LCH Group Holdings Limited

Basel III Pillar 3 Disclosures Report

For the year ended 31 December 2017

LCH The Markets' Partner

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1. Introduction

1.1 LCH Group Holdings Limited

LCH Group Holdings Limited is the holding company of the LCH Group comprising three clearing houses - LCH Limited based in London, LCH LLC based in New York and LCH SA based in Paris - plus a new subsidiary, SwapAgent Ltd, which launched in 2017 providing valuation services for non-cleared derivative products.

LCH Group Holdings Limited is a compagnie financière regulated by the Autorité de Contrôle Prudentiel et de Résolution (ACPR). 65.9% of its shares are owned by the London Stock Exchange Group plc (LSEG).

Both LCH SA and LCH Group Holdings Limited are subject to Basel III requirements on a standalone and consolidated basis respectively. This Pillar 3 disclosure document covers the disclosures of LCH Group Holdings Limited.

1.2 Basel III overview

On 26 June 2013, the European Parliament and Council approved the Capital Requirements Regulation ("CRR") and Capital Requirements Directive ("CRD"), together known as "CRD IV", which transposed the new global standards on bank capital (the Basel III agreement) into EU law. The new rules entered into force on 1 January 2014 with the CRR directly binding in all EU Member States while the CRD needed to be transposed into national law. CRD IV replaces the existing capital requirements for credit institutions and investment firms, and is applicable at an entity, sub-consolidated and consolidated basis.

CRD IV introduced a number of changes, including stricter definition of capital resources, increased capital requirements, increased reporting obligations (COREP), binding liquidity ratios and new requirements on remuneration.

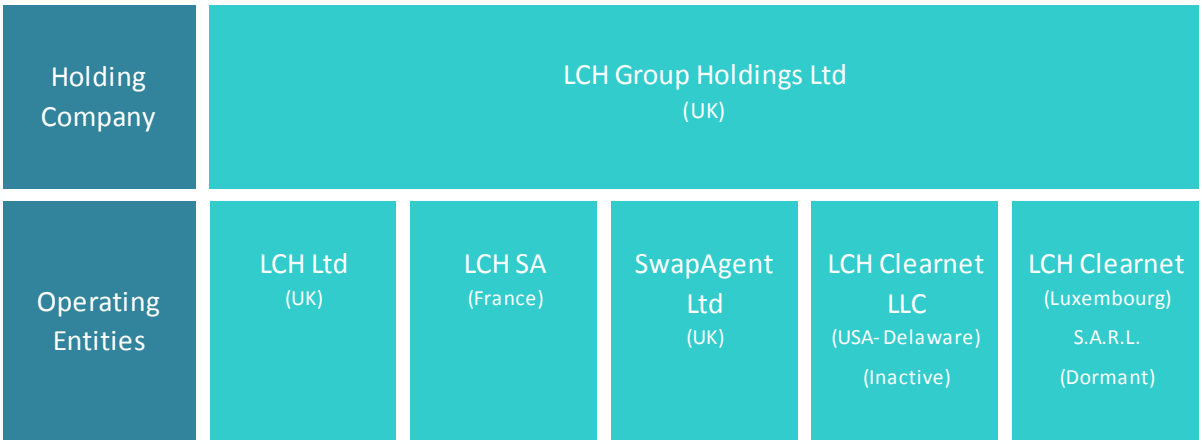
The Basel framework consists of three pillars:

- Pillar 1 defines the minimum capital requirements to cover credit, market and operational risks, the eligible capital instruments, and the rules for calculating RWA (Risk Weighed Assets)
- Pillar 2 states that the credit institutions and investment firms must have an internal capital adequacy assessment process (ICAAP) and that national competent authorities must evaluate each credit institution's and investment firm's overall risk profile as well as its risk management and internal control processes
- Pillar 3 encourages market discipline through disclosure requirements which allow market participants to assess the risk and capital profile of credit

institutions and investment firm banks. This document is designed to meet LCH Group's Pillar 3 disclosure obligations.

