Anticipated acquisition by London Stock Exchange Group Plc of Quantile Group Limited

Provisional findings report

9 September 2022

Competition & Markets Authority

The Competition and Markets Authority has excluded from this published version of the provisional findings report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by [✂]. Some numbers have been replaced by a range. These are shown in square brackets.

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Summary of provisional findings

Notified: 9 September 2022

Overview

1. The Competition and Markets Authority (**CMA**) has provisionally found that the anticipated acquisition by London Stock Exchange Group Plc (**LSEG**) of Quantile Group Limited (**Quantile**) (the **Merger**) may not be expected to result in a substantial lessening of competition in the supply of multilateral compression of over-the-counter interest rate derivatives (**OTC IRDs**) in the UK as a result of input foreclosure.

2. This is not our final decision, and we invite any interested parties to make submissions on these provisional findings by no later than 5pm on Friday 30 September 2022. Please make any response to these findings by email to LSEG_Quantile@cma.gov.uk. We will take all submissions received by this date into account in reaching our final decision.

Who are the businesses and what services do they provide?

3. The Merger relates to the provision of post-trade services, ie services that are performed after a trade is agreed.

4. LSEG operates a business, LCH Ltd (**LCH**), that acts as a clearing house for various types of trades. Trades are first agreed and then are 'cleared' (so that each party can be sure the trade will go ahead – removing the risk that the other party to the trade might fail (ie the counterparty risk)). The activities of LCH in clearing OTC IRDs are the most relevant to our assessment of the Merger.

5. Quantile provides a range of optimisation services for financial institutions dealing with derivative instruments, including multilateral compression services for OTC IRDs cleared at LCH. Multilateral compression is a capital and risk management technique by which market participants replace multiple offsetting derivative contracts with fewer contracts of the same net risk to reduce the notional value of their portfolio. This reduces market participants' overall regulatory capital costs by minimising the positions (or line items) which give rise to capital costs.

6. LSEG and Quantile are each a **Party** to the Merger; together they are referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.

What evidence have we looked at?

7. In assessing this Merger, we looked at a wide range of evidence that we considered in the round to reach our provisional findings.

8. We received several submissions and responses to information requests from the Parties and held a site visit and hearings with each of them. We also examined the Parties' internal documents, which show (among other things) how they run their businesses and the Parties' plans for the future of their businesses.

9. We gathered evidence from customers and competitors via written questions and discussions to understand better the competitive landscape and get their views on the impact of the Merger. This included evidence from 13 of the 14 SwapClear Banks. The SwapClear Banks are a group of large global banks and broker dealers who were involved in the development of LCH's IRD clearing service and are important customers of LCH in clearing services and Quantile and its competitors in multilateral compression services. They are also important customers of LSEG.

10. Finally, we considered evidence from the Parties and third parties received during our phase 1 investigation of the Merger.

What would have happened absent the Merger?

11. To determine the impact that the Merger may have on competition, we have considered what would have happened absent the Merger. This is known as the counterfactual.

12. For an anticipated merger such as this, we generally adopt the prevailing conditions of competition as the counterfactual against which to assess the impact of the Merger and, in this case, we have found no evidence to support a different counterfactual. Our provisional conclusion is, therefore, that the counterfactual is the prevailing conditions of competition.

The effects of the Merger

13. The Parties do not compete directly with each other, but providers of multilateral compression services need to work with clearing houses in order to offer their services to end customers (banks and other traders). Our investigation focused on whether, following the Merger, LCH might reduce access to Quantile's rivals, thereby harming competition in multilateral compression.

14. In light of high and stable shares of supply, network effects and barriers to switching, we have provisionally found that LCH has market power upstream in the provision of clearing services for OTC IRDs. The evidence we have seen shows that LCH's involvement is essential for providers wishing to offer multilateral compression of trades cleared at LCH, which account for a substantial part of all OTC IRDs. This means that LCH controls key inputs to downstream providers of multilateral compression services. We consider that there are a range of ways that LCH could potentially disadvantage Quantile's rivals such as limiting the days on which they could access LCH to carry out compression runs or limiting the support available to those rivals when they seek to introduce improvements to their service offerings.

15. We considered whether there are regulations or other restrictions on LCH's ability to disadvantage Quantile's rivals. The evidence shows that neither the applicable regulatory framework nor LCH's internal governance arrangements would prevent LCH from engaging in foreclosure strategies. On this basis, our provisional view is that the Merged Entity would have the ability to engage in foreclosure strategies.

16. We considered the Merged Entity's incentive to foreclose Quantile's rivals by analysing the benefits and costs of foreclosure. There are currently just two providers of multilateral compression of OTC IRDs cleared at LCH: Quantile and TriOptima. This means that if TriOptima were to lose sales as a result of foreclosure by LCH, Quantile would be well placed to capture those sales and increase its profits. In assessing LSEG's incentive to foreclose Quantile's rivals, we have considered the magnitude of the potential gains to Quantile as compared to any potential consequential losses to the Merged Entity.

17. We have received evidence that Quantile and LCH's customers value having access to more than one provider of multilateral compression services at LCH. Access to more than one provider increases operational resilience and enables customers to obtain better services through competition. Customers would lose these benefits if TriOptima were foreclosed.

18. In terms of revenues, the supply of multilateral compression services is small compared to the other services provided by the Merged Entity to the same customers. This means that losing a small proportion of these other revenues would be sufficient to offset any potential gain from foreclosure related to multilateral compression.

19. The main potential cost of foreclosing would be the response of TriOptima's customers, who are also major customers of the Merged Entity. These customers would be harmed if TriOptima were foreclosed and therefore might

take action to prevent foreclosure. These customers told us that they would be able to detect and deter any attempt at foreclosure by LCH.

20. The first mechanism to which customers pointed for preventing foreclosure was raising complaints with LCH (and LSEG) through a number of direct and indirect channels. While customers indicated that they believed LCH would respond to such complaints, we consider that LCH would only respond to such complaints where they are likely to impact LCH's profitability. We have given more weight to the evidence on customer switching described in the second mechanism below, as this directly impacts the revenues and profitability of the Merged Entity, and therefore the incentives to engage in foreclosure.

21. The second mechanism that customers pointed to for preventing foreclosure was switching certain business away from the Merged Entity. We considered both the possibility that customers could switch clearing business away from LCH and the possibility that customers could switch other types of business away from the Merged Entity.

22. With respect to clearing, while some customers indicated that it would be possible to switch away from LCH for clearing OTC IRDs, most customers told us that this would not be possible. Switching away from LCH was seen as difficult and requiring collective action over the medium term.

23. With respect to other types of business, customers highlighted broader interactions with LSEG and Quantile in relation to other services, including the option not to support new services. However, switching away from other (new or existing) LSEG or Quantile services would require customers to switch away from their first choice of provider or to choose not to adopt new services which might benefit them.

24. Nevertheless, some customers told us that they would be motivated to incur the cost of these responses because of the importance of having a second multilateral compression provider at LCH.

