	UK	Porto
	€m	€m	€m	€m
Cash and cash equivalents	5.1	-	5.2	0.1
Equity instruments - quoted	56.2	-	61.0	0.1
Equity instruments - not quoted	-	-	2.8	-
Debt / LDI instruments - quoted	117.5	0.3	111.0	0.4
Debt / LDI instruments - not quoted	179.2	-	155.5	-
Total fair value of assets	358.0	0.3	335.5	0.6
Present value of funded obligations	(288.0)	(0.3)	(266.4)	(0.6)
Surplus	70.0	-	69.1	-

The group has recognised a net surplus of €70.0 million (2019: €69.1 million) in relation to the LCH UK scheme on the basis that the group has access to the surplus in the event of wind up of the scheme. No asset ceiling has been applied to the net surplus recognised as no minimum funding commitments are associated to the plan.

Sensitivity analysis

The sensitivity of the value of the benefit obligation to the discount rate is shown below:

	2020 Impact on scheme obligations			2019 Impact on scheme obligations		
	UK	France	Porto	UK	France	Porto
	€m	€m	€m	€m	€m	€m
Discount rate - increase by 0.5%	(31.8)	-	-	(28.1)	(0.5)	(0.1)
Revaluation in deferment (CPI) and salary increases - increase by 0.5%	7.9	-	-	7.3	-	0.1
Pension increases in payment - increase by 0.5%	22.5	-	-	19.3	-	(0.1)
Life expectancy - increase by 1 year	10.9	-	-	9.1	-	-

The sensitivity analyses above have been determined based on a method that extrapolates the impact on the benefit obligation as a result of reasonable changes in key assumptions occurring at the end of the reporting period.

Payments from the defined benefit schemes

The following payments are expected to be made in future years out of the defined benefit plans' obligations:

	UK	France	Porto
	€m	€m	€m
Within the next 12 months	3.8	-	-
Between 2 and 5 years	16.1	0.9	-
Following 5 years	22.4	2.0	-
	42.3	2.9	-

Contributions

During the year a contribution of €3.7 million (2019: €3.5 million) was made to the defined benefit pension plan in the UK. As part of the triennial valuation as at 31 December 2017, the group has agreed a new funding plan with the trustees, consisting of annual contributions of £3 million (€3.3 million) per annum for the years 2019 to 2022 inclusive, provided a trustee valuation deficit exists at the prior year end.

20. Financial instruments

Financial assets and liabilities

The financial instruments of the group are categorised as follows:

	Note	2020 €m	2019 €m
Financial assets at fair value through profit or loss			
Transactions with clearing members at fair value through profit or loss	12	694,342.9	659,577.3
Financial assets at fair value through other comprehensive income			
Government bonds		21,320.8	22,189.2
Financial assets at amortised cost			
Transactions with clearing members at amortised cost	12	3,221.2	2,863.1
Trade and other receivables	13	240.2	170.1
Short-term loans	17	249.0	46.8
Other balances with clearing members	12	6,181.0	5,149.3
Clearing business cash and cash equivalents		84,841.1	75,159.3
Cash and short-term deposits	14	1,102.8	949.3
Financial liabilities at fair value through profit or loss			
Transactions with clearing members at fair value through profit or loss	12	(694,342.9)	(659,577.3)
Financial liabilities at amortised cost			
Transactions with clearing members at amortised cost	12	(3,221.2)	(2,863.1)
Trade and other payables	15	(320.1)	(399.5)
Initial margin and other balances with clearing members	12	(97,921.1)	(86,936.7)
Default funds	18	(14,489.4)	(15,467.3)

Prepayments within trade and other receivables are not classified as financial assets. Other taxes and contract liabilities and the liability in respect of the renegotiated operating agreements within trade and other payables are not classified as financial liabilities.

All financial assets held at fair value through profit or loss are designated as such on initial recognition by the group. Other assets were tested for impairment, but no expected credit loss provisions are necessary.