1.3 Scope of application

The scope of application is to LCH Group Holdings Limited on a consolidated basis. A simplified Group structure that includes the Group's principal operating entities is as follows:



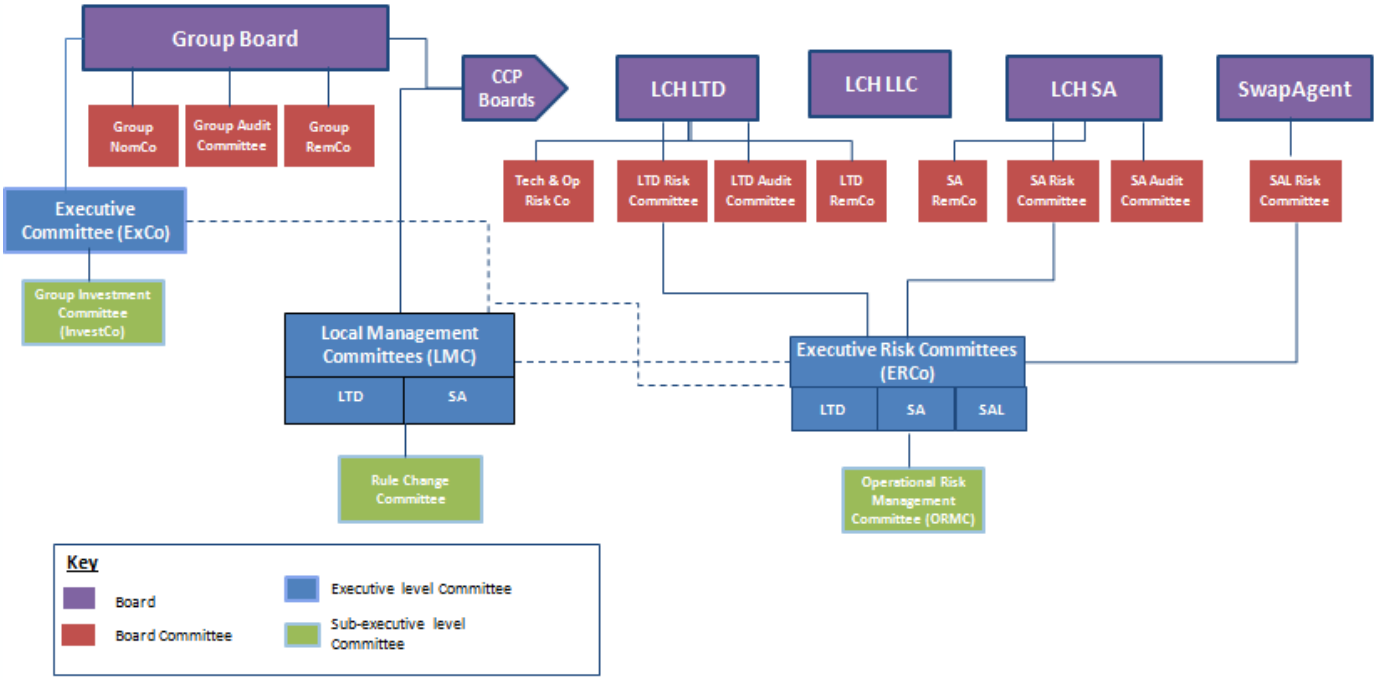
The list of LCH regulators can be found on LCH's website (http://www.lch.com/about-us/company-structure).

1.4 Risk governance

The governance structure of LCH includes a number of Board and Executive committees, the coordination of which is ensured through common members or chairmen.

Each subsidiary is legally responsible for its decisions, therefore Group Board decisions are, when necessary, ratified by subsidiary Boards to ensure they are compliant with any specific legal or regulatory requirements.

LCH Group governance



1.4.1 Risk governance

The Chief Risk Officer for each entity of LCH Group ("CRO") is responsible for the day-to-day management and control of all risks. The CRO has the overall responsibility for all risk decisions within the framework of agreed risk policies, including:

- General authority over all functional reports (not superseding the authority of the relevant subsidiary CEO)
- Responsibility for developing and implementing the LCH strategic risk management programme and risk framework
- The responsibility for monitoring and measuring risk according to LCH Group standards

The Group Chief Risk Officer is responsible for:

- Developing and proposing to the Group Board, the Group Risk Governance Framework
- Setting the risk standards applicable for each entity, which are laid down in risk policies

1.4.2 Executive committees dedicated to risk management

Each LCH entity has a Local Management Committee (LMC) whose purpose is to advise and support the CCP CEO on all key management matters of the company, in order for him to discharge his responsibilities. Similarly, the purpose of the Committee is also to

advise, support and assist the Group Chief Executive Officer of LCH Group Holdings Limited, in the discharge of his responsibilities, as applicable.