25. The value of the business that the same customers have with the Merged Entity is much larger than the value of the compression services provided by each of Quantile and TriOptima. As a result, the prospect of even a relatively low proportion of switching by these customers would offset any potential gains from foreclosure and would be a significant risk to the Merged Entity. Based on the evidence from customers, we judged that, the likely response would be sufficient to more than offset the benefits of foreclosing. On this basis, our current view is that the Merged Entity would not have the incentive to engage in foreclosure strategies.

Provisional conclusion

26. We have provisionally found that the anticipated acquisition by LSEG of Quantile may not be expected to result in a substantial lessening of competition as a result of vertical effects in the supply of multilateral compression services for OTC IRDs in the UK.

Provisional findings

1. The Reference

1.1 On 17 May 2022, the Competition and Markets Authority (**CMA**), in exercise of its duty under section 33(1)[1] of the Enterprise Act 2002 (**the Act**), referred the anticipated acquisition (**the Merger**) by London Stock Exchange Group plc (**LSEG**) of Quantile Group Limited (**Quantile**) (together, **the Parties**, or, for statements referring to the future, **the Merged Entity**) for further investigation and report by a group of CMA panel members (**the Inquiry Group**). We are required to prepare and publish a final report by 31 October 2022.

1.2 In exercise of its duty under section 36(1)[2] of the Act, the Inquiry Group is to investigate and report on the following questions:

(a) whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation (**RMS**); and

(b) if so, whether the creation of that RMS may be expected to result in a substantial lessening of competition (**SLC**) within any market or markets in the United Kingdom for goods or services.

1.3 In answering these questions, the Inquiry Group will apply the 'balance of probabilities' threshold to their analysis. That is, the Inquiry Group will decide whether it is more likely than not that the Merger will result in an SLC.

1.4 Our terms of reference, along with information on the conduct of the inquiry, are set out in Appendix A.

1.5 This document, along with its appendices, constitutes the Inquiry Group's provisional findings, published and notified to the Parties in line with the CMA's rules of procedure.[3] Further information, including the Phase 1 Decision,[4] can be found on the Inquiry case page.[5]

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[1] Section 33(1) of the Act.
[2] Section 36(1) of the Act.
[3] Rules of procedure for merger, market and special reference groups: CMA17, paragraphs 11.1 to 11.7
[4] CMA, Phase 1 Decision.
[5] CMA, LSEG/Quantile Case Page.

2. The Parties

LSEG

Company information and ownership

2.1 LSEG is an international financial markets infrastructure and data business headquartered in London.[6] Its shares are traded on the London Stock Exchange where it is a constituent of the FTSE 100. The global revenue of LSEG in the financial year 2021 was £7,165 million, of which, approximately £[✂] million was generated in the UK.

Main activities

2.2 LSEG has three main business activities: Data & Analytics; Capital Markets; and Post-trade. LSEG's activities in post-trade services are the most relevant to our assessment of the Merger.

2.3 Within post-trade services, LSEG provides clearing and bilateral services as well as financial resource optimisation and reporting solutions to support customers' risk and balance sheet management, regulatory reporting and capital efficiency. Within the post-trade division LSEG:

(a) holds a majority shareholding in LCH Group Holdings Ltd (**LCH Group**),[7] a leading multi-asset class clearing house, serving a large number of exchanges and platforms, as well as a range of over-the-counter (**OTC**) markets; and

(b) operates UnaVista, a regulated technology platform that helps firms to reduce operational and regulatory risk through a range of regulatory reporting, reference data and analytics solutions.

2.4 We set out further background on post-trade services (in particular, clearing) at paragraphs 2.18 to 2.47 below.

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[6] LSEG, LSEG website, Significant Shareholders | LSEG. LSEG's main shareholders are York Holdings II Limited 17.49%, Qatar Investment Authority 7.59%, York Holdings III Limited 6.67%, BlackRock, Inc. 5.09%, The Capital Group Companies, Inc. 4.98%, BCP York Holdings (Delaware) L.P. 4.83% and Lindsell Train Limited 4.40%.

[7] LCH, LCH Website, LCH Group Holdings Limited - 2018 Financial Statements, page 4 and Parties, email sent to the CMA, 7 July 2022. LSEG holds an 82.6% share of LCH. The remaining 17.4% is held by 14 international financial institutions.

Quantile

Company information and ownership

2.5 Quantile is a provider of portfolio compression and margin optimisation services for financial institutions dealing with derivative instruments. It was founded in 2015 jointly by the current Chief Executive Officer (**CEO**), Andrew Williams, and current Chairman, Stephen O'Connor, and is headquartered in London.[8,9] The global revenue of Quantile in the financial year 2021 was £[✂] million, of which, approximately £[✂] million was generated in the UK. In December 2020, Quantile raised £38 million minority investment from Spectrum Equity, a growth equity firm focused on internet enabled software and information services companies.[10]

Main activities

2.6 Quantile offers three products: OTC interest rate derivative (**IRD**) multilateral compression; margin optimisation and risk capital optimisation.[11] Quantile is also launching [✂].

2.7 Quantile's activities in OTC IRD multilateral compression are the most relevant to our assessment of the Merger. We provide further detail on these services in the context of the broader industry at paragraphs 2.32 to 2.47 below.

The Transaction

2.8 On 6 December 2021, LSEG entered into a share purchase agreement to buy the entire and to be issued share capital of Quantile.

2.9 In return for 100% of the shares in Quantile, LSEG has agreed to pay at least £[✂] million and up to maximum of £[✂] million, depending on certain targets being met.[12]

2.10 The Parties told us that, post-Merger, Quantile will sit under a non-LCH Group holding company ([✂]) and will not be part of LCH Group (ie it will not form

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[8] LSEG, LSEG Website, LSEG to acquire Quantile Group Limited | LSEG Stephen O'Connor is a minority shareholder in Quantile. Until 6 August 2021 Stephen O'Connor was a member of LSEG's Board as Senior Independent Director of LSEG. He remains a director of LSEG's subsidiary, London Stock Exchange plc.
[9] Parties, Merger Notice, paragraph 4 and LSEG, Response to second s.109 Notice in phase 1 investigation, Annex 2.2 s109.2 (LSEG), paragraph 3. The company is owned by FD Technologies, Spectrum Equity [✂] and certain employees (including Quantile founders, Andrew Williams and Stephen O'Connor). [✂].
[10] Quantile, Quantile website, Quantile secures $51 million growth investment from Spectrum Equity to accelerate new services - Quantile.
[11] In 2021, Quantile earned £[✂] million of revenue from IRD multilateral compression and £[✂] million of revenue from margin optimisation.
[12] LSEG, Response to second s.109 Notice in phase 1 investigation. Annex 2.2 s109.2 (LSEG), page 2.

part of LSEG's clearing business). However, both LCH Group and Quantile would be ultimately owned and controlled by LSEG.[13,14]

2.11 Completion is conditional on CMA approval of the Transaction, change of control approval from the UK's Financial Conduct Authority (**FCA**), approval from De Nederlandsche Bank (the **Dutch Central Bank**) and Autoriteit Financiële Markten, the Dutch Authority for the Financial Markets (**AFM**).