Fair value hierarchy

The group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques for which all inputs, which have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs which have a significant effect on the recorded fair value that are not based on observable market data. The group has no financial instruments in this category.

The group held the following significant financial instruments measured at fair value:

	2020			2019		
	Level 1 €m	Level 2 €m	Total €m	Level 1 €m	Level 2 €m	Total €m
Assets measured at fair value						
Transactions with clearing members - derivatives	70.9	3,036.4	3,107.3	12.4	3,583.1	3,595.5
Transactions with clearing members - non-derivatives	-	691,235.6	691,235.6	-	655,981.8	655,981.8
Government issued bonds at fair value through other comprehensive income	21,320.8	-	21,320.8	22,189.2	-	22,189.2
Liabilities measured at fair value						
Transactions with clearing members - derivatives	(70.9)	(3,036.4)	(3,107.3)	(12.4)	(3,583.1)	(3,595.5)
Transactions with clearing members - non-derivatives	-	(691,235.6)	(691,235.6)	-	(655,981.8)	(655,981.8)

For assets and liabilities classified as level 1, the fair value is based on market price quotations at the reporting date.

For assets and liabilities classified as level 2, the fair value is calculated using valuation techniques with market observable inputs. Frequently applied techniques include forward pricing and swap models using present value calculations. The models incorporate various inputs including foreign exchange spot and forward rates, interest rate curves and forward rate curves.

Amounts included in the income statement in relation to financial instruments are as follows:

	2020 €m	2019 €m
Treasury income on assets held at fair value	104.2	283.6
Treasury income on other financial assets	172.1	733.3
Treasury income on liabilities held at amortised cost	384.7	310.9
Treasury income	661.0	1,327.8
Treasury expense on assets held at fair value	(29.1)	(20.9)
Treasury expense on assets held at amortised cost	(221.1)	(172.0)
Treasury expense on liabilities held at amortised cost	(108.0)	(899.9)
Treasury expense	(358.2)	(1,092.8)
Net treasury income	302.8	235.0
Net finance income on pension fund assets	1.4	1.5
Finance income on assets held at amortised cost	1.6	1.1
Finance expense on assets held at amortised cost	(5.1)	(3.7)
Finance expense on loans and borrowings held at amortised cost	(0.1)	(0.3)
Net finance expense	(2.2)	(1.4)

Treasury income on liabilities held at amortised cost represents amounts earned from clearing members' cash collateral deposits which attract negative interest rates. Treasury expense on assets held at amortised cost represents amounts where the group incurs negative interest on its cash deposits.

Offsetting financial assets and financial liabilities

The group reports financial assets and financial liabilities on a net basis on the balance sheet where there is 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 following table shows the impact of netting arrangements on all financial assets and liabilities that are reported net on the balance sheet.

31 December 2020	Gross amounts €m	Amount offset €m	Net amount as reported €m
Derivative financial assets	1,520,620.4	(1,517,513.1)	3,107.3
Repurchase agreements	805,085.9	(110,629.1)	694,456.8
Total assets	2,325,706.3	(1,628,142.2)	697,564.1
Derivative financial liabilities	(1,553,629.8)	1,550,522.5	(3,107.3)
Reverse repurchase agreements	(805,085.9)	110,629.1	(694,456.8)
Total liabilities	(2,358,715.7)	1,661,151.6	(697,564.1)

31 December 2019	Gross amounts €m	Amount offset €m	Net amount as reported €m
Derivative financial assets	1,246,826.6	(1,243,220.1)	3,606.5
Repurchase agreements	754,213.1	(95,379.2)	658,833.9
Total assets	2,001,039.7	(1,338,599.3)	662,440.4
Derivative financial liabilities	(1,282,446.8)	1,278,840.3	(3,606.5)
Reverse repurchase agreements	(754,213.1)	95,379.2	(658,833.9)
Total liabilities	(2,036,659.9)	1,374,219.5	(662,440.4)

The imbalance between asset and liability for gross and offset amounts is caused by the exclusion of settled to market ("STM") amounts from the gross balance on the grounds that these trades are settled.