With respect to the risk management, the LMCs are advised by the Executive Risk Committee (ERCo). This combined risk committee for each of the operating entities is chaired by the Group Chief Risk Officer, and comprises the heads of each clearing business, the entity Chief Risk Officers (CROs), and senior group risk management and compliance executives. Its responsibilities are to oversee, monitor, review and challenge the management of all risks arising in pursuit of the stated business objectives and risk appetite. Any new business containing new risk or changes to risk policy must be reviewed by the ERCo and referred to the appropriate Board Risk Committee for review and applicable Board for approval. The CCP CROs are responsible for regular reporting on all risk matters to their respective LMCs.

ERCo is assisted by the Operational Risk sub-Committee and a Financial Risk Working Group for review of all relevant matters prior to presentation to the ERCo, making recommendations as appropriate.

- The Operational Risk Management Committee (ORMC) is responsible for the implementation of the group's operational risk policy and framework, including reviews of operational risk dashboards, loss and incident reports, core controls, key risk indicators, scenario analysis, and deep dive reviews.
- The Financial Risk Working Group (FRWG) comprises the key stakeholders from the first line and second line risk teams, and meets approximately twice per month. The FRWG assists the ERCo by managing and monitoring the establishment and maintenance of a comprehensive system of market, credit, liquidity and collateral risk management including annual risk policy reviews, margin levels and models, stress testing, default fund adequacy and default management arrangements, and new product assessment. The relevant points are reported to the ERCo for approval or notification.

1.4.3 Board and committees of the Board

In broad terms, the LCH Board is responsible for setting strategy, objectives and policies, and approving budgets and significant business decisions, including the risk appetite statement and all risk policies. The CCP Boards delegate to the CCP CEO and/or CRO certain authorities for decision making within the approved risk policy suite, but Board approval is required for significant changes, such as new markets, changes to or new margin and stress testing methodologies, default fund and default management processes and membership criteria, in all such cases following a review and recommendation of the Risk Committees. The Board reviews on an annual basis the system of internal control.

There are five sub-committees of the LCH Boards:

- LCH Audit Committees represent the interests of the Boards of LCH in the sound financial management, operational risk control and internal risk control discipline of LCH. These Committees review and discuss with LCH management and the external auditors of LCH the audited financial statements of their respective company, before their approval by the Boards

  The Audit Committees of the Group and of its two main operating entities have the same independent chairman. The Audit Committees met three times in 2017.

- LCH Ltd & SA Risk Committees address matters concerning significant risks faced by LCH. It includes the regular review of risk exposure reports, all risk policies and reviews of significant change proposals, such as new markets, changes to or new margin and stress testing methodologies, default fund and default management processes and membership criteria, in all such cases making a recommendation for Board approval. They are chaired by an Independent Non-Executive Director identical for both CCP entities of the Group and its membership comprises representatives of the CCPs' users and their clients, and other INEDs.

  The Risk Committees of the two LCH CCPs met nine times in 2017.

- LCH Remuneration Committees oversee the remuneration policy and principles for operating entities and Management. They recommend the remuneration packages to the Boards for approval. The Group Remuneration Committee met five times in 2017.

- LCH Group Nomination Committee of the Board of Directors makes recommendations to the respective Boards of the LCH group for nominations of candidates as directors of the Boards. The Group Nomination Committee met five times in 2017.

- The LCH Ltd Technology Security & Resilience Committee, established in 2017, represents the interests of the Board in the sound management of technology security and operational resilience including cyber security to ensure that technology security and operational resilience strategies, investments and outcomes support the mission, values, and strategic goals of the Company, and that the company operates within its risk appetite and complies with regulatory requirements. The TSRCo met six times in 2017.