Rationale for the Merger

The Parties' stated rationale

2.12 LSEG submitted that its rationale for the merger is twofold. First, Quantile's multilateral compression and margin optimisation services are complementary to [✄] services offered by LSEG's Post-trade division.[15] On this basis, LSEG submitted that the Transaction would support its ambition to provide clients with financial and operational efficiency solutions at different points across the value chain, whilst maintaining LSEG's open access approach to third party solutions.

2.13 Second, LSEG highlighted the potential to support the growth of Quantile. It noted that this could be achieved by supporting Quantile's client relationships and by [✄].[16,17] LSEG submitted that this will accelerate Quantile's business development effort beyond what would be achievable absent the Merger.[18] On this basis, LSEG regards the transaction as providing additional opportunities to innovate to further improve, incubate and extend product offerings that target and reduce systemic risk.

2.14 LSEG's valuation of Quantile ranges, depending on different assumptions, between £[✄] million,[19] £[✄] million[20] and £[✄] million.[21] LSEG highlighted the potential for synergies to arise from the Transaction, however we note that these are largely related to Quantile's pipeline and do not relate to activities relating to our assessment of an SLC.[22]

[13] Parties, Merger Notice, Annex 008.02.
[14] LSEG, LSEG response to Phase 2 s. 109 (1) (Opening Letter), question 9, 'Corporate structure of LSEG in the event the Merger completes'.
[15] [✄].
[16] Parties, Merger Notice, page 2,The Parties noted that the [✄] referred to as part of the rationale relates to that which would occur via [✄]. (Parties, Merger Notice, footnote 5, page 7). [✄].
[17] Quantile, Quantile Response to 17 May s109, Questions 20 to 23, Annex 1. The overlap between Quantile's customers and those of LCH is high. Information provided by Quantile indicates that its key customers (by revenue) are [✄]. LSEG, Site visit, 20 June 2022, LSEG Quantile CMA site visit - session 3 - Customer partnership and Open access, page 5. See Information provided by LSEG indicates that the key customers (by revenue) for LCH are [✄].
[18] Parties, Merger Notice, paragraph 10.
[19] [✄].
[20] [✄].
[21] [✄].
[22] LSEG, Transcript of Hearing with LSEG, 17 August 2022, page 11, lines 1 - 4.

2.15 Quantile submitted that its rationale for entering into the Transaction is to help provide a better platform [✂] and [✂]. Quantile stated that the overlap between its current and target customers and those of LSEG is high [✂]. Quantile submitted that by increasing the size of the network and fuelling more innovation, Quantile can improve the amount and scale of mutual risk reduction that can be delivered to its customers.[23]

Anticipated growth within the Quantile business

2.16 [✂] Quantile's expected growth through to 2023 is within services outside multilateral compression, albeit to the same customers that currently purchase multilateral compression services from Quantile.[24] Within multilateral compression, [✂].[25]

2.17 LSEG told us that [✂].[26,27] These submissions are in line with internal documents.[28]

The industry

2.18 The Merger relates to the provision of post-trade services, ie services that are performed after a trade is executed. The key stages of a trade after execution may include (i) trade matching/affirmation; (ii) clearing; (iii) settlement; (iv) custody and asset servicing; and (v) related activities such as collateralisation. Within these stages, other post-trade services can occur which reduce risk or capital requirements (such as portfolio compression and margin optimisation) or provide the transparency required by regulation (such as reporting).

2.19 LSEG's post-trade division mainly offers centralised risk management (ie insuring each party to a trade against counterparty risk and, in the case of LCH Ltd (**LCH**), as a central counterparty (**CCP**)).[29] A CCP is a financial institution that takes on counterparty risk between the parties subject to a trade and

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[23] Parties, Merger Notice, paragraph 15.
[24] Parties, Merger Notice, pages 2 and 4 and Annex 008,03. LSEG highlighted that [✂]. It also highlighted that [✂].
[25] Quantile, Quantile Response to Additional Question from Main party Hearing - Email sent to the CMA, 19 August 2022. Quantile estimates that there will be a £[✂] increase in revenue from 2021 actual figures through to 2025 forecast figures. This is driven by a £[✂] increase from existing customers, and £[✂] increase from new customers.
[26] Parties, Parties' response to the Issues Statement, paragraph 5.
[27] Parties, Parties' response to the Issues Statement, paragraph 5. [✂].
[28] For example, LSEG, internal documents: Parties, Merger Notice, Annexes 008.03 and Annex 8.3 - 20220110 Project Quartz - Phase II Business Plan.
[29] LSEG is also active in (1) trade processing of trades resulting from compression/optimisation services; (2) regulatory reporting by compression/optimisation providers; and (3) consolidated non-real time data as an input to compression/optimisation services.

provides clearing and settlement services for trades. Quantile's provision of OTC IRD multilateral compression is the most relevant to our merger assessment, as set out at paragraph 2.7 above.

2.20 This section provides some background into the products and services that we have focused on during the phase 2 investigation.

Derivatives

2.21 A derivative is a contract between market participants (ie banks/dealers), which derives its value from the value of an underlying asset or group of assets.[30] Derivatives are financial products designed to transfer various types of economic risk between the parties to a trade.

2.22 The two types of key market participants in derivatives trading are dealers and clients[31] with derivative trading taking place at two levels, either dealer-to-dealer (**D2D**) or dealer-to-client (**D2C**).

2.23 There are various ways in which derivatives can be traded,[32] including OTC[33] or on an exchange. This Merger relates to OTC derivatives. OTC derivatives are arranged and negotiated bilaterally, which allows participants increased flexibility. The vast majority of OTC derivatives traded are IRDs.[34] IRDs are used for two broad reasons:

(a) As a method to transform floating interest rate exposure to fixed interest rate exposure or vice versa depending on a company's underlying cash flows and payment obligations; and

(b) As a means of speculating on the likely development of future interest rates.[35]

Clearing of OTC derivatives

2.24 In this merger investigation we are focused on the clearing stage of a transaction, which follows the point at which a derivative trade has been agreed between a buyer and a seller. In this section we set out an overview of what clearing is, who the key market participants are, and a short summary of the requirements to clear OTC IRDs.

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[30] Derivatives can be based on other financial instruments and other assets such as commodities or energy derivatives where the underlying is a real product.
[31] Dealers are generally major investment banks that act as market makers and liquidity providers. Dealers tend to trade to provide services to established clients or to minimise the costs and risks of maintaining imbalanced large financial inventories. Clients include institutional investors, retail investors, governments or corporations. Clients generally trade based on their own interests.
[32] Trading in the context of financial markets relates to the mutual commitment between two market participants to enter into an agreement to buy or sell a financial asset.
[33] The OTC market is a decentralised market in which the market participants trade directly with each other without the use of a centralised exchange or broker.
[34] Parties, Merger Notice, paragraph 67.
[35] Parties, Merger Notice, paragraph 67.