As CCPs, the group's operating companies act as principal and sit in the middle of clearing members' transactions and hold default funds and margin amounts as a contingency against the default of a member and so further amounts are available to offset in the event of a default reducing the asset and liability of €694,342.9 million (2019: €662,440.4 million) to nil.

21. Provisions

	2020		
Current	Property €m	Other €m	Total €m
At 1 January	-	3.8	3.8
Released in the year	-	(0.6)	(0.6)
Utilised in the year	-	(3.0)	(3.0)
At 31 December	-	0.2	0.2
Non-current			
At 1 January	0.6	-	0.6
Provided in the year	-	-	-
At 31 December	0.6	-	0.6

	2019		
Current	Property €m	Other €m	Total €m
At 1 January	-	0.2	0.2
Provided in the year	-	6.9	6.9
Utilised in the year	-	(3.3)	(3.3)
At 31 December	-	3.8	3.8
Non-current			
At 1 January	-	-	-
Provided in the year	0.6	-	0.6
At 31 December	0.6	-	0.6

Other provisions relate to a provision made in 2017 in respect of possible claims against the group in the future, which is still required, and a provision in relation to the expected costs arising from the restructuring programme approved by the board during 2019. During 2020, the provision for this programme was released due to redeployment.

The property provision represents the estimated net present value of future costs for dilapidation.

22. Commitments and contingencies

Supplier agreements

LCH SA and the ATOS group entered into a new Heads of Terms concerning the 5-year IT service contract, effective from January 2014. This extends the contract until December 2023, with a right to terminate from January 2022. The estimated maximum value of the commitment to January 2022 is €24.0 million from 1st January 2020 (2019: €40.3 million).

Treasury assets supporting operational facilities

As at 31 December 2020 the group had assets and collateral in support of the following operational facilities:

	2020 €m	2019 €m
Collateral deposited with central banks*	2,905.7	2,580.2
Fixed income settlement**	23,949.3	29,206.5

*Securities pledged as collateral for clearing activity with central banks for the purpose of securing overnight borrowing.
**LCH Limited holds collateral as security against tri-party cash loans as well as government debt and government backed bank issued debt, which is used to support Repo settlement activity.

23. Share capital and share premium

Ordinary shares

The company has 72,483,217 fully paid-up ordinary shares of €1.00 each in issue as at 31 December 2020 (31 December 2019: 72,483,217).

No ordinary shares were issued in the current and prior years.

Non-cumulative callable preference shares (NCPS)

During the year the Company adopted new articles of association which removed the authority to issue NCPS as such authority was a legacy matter that was no longer deemed necessary.

Share premium

The share premium reserve is €316.1 million (31 December 2019: €316.1 million).

24. Dividends

	2020 €m	2019 €m
Final dividend for 31 December 2018, approved 26 March 2019: €2.80 per ordinary share	-	203.0
Final dividend for 31 December 2019, cancelled by the Board 22 December 2020	-	-

The final dividend for 2019 of €210 million was delayed and then cancelled by the Board of Directors on the 22 December 2020 in order to preserve capital during the Covid-19 pandemic uncertainty and in line with regulatory guidance.

On 25 February 2021, the directors of the Company recommended a final dividend for the year ended 31 December 2020 of €5.20 per ordinary share, subject to appropriate regulatory review and shareholder approval.

25. Capital management

The group's approach to capital management is to maintain a strong capital base that will support the development of the business, meet regulatory capital requirements at all times and maintain good credit ratings. This is managed with reference to external capital requirements, including a consideration of future impacts to the group. Capital plans are included within the group's medium term financial plan which is presented to the board annually. The capital plans take into account current and future regulatory requirements and the development of the group's business. The group monitors capital resources in relation to its capital requirements.