1.4.4 Risk governance framework (RGF)

LCH has in place a risk governance framework approved by the LCH Boards which:

- Defines a risk appetite for LCH
- Lists the universe of risks to which the LCH can potentially be exposed, together with a working definition of each risk type
- Lists the minimum standards/tolerance for each risk which the Board expects to be met, both on a current basis and on a forward looking basis
- Designates the individuals/groups/committees who are responsible for measuring and monitoring risk

Due to considerations of systemic risk and the public nature of the LCH mission, the Risk Appetite of the group can broadly be described as low. LCH adheres to high risk management standards. Risks should be managed at business unit level but escalated if the impact or probability of occurrence is increasing.

The universe of risks includes 22 risks which are tailored to the specific type risk which may be faced by LCH in the performance of its specific function within the market place. The risks in Risk Governance Framework (RGF) are not equal to the risk types as per Basel III but a translation is made to these risk types for the purposes of this report.

For each identified risk there are:

- Individuals who are designated as being responsible for measuring and monitoring such risk
- Minimum tolerance which the Board expects to be met or exceeded
- A specific risk policy approved by the Board or other relevant risk management documentation

A holistic enterprise risk management framework is in place for the measurement and monitoring of all the risks within the risk universe of LCH Group Holdings Limited and an operational risk dashboard is in place which is regularly reviewed by Senior Management, the Audit Committees and LCH Boards.

Any risks which are outside the risk appetite will immediately be reported and an action plan will be put in place as to bring back the relevant risks within appetite.

1.4.5 Basel risk types & coverage

The below Basel risks are relevant for LCH.

Credit risk

Credit risk is the risk to earnings and capital arising from an obligor's failure to meet the terms of any contract with the institution or its failure to perform as agreed.

LCH has the following main credit exposures:

- Investment counterparties
- Clearing members (subject to the default waterfall)
- Interoperating CCPs
- Occasional overnight exposure as a result of settlement and payment activities (see settlement, payment and custodian risk)

All Counterparties, including sovereigns and interoperating CCPs, are subject to a formal and documented Internal Credit Score assessment (Credit Review), before on-boarding and then at least once a year.

The credit risk on the investment portfolio is minimised in the following manner:

- Setting criteria so that only good quality counterparties are used
- Setting limits to minimise concentration risk to these counterparties
- Securing as much of the cash portfolio as possible or undertaking high quality investments
- Setting haircuts appropriate to the type of collateral received

Market risk

With the exception of SwapAgent, it is the role of each operating entity as a central counterparty to interpose itself between counterparties to a trade. As such, each subsidiary has a balanced book in which, for every long position it has with a counterparty, there is an opposing short position. Consequently, the CCPs are exposed to market risk only in case of a clearing member default.

However, each operating entity must invest the cash deposited by clearing members in order to pay them an interest to deposited cash. As a consequence of these investment activities LCH may have an exposure on interest rate changes. In line with EMIR rules the investment portfolio of LCH is qualified as a trading book. Consequently the resulting exposure is qualified as a market risk in Pillar 1.

Market risk exposures as a result of interest rate changes are subject to stringent limits as set out in the investment risk policy approved by the LCH Board.

The LCH group also generates costs and revenues in other currencies than the reporting currency (EUR); as such it is exposed to a market risk as a consequence of FX movements.

A process is in place to forecast cash flows in non-reporting currencies and these exposures are managed through spot buying and selling of currency as recommended by the Risk Committee.

Operational risk

This is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Operational risks are identified, assessed, controlled and managed in a proactive manner to minimise the impact on LCH.

The following processes are in place to manage operational risk:

- Project & new product analysis
- Risk and control self-assessment
- Key risk analysis
- Scenarios analysis
- Incident management procedure
- Permanent controls reporting

Liquidity risk

This is the risk that LCH will, at any time, have insufficient liquid resources available to meet its obligations towards its clearing members or any other creditors and in particular in managing a member default.

There are two main sources of liquidity needs: operational liquidity and liquidity risk generated by a default event.

On a daily basis, assessments are performed of the liquidity buffer and available liquidity resources considering all relevant scenarios and an extended time period.