2.25 There is a regulatory obligation to clear relevant OTC IRDs in the G4 currencies (being EUR, GBP, USD and JPY) under the European Market Infrastructure Regulation (**EMIR**).[36]

What is clearing?

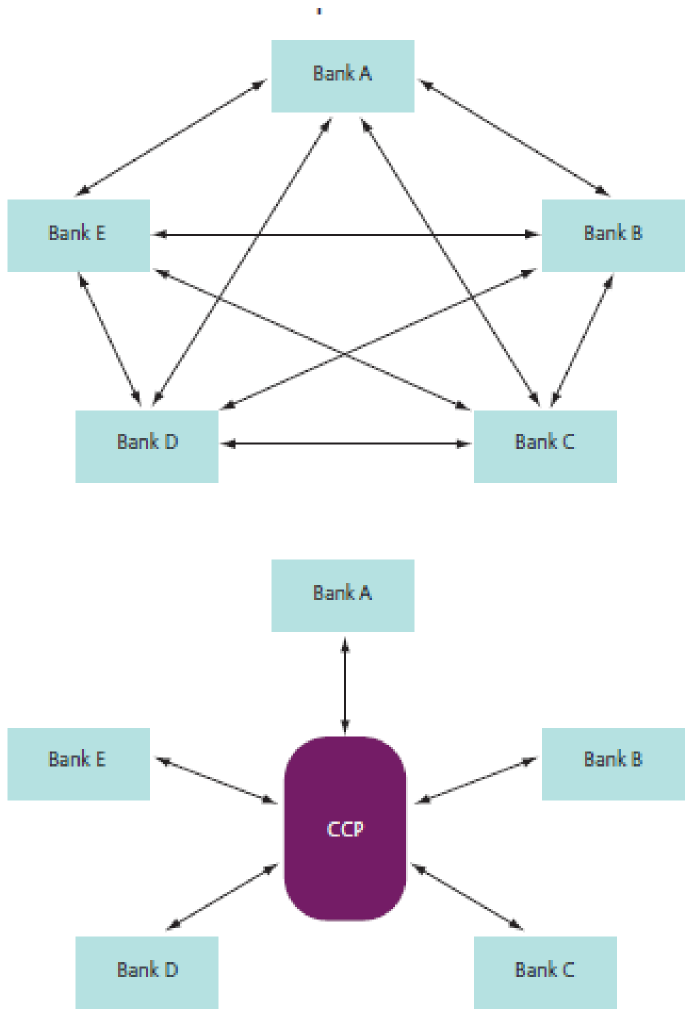
2.26 Clearing occurs between the time of trading and the moment in which commitments are fulfilled, or 'settled'.[37] Clearing has a different relevance for different asset classes, mainly depending on the time that counterparties are exposed to each other's non-performance risk. The timeframe of this risk will usually be limited in relation to cash instruments as settlement occurs soon after the trade is agreed. The timeframe of risk associated with a derivative trade will vary and can be much longer, ranging from a few months to several years depending on the particular contract.

2.27 Where derivatives trades are cleared,[38] the clearing process is overseen by the CCP, which provides additional supervision to the trade. A key function of clearing is to insure each party to a trade against non-fulfilment of the commitments agreed to by the other party. This is commonly referred to as insuring against 'counterparty risk': the clearing process intends to remove the risk that the failure of a major participant in the OTC derivatives market would present to financial markets if it were to enter insolvency.[39]

2.28 In order to insure against counter party risk, a CCP will place itself between the buyer and seller of an original trade, leading to a less complex web of exposures (see Figure 1).[40] Generally, a CCP will require that the members of the trade provide margin against this risk – margin is the payment in cash or securities equal to some or all of the exposure which a member is carrying.[41]

[36] The European Market Infrastructure Regulation (EMIR) has been on-shored into UK legislation via a number of statutory instruments (SIs) and Binding Technical Standards (BTS).Where clearing is not essential, uncleared margin rules (UMRs) have been introduced under EMIR, requiring firms that do not centrally clear their trades to post initial margin. These rules provide an incentive for market participants to clear trades via a CCP even when doing so is not mandatory.
[37] A trade is settled when the seller has delivered the rights to the financial asset to the buyer and the buyer has paid the agreed amount to the seller.
[38] Parties, Merger Notice, paragraph 102: Approximately 75% of IRD trades are cleared.
[39] LexisNexis, LexisNexis website, 'Clearing of derivatives overview', accessed 15 June 2022.
[40] Bank of England, Bank of England website 'Central counterparties: what are they, why do they matter, and how does the Bank supervise them?', 2013.
[41] LexisNexis, LexisNexis website, 'Clearing of derivatives overview', accessed 15 June 2022.

Figure 1: A complex 'web' of bilateral exposures is reduced to a more simple network via a CCP



Source: Bank of England, ['Central counterparties: what are they, why do they matter, and how does the Bank supervise them?'], 2013, Figure 1

2.29 In addition to managing counterparty risk, the CCP can perform other ancillary services such as the registration and verification of a trade and its counterparties, and the transmission of the details of the trade to the relevant settlement body – these activities are known as post-trade activities.

Process

2.30 LSEG, through LCH, offers clearing services for a range of products including IRD products, through SwapClear.

2.31 Other CCPs which provide OTC derivative clearing services include Eurex,[42] CME,[43] Nasdaq Clearing,[44] Japan Securities Clearing Corp (**JSCC**),[45] ASX[46] and OTC Hong Kong.[47] LCH clears 30 currencies, making it the provider with the most comprehensive coverage of currencies in the clearing of OTC derivatives.[48]

Portfolio compression services

2.32 As noted at paragraph 2.29 above, a number of services can be undertaken during the clearing phase of a trade. The key service that we are focusing on as part of this merger investigation (and offered by Quantile) is portfolio compression services. This section describes what portfolio compression services are (paragraphs 2.33 to 2.40) and the vertical supply chain and process relevant to this merger investigation (paragraphs 2.41 to 2.47).

Background to portfolio compression services

2.33 Portfolio compression is a capital and risk-management technique by which market participants replace multiple offsetting derivative contracts with fewer contracts of the same net risk to reduce the notional value of their portfolio. This reduces market participants' overall regulatory capital costs by minimising the positions / line items which give rise to capital costs.