LCH Limited and LCH SA are considered as qualifying central counterparties ("QCCP") under the European capital requirements regulations ("CRR") LCH Limited as it has received recognition under European markets infrastructure regulations ("EMIR") as a third country CCP, and LCH SA as it has received authorisation under European markets infrastructure regulations ("EMIR"). Both companies are registered as DCOs in the US affording them QCCP status for US members.

Compliance with capital adequacy regulations

Until the 31 December 2020 the group is lead-regulated by the Autorité de Contrôle Prudentiel et de Resolution ("ACPR") in France as a Compagnie Financiere under French law and is subject to capital adequacy rules under Basel III. Following the United Kingdom leaving the EU and the end of the transition period, the ACPR supervision over LCH Group Ltd has ceased and, as a result, LCH Group Ltd does not need to comply with the capital requirements stated in the CRR.

LCH SA is regulated as a credit institution by the ACPR and as a CCP and an investment service provider by the Authorité des marchés financiers ("AMF") in Québec, Canada. It is subject to standard capital adequacy rules under EMIR and Basel III. It is also regulated by the CFTC as a DCO in the US.

LCH Limited is regulated by the Bank of England as a recognised clearing house under the Financial Services and Markets Act 2000 and is subject to capital adequacy rules under EMIR. It is also regulated by the CFTC as a DCO in the US and is licensed by the Swiss Financial Markets Supervisory Authority ("FINMA") as a CCP to SIX Swiss Exchange in Switzerland. In Canada it is recognised as a clearing agency by the Ontario Securities Commission ("OSC") in Ontario, and the AMF in Québec. In Australia it is recognised as a CCP by the Australian Securities & Investments Commission ("ASIC"). LCH Limited is also subject to oversight by other market regulators and central banks in jurisdictions in which business is carried out.

The group and its subsidiaries have been fully compliant with the respective capital adequacy regulations throughout the current year.

Basel III capital calculation

In accordance with the Basel III Pillar I framework the group is required to maintain ratios of capital to risk-weighted assets that cannot fall under a threshold of 7.0% of common equity, 8.5% of tier 1 capital, and 10.5% of total capital (including capital conservation buffer of 2.5%). As at the current year end, the common equity, tier 1 and total equity ratios were 26.0% (31 December 2019: 18.7%).

As at 31 December 2020, the group's total regulatory capital was €675.3 million (31 December 2019: €387.0 million); this is composed of shareholders' funds.

26. Subsidiary companies

The Company's subsidiaries are detailed in note 30; all are owned 100% except LCH SA. This note also details the overseas branches and representative offices of LCH Limited and LCH SA.

Material partly-owned subsidiary

There is a material non-controlling interest in LCH SA of 11.1%. Movement in the non-controlling interest is shown in the statement of changes in equity and includes the attributable share of goodwill and all other assets.

€9.8 million of total comprehensive income was attributable to the non-controlling interest in the current year (2019: €8.0 million).

	2020	2019
Summarised balance sheet of LCH SA	€m	€m
Total non-current assets	102.2	94.3
Clearing business assets	530,235.6	473,877.0
Other current assets	334.9	324.3
Balances with clearing members	(530,197.0)	(473,849.3)
Other liabilities	(104.6)	(93.1)
Net assets	371.1	353.2
Goodwill attributable to LCH SA	101.3	101.3
Total assets for LCH SA	472.4	454.5
Value of assets attributable to non-controlling interest	52.3	50.3

	2020	2019
Summarised cashflow statement for LCH SA		
Net cash inflow from operating activities	1,573.3	87.8
Net cash outflow from investing activities	(1,496.5)	(21.0)
Net cash outflow from financing activities	(70.3)	(48.9)
Net increase in cash and cash equivalents	6.5	17.9
Cashflow Attributable to non-controlling interest	0.7	2.0

	2020	2019
Summarised total comprehensive income for LCH SA		
Profit after tax	88.5	72.2
Other comprehensive income	-	(0.5)
Total comprehensive income	88.5	71.7
Attributable to non-controlling interest	9.8	8.0

27. Related party transactions

Key management compensation personnel

Details of key management personnel and their total remuneration are disclosed in note 19.