Concentration risk

This risk includes (i) large (connected) individual exposures and (ii) significant exposures to groups of counterparties whose likelihood of default is driven by common underlying factors, e.g. sector, economy, geographical location, instrument type.

The management of concentration risk is included within the overall credit risk monitoring and specific indicators are in place for this purpose.

Settlement, payment and custodian risks

- Settlement risk: is the risk of making a payment or delivery without receiving, at the same time, the delivery or payment from the counterparty
- Settlement bank risk: is the risk of loss of funds held with a settlement bank should it become insolvent
- Custody risk: is the risk of loss on securities in safekeeping (custody) as a result of the custodian's insolvency, negligence, misuse of assets, fraud, poor administration or inadequate record keeping

LCH has the following generic tools in place to reduce these exposures:

- Direct access to the Banque de France and (I)CSDs
- Strict capital and quality requirements for other intermediaries
- The performance of DVP settlement and finality of payments
- Risk monitoring & control of the exposures

Business risk

This risk can be defined as the risk arising from changes in the business environment and from adverse business decisions, improper implementation of decisions or lack of responsiveness to changes in the business environment.

Business risk is managed and monitored in accordance with EMIR and a scenario analysis is performed considering reasonably foreseeable scenarios.

Pension risk

Pension risk exists within the Group, predominantly due to the defined benefit section of the LCH Limited Pension Scheme ("the Scheme") in the UK. This was closed to new entrants from September 2009 and future accrual for existing members from April 2013. The Scheme is administered by a Trustee Board.

Pension risk can occur as a result of adverse changes (which arise from a number of factors some of which are outside the control of the Trustee Board e.g. low levels of prevailing interest rates which give rise to increased pension liabilities) to the funding level of the Scheme, which may ultimately lead to additional contribution from the firm in meeting the Scheme's obligations to pay members' benefits.

The Trustee Board has appointed external advisors who advise the Trustee Board regarding any funding or investment strategy decisions. The Trustee Board consults with LSEG / LCH in setting investment strategy. In addition to the triennial actuarial valuation, the funded status of the Scheme is also monitored and reported on (at least) a quarterly basis, with the reports made available to LCH.

2. Own funds: composition of regulatory capital

LCH's total regulatory capital is composed of Tier 1 capital which consists primarily of share capital, additional paid-in capital and retained earnings.

LCH Group regulatory capital and shareholders' funds as at 31 December 2017

	€'ms
Share capital	74.2
Share premium	316.1
Capital reserves	15.3
Other reserves	66.2
Retained earnings (less dividends paid)	465.3
Total equity	**937.5**
Deductions from capital including dedicated own resources (skin in the game)	(544.4)
Common equity after deductions	**393.1**
Tier 1 capital/Total regulatory capital	**393.1**

As per the default waterfall process, in case of a clearing member default, LCH CCPs would first use the defaulting member's initial, variation and additional margins as well as the defaulter contribution to the default fund. Should the loss be greater, they will use a share of their capital. As per EMIR, this share of capital, referred to as "skin in the game" (SIG), is calculated as 25% of minimum capital including retained earnings and reserves as defined in Article 35 of regulation EU N°153/2013 of 19 December 2012 (latent market risk).

3. Capital requirements

LCH capital exceeds its minimum capital ratios requirements. It's Pillar I requirements at 31 December 2017 were as follows:

	€'ms
Credit risk	15.9
Market risk	24.4
Operational risk	74.2
Pillar 1 capital requirement	**114.5**
Risk weighted assets	**1,431**
Common equity capital ratio (2017 minimum 4.5%*)	27.5%
Tier 1 capital ratio (2017 minimum 6.0%)	27.5%
Total capital ratio (2017 minimum 8.0%)	27.5%

**excluding capital conservation buffer phase in*

An Internal Capital Adequacy Assessment Process (ICAAP) process has been performed during the year. The ICAAP has been approved by the Audit Committees and Boards. As an outcome of this process, LCH has concluded that it holds sufficient capital for the relevant risks.

4. Credit risk

Credit risk is the risk to earnings and capital arising from an obligor's failure to meet the terms of any contract with the institution or its failure to perform as agreed.