2.34 This is particularly relevant to IRD trading, which utilises a trading convention that gives rise to growing outstanding notional amounts compared to other asset classes – when a market participant enters into an OTC IRD trade, this is added as a new line item to the market participant's portfolio. In accordance with capital requirement regulations (such as **Basel III**),[49] market participants

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[42] Eurex, Eurex Website, 'Eurex OTC Clear', accessed 15 June 2022: Eurex offers clearing of OTC Interest Rate Swaps and Zero-Coupon Inflation Swaps at Eurex Clearing. Eurex, Eurex website, 'Eurex OTC Clear Support', accessed 30 June 2022: Eurex supports clearing of eligible products in the following nine currencies: EUR; USD; GBP; CHF; JPY; DKK; NOK; SEK and PLN.
[43] CME Group, CME Group Website 'Cleared OTC Interest Rate Swaps', accessed 15 June 2022: CME clears OTC Interest Rate Swaps in 24 currencies.
[44] Nasdaq, Nasdaq website, 'OTC Rates Derivatives Clearing', accessed 15 June 2022: Nasdaq OTC Rates Clearing is a service for clearing of Interest Rate Swaps, Overnight Index Swaps and Forward Rate Agreements denominated in the following four currencies: SEK; DKK; NOK; and EUR.
[45] JSCC, JSCC website, 'OTC derivatives clearing', accessed 15 June 2022. See also: JSCC, JSCC website, 'Clearing Products', accessed 1 July 2022: JSCC clears JPY only.
[46] ASX, ASX Website, 'OTC Clearing', accessed 15 June 2022: ASX provides clearing in two currencies, for AUD and NZD IRDs.
[47] HKEX, HKEX Website, 'Overview of OTC Clear clearing services', accessed 15 June 2022: Clearing is provided by OTC Clearing Hong Kong Limited (OTC Clear).
[48] LSEG, site visit 20 June 2022, 'The role of the clearing house', June 2022, slide 5. This is based on our comparison of the clearing currencies / products provided by the other CCPs set out in paragraph 2.31 with LCH's offerings. We note that LCH clears 30 currencies as of June 2022.
[49] BIS, BIS Website, Basel III: international regulatory framework for banks (bis.org): The Basel III accord (**Basel III**) is a set of financial reforms that was developed by the Basel Committee on Banking Supervision (BCBS), with the aim of strengthening regulation, supervision, and risk management within the banking industry. Due to the impact of the 2008 financial crisis on banks, Basel III was introduced to improve banks' ability to handle shocks from financial stress and to strengthen their transparency and disclosure.

have to hold capital in respect of these positions. The amount of capital depends on the type of IRD being cleared including its final maturity. Absent compression, the notional amount outstanding is higher than it needs to be for a given net risk position, which in turn gives rise to a higher capital requirement than is necessary to cover the open risk.

2.35 The introduction of the Basel III capital rules and leverage ratio (based on gross notional exposures) has acted as an incentive for banks to compress IRDs and thereby reduce the size of their derivative books. The Basel III capital rules require Global Systemically Important Banks (**G-SIBs**) to hold additional capital under the G-SIB framework; these capital requirements are calculated based on a number of indicators including gross exposures. The requirements are calculated at the end of the calendar year, leading to extra demand for compression in Q4.[50]

2.36 Only trades that share economically compatible characteristics and that can be 'netted off' against each other are compressible. The trades need to, at the minimum, be in the same currency and use the same benchmark. Furthermore, the trades need to be with the same CCP.[51]

2.37 Portfolio compression can be:

(a) Unilateral between a single market participant and a CCP (this service is offered by a CCP and usually takes place on a daily basis).

(b) Multilateral, across the portfolio held by multiple market participants (this service is usually offered by a third-party rather than a CCP, and typically takes place less frequently than unilateral compression).[52,53]

2.38 The pool of eligible trades differs, depending on the type of compression. The trades have to be a perfect match in almost all trade parameters for the purposes of unilateral compression. In contrast, under a multilateral compression exercise participants can decide to accept non-zero tolerances and therefore allow differences to be generated between input and output risk profiles.[54,55]

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[50] Competitor, Note of call, paragraph 11.
[51] Parties, Merger Notice, paragraphs 123 to 130.
[52] For example, multilateral compression of dollars and euros takes place once per week at LCH.
[53] Parties, Merger Notice, paragraphs 131 to 138.
[54] Parties, Merger Notice, paragraph 133.
[55] We note that future legislative changes are expected to impact the provision of multilateral compression services. SA-CCR is a new standardised approach for measuring counterparty credit risk exposures introduced by the Basel Committee in 2017 and is in the process of being implemented across global jurisdictions including the UK. SA-CCR is intended to replace the existing notional-based current exposure method (CEM). SA-CCR is expected to lessen banks' focus on gross notional reduction via compression, which was critical under the outgoing CEM. The CMA understands, however, that reducing gross notional, and therefore compression, will continue to be important for global systemically important banks as they seek to meet the G-SIB indicators. By way of background, the G-SIBs are required to hold additional capital under the G-SIB framework (to increase stability of the system), the level of

2.39 Each of the CCPs offers unilateral compression services to its members and clients in relation to trades cleared at that CCP. LSEG offers unilateral compression for customers of SwapClear (in relation to cleared OTC IRDs).[56]

2.40 Quantile provides multilateral compression services for cleared OTC IRDs. The main other providers of multilateral compression services are TriOptima,[57] ClearCompress, Capitolis (LMRKTS)[58] and Capitalab. TriOptima provides multilateral compression services for both cleared and uncleared OTC derivative portfolios, including for IRDs. ClearCompress and Capitalab focus on the provision of multilateral compression services for uncleared trades, including for IRDs, whereas Capitolis (LMRKTS) provides FX-focused multilateral compression services.

Vertical supply chain and process

2.41 In order for a multilateral compression service provider to offer compression of OTC IRDs cleared at LCH, it needs to be approved by LCH as an Approved Compression Service Provider (**ACSP**). Both Quantile and TriOptima have entered into a Compression Services Agreement with LCH and are the only two providers that hold ACSP status at LCH.[59]

How LCH approves ACSPs

2.42 LCH sets out the following requirements for compression providers to become an ACSP at LCH:

(a) The potential ACSP should meet the requirements to provide compression in accordance with LCH's rulebook.

(b) The potential ACSP should have a robust legal framework under which to provide compression services.

(c) The potential ACSP should be able to demonstrate robust controls and operational capability.

(d) LCH should be able to operationally support the proposed compression services.

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which depends on their score across a series of indicators (one factor being the notional amount of OTC derivatives). Note of call with a competitor dated 25 January 2022; Note of a call with a customer dated 3 February 2022, paragraph 20; Note of a call with a competitor dated 21 February 2022, paragraph 24.

[56] Parties, Merger Notice, paragraph 142 to143. LCH has also offered a bilateral compression service called Duo in the past but it no longer supports this functionality.

[57] TriOptima is owned by OSTTRA (ie a joint venture between IHSM's OTC derivatives and foreign exchange (FX) trade processing business (ie, MarkitSERV) and CME's optimisation businesses (ie, TriOptima, Reset and Traiana)). TriOptima collaborates with six CCPs: LCH, CME, JSCC, Eurex, ASX and NASDAQ.

[58] Capitolis acquired LMRKTS in August 2021.

[59] Capitalab was previously an ACSP at LCH but has since exited multilateral compression at LCH.

(e) The potential ACSP should have written confirmation of commitment from at least six SwapClear clearing members to use its compression services.