Ultimate parent company and group companies

LSEG is the ultimate parent company of the group, with a total shareholding of 82.61% (2019: 82.61%) and is the largest group that prepares consolidated accounts. The immediate parent company is London Stock Exchange (C) Limited, which does not prepare consolidated accounts. LCH Group Holdings Limited is the head of the smallest group which prepares consolidated accounts.

Copies of the consolidated financial statements for LSEG for the year ended 31 December 2020 are available from the company secretary, London Stock Exchange Group plc, 10 Paternoster Square, London, EC4M 7LS.

Details of group companies are set out in note 30. Transactions or balances with group entities that have been eliminated in these consolidated financial statements are not reported.

Throughout the current year the group had a number of transactions with various companies within LSEG which are detailed below. All transactions were on an arm's length basis.

A director of the ultimate parent company has a 33.8% equity interest in Quantile Group Limited (2019: 40.5% equity interest was in Quantile Technologies Limited, which is now a wholly owned subsidiary of Quantile Group Limited). Quantile Technologies Limited is an approved compression service provider for LCH Limited. The group operated a commercial arrangement with Quantile Technologies Limited and all transactions were carried out on an arm's length basis. During the year the group recognised income of €0.1 million and expenses of €nil million as part of the agreement (year ended 31 December 2019: income of €0.6 million and expenses of €0.5 million).

	2020 €m	2019 €m
Income statement		
Interest charged from parent companies	-	(0.5)
Interest charged from parent companies	1.6	-
	1.6	(0.5)
Balance sheet		
Short-term loan to parent company	249.0	46.8
Amounts due from parent companies at 31 December	0.9	0.2
Amounts due to parent companies at 31 December	(1.1)	(4.0)
Transactions with companies under common control		
Income statement		
Services recharged to companies under common control	-	0.2
Services recharged from companies under common control	(76.5)	(69.2)
	(76.5)	(69.0)
Balance sheet		
Amounts due from companies under common control at 31 December	10.0	5.8
Amounts due to companies under common control at 31 December	(41.2)	(18.5)

The group's inter-operability balances with other companies within LSEG are not included above but are disclosed separately in note 12. The amount due to parent companies includes the long-term loan detailed in note 17.

28. Government grants

The group qualifies for government assistance in the form of research and development tax credits.

In 2020, LCH SA did not qualify for government assistance in the form of crédit d'impôt recherche ("CIR") (a research and development tax credit).

In LCH Limited, the company received no government grants in the current year (2019: €1.6 million).

The grants are subject to potential tax audit to ensure the eligibility of the expenses claimed. No provision has been made for any repayment of the amounts receivable as this is deemed unlikely to occur.

29. Cashflows arising from operating activities

	2020 €m	2019 €m
Profit for the year	342.6	283.2
Tax expense	99.2	86.9
Finance income	(3.0)	(2.7)
Finance expense	5.2	4.1
Depreciation, amortisation and impairment	78.7	86.0
Research and development tax credit	-	(1.6)
Share-based payments expense	10.1	7.4
Movement in provisions	(3.6)	4.2
Movement in pension	(0.4)	(3.5)
(Increase)/decrease in trade and other receivables	(70.4)	151.5
(Decrease)/increase in trade and other payables	(72.9)	65.1
Revaluation of financial instruments	14.8	0.1
Increase in clearing business cash and cash equivalents	(9,681.8)	(6,287.8)
(Increase)/decrease in fair value of member assets	(36,155.5)	5,503.4
Increase in fair value of member liabilities	46,108.1	3,705.3
(Decrease)/increase in default funds	(978.0)	2,621.2
Net cash (out)/inflow from operations	(306.9)	6,222.8

30. Capital Requirements Directive (CRD) IV disclosures

The LCH group comprises the following entities (all companies are 100% owned except where noted):