LCH has the following main credit exposures:

- Investment activities
- Occasional overnight exposure as a result of settlement and payment activities (see settlement, payment and custodian risk)

The LCH Group capital requirement for credit risk is calculated as follows:

€'ms	Risk-weighted exposures	Capital requirement
Institutions	86.3	6.9
Corporate	112.3	9.0
Total	**198.6**	**15.9**

The capital is assigned on the basis of the regulatory capital under the standard method. The External Credit Assessment Institutions (ECAIs) used are Moody's, S&P and Fitch. The overall credit risk exposures are related to the steps 1 or 2 under the standard method.

The counterparty credit risk exposures are related to the investment portfolio (cash margins invested). It is mainly composed of high quality assets as required by EMIR such as Eurozone/US/UK/Supranational securities, Money Market Funds (only for LCH LLC) and reverse repo transactions/cash deposits with highly rated credit institutions. LCH operating entities are collateral taker (cash provider) and the reverse repo agreements are not subject to any downgrade clause.

LCH operating entities do not book any derivatives contract as of 31 December 2017 as required by EMIR.

All counterparties, including sovereigns and interoperating CCPs, are subject to a formal and documented Internal Credit Score (ICS) assessment, before on-boarding and then at least annually. The ICS models are models driven by a quantitative assessment based on a set of ratios (e.g. equity ratio, return on assets) and qualitative assessments.

The limits and the eligibility criteria are set in LCH Group Investment Risk policy. Each review is submitted to the Risk Governance for review and approval of the Internal Credit Score.

The credit risk on the investment portfolio is minimised in the following manner:

- Setting criteria so that only good quality counterparties are used
- Setting limits to minimise concentration risk to these counterparties
- Securing as much of the cash portfolio as possible or undertaking "high quality" investments
- Setting haircuts appropriate to the type of collateral received

The LCH Group investment policy does not authorise to bear any wrong way risk in the investment portfolio.

Portfolio by credit rating of the counterparties

	2017 €'m	2016 €'m
Group investment portfolio (ratings assigned with reference to major agencies)		
AAA/AA+/AA/AA- Government backed	**55,295.8**	46,375.4
AA/AA+/AAA Secured	**888.4**	3,502.0
AA/AA+/AAA Unsecured	**-**	-
A/A-/A+/A/A-/BBB+ Secured	**26,469.1**	32,463.3
A/A+/AA- Unsecured	**293.6**	127.7
	82,946.9	82,468.4

5. Market risk

LCH is exposed to interest rate risk on the investment portfolio as a consequence of changes in applicable interest rates (including credit spreads) of long term sovereign investments and secured lending transactions.

The exposure to the interest rate risk is measured and monitored daily by currency and maturity, this exposure is determined with the PV01 metric (sensitivity to 1 bp parallel shift of the OIS Curve).

The LCH Board determines the risk appetite for Interest Rate Risk (IRR) not exceeding 10% of LCH capital. Stress scenarios are set with reference to the capital position, and are will be updated monthly or upon material downward movement.

ERCo uses its discretion to adjust interest rate limits at or below maximum levels allowed by the risk policy, to suit the prevailing market conditions.

In addition, the LCH Group is exposed to changes in foreign exchange (FX) rates as it generates costs and revenues in other currencies than the reporting currency (EUR) as such it is exposed the market risk as consequence of FX movements.

6. Operational risk

Operational risk is the risk of loss arising through failures associated with personnel, processes, systems or from external events. It is inherent in every business organisation and covers a wide spectrum of issues.

Operational risks are identified, assessed, controlled and managed in a proactive manner to minimise the impact on LCH under the Group's Operational Risk Framework (ORF).

The objectives of the ORF are to identify measure, control and/or reduce operational risk and to provide an accurate, usable picture of the risk profile of LCH. The ORF organises the qualitative management of operational risk. It is supplementary to loss protection by regulatory capital. For the operational risk capital requirement applicable since 1 January 2008, LCH uses the Basic Indicator Approach (BIA).

This framework covers all types of operational risks proposed under Basel III, namely internal fraud, external fraud, employment practices and workplace safety, client, product and business practices, damage to physical assets, business disruption and system failures, execution, delivery and process management.