(f) The potential ACSP should be able to demonstrate successful testing of its compression services with a minimum number of potential participants.[60]

2.43 LCH also requires a potential ACSP to follow a number of minimum onboarding steps before determining which membership package it requires.[61]

How LCH schedules compression runs

2.44 LCH manages the process for confirming an ACSP's proposed compression run schedules.[62]

2.45 LCH described the process for compression run scheduling as follows:

(a) for the following quarter, all vendors (ie ACSPs) submit to LCH requests for runs including the date they want to perform a run and its currency[s]. There are two constraints on when an ACSP can perform a run, being: (i) an ACSP can only perform one run a day; and (ii) an ACSP can only perform one run in a currency per calendar week;

(b) vendors submit their requests by email on the same pre-agreed day;[63]

(c) LCH collates all the requested runs and identifies those which it cannot support (eg runs when it is not open, when it may be making a release, when the date is perceived to be sensitive (eg an election) etc);[64]

(d) LCH collates the eligible requested runs and confirms to the vendors which runs have been accepted by the Wednesday following their requests.[65]

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[60] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022.
[61] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022.
[62] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022.
[63] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022: These days are as follows: Q1 – the second Wednesday of the preceding November; Q2 – the second Wednesday of the preceding February; Q3 – the second Wednesday of the preceding May; and Q4 – the second Wednesday of the preceding August.
[64] LSEG, site visit, 20 June 2022, 'Understanding multilateral compression from an operational perspective': LSEG submitted that other reasons can also be determined at its discretion, but that this has not occurred in the last five years.
[65] Acceptance and confirmation of requested runs is subject to certain conditions. For example, where more than one vendor requests to perform a run in the same currency on the same day there may be constraints on the number of events they can run. Vendors may work with LCH to identify an alternative date. Where a vendor is constrained in the number of 'events' it can generate in a run (each termination and new trade is an 'event'), LCH informs the vendors approximately a week before the applicable run to inform them of the number of events they are permitted to run.

(e) LCH will publish the approved run schedule, including the date and currency information to the vendors.[66]

2.46 LCH noted that in setting out the process it may allocate, cancel, or reschedule compression runs in its discretion for operational, technical, risk or legal considerations.[67]

The process for compression runs at LCH

2.47 The general process for each compression run at LCH takes approximately two to three days, and occurs as follows:

(a) The ACSP informs LCH which market participants (ie banks) will join a compression run and LCH sends the eligible trades of such participants to the ACSP.

(b) Upon receiving the list of trades, the ACSP shares the listing with the banks. The banks notify the ACSP of the trades that should be in the scope of the run and their corresponding risk tolerance.

(c) LCH provides present value and cashflow files for the in-scope trades for the dry run and the compression run.

(d) The dry run occurs prior to the actual compression run.

(e) During the compression run, the results of the compression are sent to the banks to be approved/confirmed prior to the output being sent to LCH for checks and implementation.

(f) LCH will review the proposal to verify that the trades included in the compression proposal are eligible and that the proposal meets all relevant criteria (set by LCH).

(g) LCH will determine and call any required margin that may result from the proposal.

(h) LCH will implement the compression run, terminating and registering trades and sending updates to participants in relation to their portfolios.[68]

3. The Merger And Relevant Merger Situation

Relevant Merger Situation – Introduction

3.1 In accordance with section 36 of the Act and pursuant to our terms of reference we are required to investigate and report on two statutory

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[66] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022.
[67] LCH, LCH Website, 'Approved Compression Service Providers (ACSPs)', accessed 30 June 2022.
[68] Parties, Merger Notice, paragraph 253.

questions: (a) whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of an RMS; and (b) if so, whether the creation of that situation may be expected to result in a SLC within any market or markets in the UK for goods or services.

3.2 We address the first of the statutory questions in this section.

Enterprises ceasing to be distinct

3.3 A relevant merger situation will be created if, as a result of the Merger, two or more enterprises cease to be distinct within the statutory period for reference and the turnover test and/or the share of supply test is satisfied.[69]

3.4 We have provisionally found that arrangements are in progress or in contemplation which, if carried into effect, would result in LSEG and Quantile ceasing to be distinct enterprises for the purposes of the Act. LSEG and Quantile are 'businesses' and their activities constitute 'enterprises' in accordance with the Act[70] and on completion of the Merger, Quantile will be under the common ownership and control of LSEG and the two enterprise will cease to be distinct.[71]

Jurisdiction test

3.5 The second element of the RMS test seeks to establish a sufficient nexus with the UK on a turnover and/or share of supply basis to give us jurisdiction to investigate.

3.6 The turnover test is not met as Quantile's turnover in the UK did not exceed £70 million.

3.7 We have provisionally found that the share of supply test in section 23 of the Act is met.[72] For the purposes of this test, the Parties overlap in the supply of portfolio compression services with a combined share of supply of [60 - 70%]

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[69] Section 23 and section 24 of the Act.
[70] Section 129(1) and (3) of the Act.
[71] Section 26 of the Act.
[72] Section 23(2), (3) and (4) of the Act. The reference to supply 'by' or 'to' one and the same person catches aggregations with regard to the supply or purchase of goods or services. The test is also met where at least one quarter of the goods or services is supplied by the persons by whom the enterprises concerned are carried on, or are supplied to or for those persons.

[✂] on a worldwide basis with an increment of [10 - 20%] [✂] arising from the Merger.[73,74]

3.8 We have provisionally found that the Reference was made within the 40 working day deadline for a decision on whether to make a reference.[75]

Provisional conclusion on the relevant merger situation

3.9 In the light of the above, we have provisionally found that the Merger, if carried into effect, will result in the creation of a RMS. As a result, we must consider whether the creation of that situation may be expected to result in an SLC within any market or markets in the UK for goods or services.

4. Counterfactual

4.1 The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). The CMA will generally conclude on the counterfactual conditions of competition broadly – that is, prevailing or pre-merger conditions of competition, conditions of stronger competition or conditions of weaker competition.[76] The CMA seeks to avoid predicting the precise details or circumstances that would have arisen absent the merger.[77]

4.2 The Parties submitted that the relevant counterfactual against which to assess the Merger is the prevailing conditions of competition.[78] We have not received any evidence from the Parties or third parties that indicates a different counterfactual is more appropriate.