Company name	Principal activity	Address	Country of incorporation
LCH Group Holdings Limited	Parent company	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
LCH Limited – UK	CCP	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
LCH Limited – US	Representative office	28 Liberty Street, 57th Floor, New York NY 10005, US	-
LCH Limited – Australia	Representative office	Governor Philipp Tower, 1 Farrer Place, Sydney, NSW 2000, Australia	-
LCH Limited – Japan	Branch	Otemachi First Square/East Tower Level 11, 1-5-1 Otemachi Chiyoda-ku Tokyo, 100-0004, Japan	-
LCH Limited – Singapore	Branch	Level 18, Centennial Tower, 3 Temasek Boulevard, 039190, Singapore	-
LCH SA – France – (88.9% owned)	CCP	18, Rue de Quatre Septembre, Paris, 75002, France	France
LCH SA – Netherlands	Branch	Keizersgracht 679-689, 1017 DV Amsterdam, The Netherlands	-
LCH SA – Belgium[3]	Branch	Place Stephanie 6, Bruxelles, 1050, Belgium	-
LCH SA – Portugal	Representative office	Avenue da Boavista 3433, Porto, 4194-017, Portugal	-
SwapAgent Limited	Clearing agent	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
LCH.Clearnet LLC[2]	Dormant	17, State Street, New York City, NY, 10004, USA	USA
BondClear Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
SwapClear Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
LCH Pensions Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
RepoClear Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
CommodityClear limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
EquityClear Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
The London Clearing House Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
LCH.Clearnet Group Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
ForexClear Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
International Commodities Clearing House Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales
The London Produce Clearing House Limited[1]	Dormant	33, Aldgate High Street, London, EC3N 1EA, UK	England & Wales

1 Indirect holding through the Company's other subsidiaries
2 Inactive since June 2016
3 Closed 30 June 2020

The required CRD IV disclosures are as follows:

Year ended 31 December 2020	Head-count	Banking income €m	Profit before tax €m	Current tax charged €m	Deferred tax charged €m	Profit after tax €m
LCH Group Holdings Limited	-	76.8	57.0	0.4	-	57.4
LCH Limited – UK	563	719.4	317.8	(59.7)	-	258.1
LCH Limited – US	-	13.5	2.4	0.7	(0.4)	2.7
LCH Limited – Australia	16	4.1	0.3	(0.1)	-	0.2
LCH Limited – Japan	2	0.8	0.1	-	-	0.1
LCH Limited – Singapore	1	0.5	-	-	-	-
LCH SA - France	253	239.8	104.0	(33.9)	0.1	70.2
LCH SA – Netherlands	1	-	24.4	(6.1)	-	18.3
LCH SA – Belgium	2	(0.8)	0.8	(0.4)	-	0.4
LCH SA – Portugal	2	-	(0.4)	-	-	(0.4)
SwapAgent Limited	2	14.1	(3.9)	0.7	-	(3.2)
LCH.Clearnet LLC	-	-	-	-	(0.1)	(0.1)
BondClear Limited	-	-	-	-	-	-
SwapClear Limited	-	-	-	-	-	-
LCH Pensions Limited	-	-	-	-	-	-
RepoClear Limited	-	-	-	-	-	-
CommodityClear Limited	-	-	-	-	-	-
EquityClear Limited	-	-	-	-	-	-
The London Clearing House Limited	-	-	-	-	-	-
LCH.Clearnet Group Limited (formerly LCH Group Holdings Limited)	-	-	-	-	-	-
ForexClear Limited	-	-	-	-	-	-
International Commodities Clearing House Limited	-	-	-	-	-	-
The London Produce Clearing House Limited	-	-	-	-	-	-
Eliminations on consolidation	-	(103.7)	(60.7)	-	(0.4)	(61.1)
Total	842	964.5	441.8	(98.4)	(0.8)	342.6

Total income of €966.7 million (2019: €861.7 million) less finance expense of €2.2 million (2019: €1.4 million) is equivalent to both banking income and turnover per the CRD IV definition.