7. Unencumbered assets

In the below table, the securities portfolio and reverse repurchases on both trading book and clearing business are reported as unencumbered assets.

	Encumbered assets		Unencumbered assets	
€'ms	Carrying amount	Fair value	Carrying amount	Fair value
Equity instruments	0	0	1.0	1.0
Debt instruments	0	0	616,497.2	616,497.2
Other assets	0		89,462.3	
	0		**705,960.5**	

Collateral received:

€'ms	Fair value of encumbered collateral received or own debt securities issued	Fair value of collateral received or own debt securities issued available for encumbrance
Carrying amount of selected financial liabilities	0	378,193.6

8. Remuneration policy

Governance

LCH Group's Remuneration Committee ("the Committee") oversees the remuneration policies of LCH Group ("LCH") and its subsidiaries, LCH SA and LCH Limited.

During the financial year ended 31 December 2017, the Committee met on 3 occasions.

The Committee is appointed by the Board of LCH and is made up of a majority of independent Non Executive Directors. The Committee's terms of reference detail the duties and responsibilities of the Committee and are available on the Governance section of LCH's website (http://www.lch.com/about-us/governance).

General

In determining its remuneration policies, LCH monitors developments in the wider market place and continues to consult and work with key stakeholders (including, but not limited to London Stock Exchange Group's ("LSEG") Remuneration Committee) on any key decisions taken.

LCH undertakes to reward all employees fairly, regardless of job function, race, religion, colour, national or ethnic origin, sex, sexual orientation, marital status, pregnancy, maternity, disability or age.

It is the policy of LCH to operate competitive remuneration policies so as to attract, retain and motivate an appropriate workforce for its ongoing success. LCH is also committed to ensuring that its remuneration practices are aligned to performance and promote sound and effective risk management and do not create incentives to relax risk standards. In all cases, remuneration will be in line with corporate strategy, objectives, corporate competencies and long-term interests of LCH and LSEG.

It is the policy of LCH to comply with any and all regulatory frameworks which apply to the remuneration of any of its employees.

The remuneration policy aims to encourage responsible business conduct and ensures that employees are not remunerated in a way that conflicts with their duty to act in the best interests of clients, members or participants.

Remuneration

Remuneration arrangements may include a mix of base salary, annual discretionary bonus awards and share based incentives (payable in shares of LSEG plc), in addition to other country specific benefits.

Salary

Base salaries are reviewed annually against general market levels. Increases are discretionary, except where mandated by local law. Salaries are set at an appropriate level to allow a fully flexible policy to be operated in respect of the award of any discretionary bonus (including the possibility to pay a zero bonus).

Annual discretionary bonus scheme

Variable remuneration is used to reward individual performance in line with a number of factors including risk appetite, departmental and the performance and corporate strategy of LCH and LSEG. Employees engaged in risk management, compliance and internal audit are rewarded in a manner that is independent of the business performance.

A proportion of bonus awards to LCH Group Executive Committee members and Managing Directors are deferred into cash for three years.

Long Term Incentive Plan

A Long Term Incentive Plan (LTIP) was introduced in 2014 for selected employees of LCH. The construct, both in terms of performance conditions and delivery vehicle, of the LTIP was endorsed by LCH's regulators. Vesting for the 2017 LTIP grant occurs over a three year period subject to the achievement of a risk management gateway and one or more of the following performance measures dependent upon the role undertaken by the participant: Growth, measured by EBIT performance; Efficiency, measured by EBITDA margin performance; and Resiliency, measured by management of the regulatory agenda and enterprise risk during the performance period. LTIP awards are granted in the form of a nil cost option to acquire London Stock Exchange Group plc shares.

LTIP awards as well as deferred bonus awards may be subject to performance adjustment (including adherence to the risk framework) prior to vesting. Furthermore, in certain circumstances clawback may be exercised, pursuant to which it may be required for deferred variable remuneration to be repaid (or deducted from future payments) for up to three years following the date of payment.

9. Leverage Ratio

As agree with the ACPR LCH has excluded clearing related balances from its total leverage ratio exposure.

	€'ms
Total leverage ratio exposure	1,214.8
Tier 1 capital	393.1
Leverage ratio (minimum 3%)	**32.4%**

End of disclosure report