4.3 We have provisionally concluded that the relevant counterfactual is the prevailing conditions of competition.

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[73] CMA, Phase 1 Decision noted 'The Parties provided shares of supply estimates on a worldwide basis. The Parties submitted that they are unable to identify what counts as 'UK' activity as: (1) the customers of portfolio compression services operate on a global basis in multiple financial centres, including in London; (2) many of the multilateral compression runs that Quantile and its competitors operate simultaneously serve a diverse group of financial institutions with headquarters in many parts of the world due to the inherently global nature of the markets concerned; and (3) the Parties do not have visibility of the breakdown of the sales of rival compression service providers at the individual customer level and are therefore unable to identify what proportion of this activity comes from "UK" customers. The Parties further submitted that, to their knowledge, there are no reasons why the worldwide share of supply estimates would be materially different for a hypothetical geographical market for the UK only'.
[74] CMA, Phase 1 Decision, paragraph 32.
[75] The CMA gave notice under section 96(2A) of the Act, and pursuant to section 107(1)(ab) of the Act, that the 'initial period' (as defined in section 34ZA(3) of the Act) commenced on 4 March 2022. The statutory 40 working day deadline for a decision (under section 34ZA of the Act) on whether to make a reference was therefore 3 May 2022.
[76] Merger Assessment Guidelines, paragraph 3.2.
[77] Merger Assessment Guidelines, paragraph 3.11.
[78] Parties, Merger Notice, paragraph 48.

5. Vertical Effects

Introduction

5.1 This chapter assesses the Merger's effect on competition in the supply of multilateral compression of OTC IRDs arising from input foreclosure. Quantile currently competes in the supply of multilateral compression of OTC IRDs. LSEG, through LCH, provides an input to Quantile and its rival multilateral compression providers. The concern under this input foreclosure theory of harm is whether the Merger would lead to LCH disadvantaging Quantile's rivals in order to harm their ability to compete in the provision of multilateral compression of OTC IRDs.[79] When discussing foreclosure, we have focussed on TriOptima because it is the only significant competitor to Quantile for multilateral compression of OTC IRDs. However, the analysis could also apply to any new entrant.

5.2 The assessment of the relevant market is an analytical tool that forms part of the analysis of the competitive effects of the merger. For the purposes of our inquiry, we considered the frames of reference adopted in the Phase 1 Decision: the Parties are both active in post-trade services and portfolio compression. As a starting point for our analysis we proceeded on the basis that the supply of clearing services for OTC IRDs in the UK is the appropriate frame of reference upstream; and the supply of multilateral compression services for OTC IRDs in the UK is the appropriate frame of reference downstream. The evidence we have seen during the course of our investigation and our analysis of the competitive effects up- and down-stream, supports these frames of reference. Therefore, we have proceeded on the basis that these frames of reference may be treated as the relevant markets for the purposes of this investigation.[80]

5.3 In our assessment of whether the Merged Entity may harm its rivals' ability to compete in multilateral compression of OTC IRDs we follow the framework set out in the Merger Assessment Guidelines for assessing input foreclosure theories of harm.[81] We consider whether three cumulative conditions are satisfied:[82]

(a) Would the Merged Entity have the ability to use its control of inputs to harm the competitiveness of its downstream rivals?

(b) Would it have the incentive to actually do so, ie would it be profitable?

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[79] Such disadvantaging does not need to include an absolute worsening in the service or price offer to Quantile's rivals but could include a relative disadvantaging, eg not supporting rivals' future improvements to the same extent as Quantile's.

[80] Merger Assessment Guidelines, paragraph 9.5.

[81] Merger Assessment Guidelines, paragraphs 7.9–7.22.

[82] Merger Assessment Guidelines, paragraph 7.10.

(c) Effects of foreclosure: would the foreclosure of these rivals substantially lessen overall competition?

5.4 We consider these in turn in the remainder of this Chapter. For the reasons set out below, our conclusion is that the Merged Entity would have the ability but not the incentive to foreclose its rivals. On that basis we have provisionally found that the Merger would not be expected to result in a substantial lessening of competition in the supply of multilateral compression of OTC IRDs and, as a result, there is no need for us to consider the effect of foreclosure on competition.

Ability to foreclose

5.5 The CMA's Merger Assessment Guidelines state that:

> 'The CMA may consider a wide range of mechanisms through which the merged entity could potentially harm its rivals when supplying inputs. These may include, for example: refusing or restricting supply, increasing prices, reducing quality or service levels, deteriorating product interoperability, slowing the rollout of upgrades, restricting licensing of intellectual property, shutting down APIs, […] reprioritising R&D spending, or limiting access to data. The CMA's focus will be on understanding if collectively these would allow the merged entity to foreclose its rivals, not on predicting the precise actions it would take'.[83]

5.6 In this case, we consider that LCH could adopt a range of mechanisms to foreclose Quantile's rivals, including:[84]

(a) total foreclosure by revoking rivals' status as approved providers; and

(b) partial foreclosure by degrading LCH's offering to rivals, including through increasing the fees, limiting the days on which rivals could access LCH to carry out compression runs, altering aspects of LCH's process, limiting the support available when rivals seek to introduce improvements to their service offerings or through information sharing.

5.7 The Merged Entity's ability to engage in these types of actions and foreclose its rivals depends on the following factors:

(a) LCH's market power in relation to the provision of clearing services for OTC IRDs;

(b) the importance of the input provided by LCH;

(c) regulation; and

[83] Merger Assessment Guidelines, paragraph 7.13.
[84] Competitor, Submission 1 February, and submission 30 August.

(d) LCH’s internal governance.

5.8 The four factors above are discussed in turn in the rest of this section.[85]

LCH’s market power in relation to the provision of clearing services for OTC IRDs

5.9 If downstream rivals can easily switch away from the upstream party to a range of effective alternative suppliers, then they will be less likely to suffer harm than if the merged entity occupies an important position upstream. The starting point for this assessment will be the structure of the upstream market.[86] To assess LCH’s market power in the provision of clearing services for OTC IRDs we analysed shares of supply, network effects, barriers to switching and potential future developments.

5.10 LCH’s and its competitors’ estimated shares of supply for the clearing of OTC IRDs by volume of notional cleared and outstanding notional for 2018-2021 are set out in Table 1 And Table 2.[87] These estimates are in line with third-party estimates.[88] As can be seen in the tables, LCH has a stable share of over 90% (by notional cleared) and over [70 – 80]% [✂] (by notional outstanding) in clearing of OTC IRDs across the period 2018-2021.

Table 1: Shares of supply - clearing of all OTC IRDs (global level, all currencies) – notional cleared volumes

Clearing house	*2018*		*2019*		*2020*		*2021*	
	GBP bn	*Share (%)*	*GBP bn*	*Share (%)*	*GBP bn*	*Share (%)*	*GBP Bn*	*Share (%)*
LCH	[✂]	[90 – 100] [✂]	[✂]	[90 – 100] [✂]	[✂]	[90 – 100] [✂]	[✂]	[90 – 100] [✂]
CME	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]
Eurex	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]
Others	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Parties, Parties Merger Notice, Table 5; Parties’ response to RFI5, Table 1.

[85] We consider the impact of customers reacting or threatening to react to any such change in the Incentive section.
[86] Merger Assessment Guidelines, paragraph 7.14.
[87] The notional value of a derivative is the value of the underlying assets in the trade; for an interest rate swap it is the amount on which interest rate payments will be exchanged. Notional cleared is the sum of the notional values of all derivatives cleared. The outstanding notional is sum of the notional values of open trades. These shares have been calculated on the basis of LCH’s internal data (on LCH’s own clearing volumes) and data on CCP clearing volumes sourced from external sources, most importantly an external subscription-based service ClarusFT.
[88] Competitor, Competitor’s response to CMA RFI dated 1 February 2022, paragraph 4.5.