Year ended 31 December 2019	Head-count	Banking income €m	Profit before tax €m	Current tax charged €m	Deferred tax charged €m	Profit after tax €m
LCH Group Holdings Limited	-	185.4	158.0	0.3	-	158.3
LCH Limited – UK	550	644.3	260.5	(48.5)	(1.7)	210.3
LCH Limited – US	-	19.0	3.0	(0.5)	(1.2)	1.3
LCH Limited – Australia	15	4.6	0.3	(0.1)	-	0.2
LCH Limited – Japan	2	0.5	-	-	-	-
LCH SA - France	215	212.9	87.4	(30.3)	0.3	57.4
LCH SA – Netherlands	2	-	19.3	(4.8)	-	14.5
LCH SA – Belgium	4	(0.8)	1.2	(0.4)	-	0.8
LCH SA – Portugal	3	-	(0.7)	-	-	(0.7)
SwapAgent Limited	6	14.2	0.1	-	-	0.1
LCH.Clearnet LLC	-	0.2	0.2	-	0.6	0.8
BondClear Limited	-	-	-	-	-	-
SwapClear Limited	-	-	-	-	-	-
LCH Pensions Limited	-	-	-	-	-	-
RepoClear Limited	-	-	-	-	-	-
CommodityClear Limited	-	-	-	-	-	-
EquityClear Limited	-	-	-	-	-	-
The London Clearing House Limited	-	-	-	-	-	-
LCH.Clearnet Group Limited (formerly LCH Group Holdings Limited)	-	-	-	-	-	-
ForexClear Limited	-	-	-	-	-	-
International Commodities Clearing House Limited	-	-	-	-	-	-
The London Produce Clearing House Limited	-	-	-	-	-	-
Eliminations on consolidation	-	(220.0)	(159.2)	0.6	(1.2)	(159.8)
Total	797	860.3	370.1	(83.7)	(3.2)	283.2

LCH Limited made no claim for a research and development tax credit from HMRC in 2020 (2019: €1.6 million). Although this is received as a reduction to the tax charge, the amount claimed is recognised as a credit against staff costs in the year.

LCH GROUP HOLDINGS LIMITED
COMPANY STATEMENT OF FINANCIAL POSITION
As at 31 December 2020

	Notes	2020 €m	2019 €m
Assets			
Non-current assets			
Investments	31	812.4	812.4
Total non-current assets		812.4	812.4
Current assets			
Trade and other receivables	32	22.8	26.7
Short-term loan to parent company	33	249.0	46.8
Group relief receivable		0.8	0.5
Cash and cash equivalents		0.2	0.3
Total current assets		272.8	74.3
Total assets		1,085.2	886.7
Liabilities			
Current liabilities			
Trade and other payables	34	(146.5)	(5.4)
Total current liabilities		(146.5)	(5.4)
Non-current liabilities		-	-
Total liabilities		(146.5)	(5.4)
Net assets		938.7	881.3
Capital and reserves attributable to the Company's equity holders			
Ordinary share capital	23	72.5	72.5
Share premium	23	316.1	316.1
Capital redemption reserve		61.2	61.2
Retained earnings		488.9	431.5
Total shareholders' funds		938.7	881.3

LCH GROUP HOLDINGS LIMITED
COMPANY STATEMENT OF CASHFLOWS
Year ended 31 December 2020

	2020 €m	2019 €m
Cashflows arising from operating activities		
Profit for the year	57.4	158.3
Taxation	(0.4)	(0.3)
Finance income	(2.2)	(0.8)
Finance cost	-	0.2
Impairment in investment	-	11.8
Increase in trade and other receivables	(3.0)	(2.6)
Decrease in trade and other payables	(1.6)	(5.4)
Dividend income	(63.1)	(174.3)
Net cash outflow from operations	(12.9)	(13.1)
Tax received	0.1	0.9
Net cash outflow from operating activities	(12.8)	(12.2)
Cashflows arising from investing activities		
Dividend income	63.1	174.3
Net cash inflow from investing activities	63.1	174.3
Cashflows arising from financing activities		
Loan (to)/from parent company	(201.2)	41.2
Dividends paid	-	(203.0)
Net loan proceeds from subsidiaries	149.9	(1.1)
Net cash outflow from financing activities	(51.3)	(162.9)
Decrease in cash and cash equivalents	(1.0)	(0.8)
Cash and cash equivalents at 1 January	0.3	0.7
Effects of foreign exchange movements	0.9	0.4
Cash and cash equivalents at 31 December	0.2	0.3

LCH GROUP HOLDINGS LIMITED
COMPANY STATEMENT OF CHANGES IN EQUITY
As at 31 December 2020

	Called-up share capital €m	Share premium €m	Capital redemption reserve €m	Retained earnings €m	Total €m
Shareholders' equity at 1 January 2019	72.5	316.1	61.2	476.2	926.0
Profit for the year	-	-	-	158.3	158.3
Dividends paid in the year	-	-	-	(203.0)	(203.0)
Shareholders' equity at 31 December 2019	72.5	316.1	61.2	431.5	881.3
Profit for the year	-	-	-	57.4	57.4
Shareholders' equity at 31 December 2020	72.5	316.1	61.2	488.9	938.7

31. Investments

Investment in subsidiaries	2020 €m	2019 €m
Cost		
At 1 January	999.4	999.4
Additions	-	-
At 31 December	999.4	999.4
Accumulated impairment		
At 1 January	(187.0)	(175.2)
Impairment in year	-	(11.8)
At 31 December	(187.0)	(187.0)
Net book value	812.4	812.4

Investments in subsidiary companies are stated at cost less impairment. See note 30 for details of subsidiary companies.

32. Trade and other receivables

	2020 €m	2019 €m
Current		
Short-term loans with subsidiary companies	13.2	20.8
Other receivables	9.6	5.9
	22.8	26.7

33. Interest bearing loans and borrowings

	2020 €m	2019 €m
Current		
Short-term loan to parent company	249.0	46.8

During 2020, the group increased its loan to its parent company, LSE (C) Limited, to €249.0 million. The loan is repayable with 5 days' notice and attracts interest at the rate of EURIBOR with a 0% floor +1%.

34. Trade and other payables

	2020 €m	2019 €m
Current		
Trade payables	0.1	0.3
Amounts owed to group companies	144.2	0.6
Other payables	0.5	4.0
Accruals	1.7	0.5
	146.5	5.4

Amounts owed to group companies include short-term loans that are repayable on demand and incur interest at market rates.

35. Financial instruments

The Company's financial assets and liabilities are as follows:

	Note	2020 €m	2019 €m
Financial assets at amortised cost			
Short-term loans due from subsidiary companies	32	13.2	20.8
Short-term loans due from parent company	33	249.0	46.8
Other receivables		9.8	2.8
Cash and short-term deposits		0.2	0.3
Financial liabilities at amortised cost			
Trade and other payables	34	(3.2)	(5.4)
Short-term loans due to subsidiary companies		(143.3)	-

Loan agreements between the Company and its subsidiaries were signed in 2016. The loans are revolving credit facilities valid for 5 years and are repayable with 3 months' notice. Interest is charged at LIBOR or EURIBOR as appropriate. In some cases, the loan amount is subject to negative interest rates.

A loan agreement was signed with the Company's parent company in 2018. The loan is repayable with 5 days' notice and attracts interest at the rate of EURIBOR with a 0% floor +1%.

36. Related party transactions

During the year the Company charged €11.5 million (2019: €10.4 million) in management charges to subsidiary companies. The Company paid interest of €nil million (2019: €0.2 million) to a subsidiary company and €nil million (2019: €nil) to its parent company and received interest of €0.6 million (2019: €0.8 million) from subsidiary and parent companies.

Balances at the year end with subsidiary and parent companies are shown in notes 31, 32, 33 and 34.