Table 2: Shares of supply - clearing of all OTC IRDs (global level, all currencies) – notional outstanding volumes

Clearing house	*2018*		*2019*		*2020*		*2021*	
	GBP bn	*Share (%)*	*GBP bn*	*Share (%)*	*GBP bn*	*Share (%)*	*GBP Bn*	*Share (%)*
LCH	[✂]	[70 – 80] [✂]	[✂]	[70 – 80] [✂]	[✂]	[70 – 80] [✂]	[✂]	[70 – 80] [✂]
CME	[✂]	[5 – 10] [✂]	[✂]	[5 – 10] [✂]	[✂]	[5 – 10] [✂]	[✂]	[5 – 10] [✂]
Eurex	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[0 – 5] [✂]	[✂]	[5 – 10] [✂]
Others	[✂]	[10 – 20] [✂]	[✂]	[10 – 20] [✂]	[✂]	[10 – 20] [✂]	[✂]	[10 – 20] [✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Parties, Parties Merger Notice Table 6; Parties' response to RFI5, Table 2.

5.11 We found that there are strong network effects in the provision of clearing services, which may reinforce LSEG's existing strong position. These network effects are the result of greater volumes increasing liquidity, which is a very important factor when choosing a CCP. All respondents to our market questionnaire, which included 13 of the 14 SwapClear Banks, identified market liquidity as a key factor in choosing a CCP, giving it an average rating of 4.8 out of a maximum possible 5.[89] Similarly, all of the major CCPs competing with LCH we spoke to told us that market liquidity is a very important factor that informs the customers' choice of a CCP for clearing of OTC IRDs.[90]

5.12 The Parties challenged the strength of network effects stressing that 'liquidity at a CCP refers not to volumes of activity, but the ease with which a market participant can find counterparties willing to trade at competitive prices and clear at their CCP of choice'.[91] The Parties further state that 'while SwapClear currently has higher OTC IRD clearing volumes, it does not follow that this disparity in cleared volumes translates into material differences in CCP liquidity. CCPs with different headline clearing volumes have similar levels of liquidity'.[92] This lack of automatic connection between volumes and liquidity was supported by a competitor who told us that it considers itself to be able to offer similar liquidity to LCH for euro swaps in the dealer to client market.[93] [✂].[94]

[89] The SwapClear Banks are a group of large global banks and broker dealers who were involved in the development of LCH's IRD clearing service and are important customers of LCH in clearing services.
[90] Competitors, Competitors' responses to the CMA questionnaire, Q9(d).
[91] Parties, Parties' response to the Phase 1 Issues Letter, p23.
[92] Parties, Parties' response to the Phase 1 Issues Letter, p23.
[93] Competitor, Call note, paragraph 22.
[94] Competitor, Call note, paragraph 22.

5.13 We have provisionally found that there is a strong link between liquidity and volumes of activity and thus strong network effects. One customer explained that 'all other factors being equal, a CCP that clears a large proportion of the market is likely to be more attractive than a CCP that clears a much smaller proportion of the market'.[95] Similarly, one competitor explained that a wider member base can maximize clearing opportunities and lower the cost on margining.[96] This conclusion is supported by market commentary which notes there is an inherent network effect of clearing.[97]

5.14 We have also provisionally found that barriers to switching CCP may support LCH's strong market position. At phase 1 the CMA asked clearing competitors how easy it would be for a customer of LCH to switch some or all of its business in clearing OTC IRDs from LCH to another CCP.[98] Most respondents submitted that switching from LCH to another CCP is difficult and that the process can be onerous.[99] Customers tend to concentrate trades in one clearing house (LCH) to maximize margin netting benefits and lower clearing costs, so switching trades away from LCH to other CCPs may lead to lower benefits and higher costs.[100] As noted in the section on Incentives to foreclose (below), this was supported by the evidence we gathered from customers. While a small number of customers told us that they could switch some trades to another CCP, they and other customers told us that moving away from LCH would involve costs, time and a collective effort from customers. However, some customers told us that they may consider incurring these costs were they sufficiently motivated to do so, for example, were LCH to foreclose TriOptima.

5.15 While the characteristics of the market considered above might enhance LCH's position, we also considered factors that might limit its strength. First, we considered whether LCH's position in clearing services could be negatively impacted if it were to foreclose rival multilateral compression providers, for example if the quality of multilateral compression were to deteriorate as a result. However, customers that responded to our phase 2 questionnaire gave the quality of multilateral compression options an average rating of 2.8 out of a maximum possible 5 in terms of importance in choosing a CCP. While generally seen as important, customers commented that it was not a main

[95] Customer, Customer's response to CMA questionnaire, Q2: 'What factors are the main drivers of your choice of CCP for OTC IRDs? For each of the factors listed please rate its importance (on a scale of 1 to 5) with a brief explanation'.
[96] Competitor, Competitor's response to the CMA Phase 1 questionnaire, Q9(d).
[97] BIS, BIS quarterly review, The evolution of OTC interest rate derivatives markets, 8 December 2019, page 77. See also CMA, Decision on relevant merger situation and substantial lessening of competition in IHSM/CME/JV, paragraph 125.
[98] Competitors, Competitors' responses to the CMA Phase 1 questionnaire, Q8.
[99] For example, execution and operational costs related to switching.
[100] Competitors, Competitors' responses to the CMA Phase1 questionnaire.

driver of choice and that the quality of multilateral compression did not significantly differ between CCPs.[101]

5.16 Second, we note that LCH's position as a leading CCP for OTC IRDs may be impacted by the UK's departure from the EU. [✄] that the European Commission (**EC**) has announced that it 'plans to come forward with measures' to 'improve the attractiveness of EU-based CCPs while enhancing their supervision'.[102] We considered the Parties' submissions and internal documents and the EC's public statements.[103] We found that the EC's plans present a potentially serious challenge to LCH: these plans would affect euro OTC IRDs, which make up around 30% of LCH's notional outstanding for OTC IRDs.[104] However, there remains a great deal of uncertainty around the EC's eventual proposals, for example we note that the EC has extended its current equivalence decision for UK CCPs for three years until 30 June 2025. Further, we note that customers (including EU banks) are continuing to use LCH despite the EC's desire to encourage EU banks to move clearing to EU CCPs. This may support the other evidence that LCH has market power.[105]

5.17 The Parties did not make submissions on the potential for new entry in the clearing of OTC IRDs. Given the stable shares of supply, the network effects and barriers to switching, we do not consider entry by a new CCP to be likely.

5.18 On the basis of the evidence above, we have provisionally found that LCH has market power in the provision of clearing services for OTC IRDs.

The importance of the input provided by LCH

5.19 A multilateral compression provider needs to interact with the CCP in order to provide its services to customers. As such, LCH's involvement is essential for providers wishing to offer multilateral compression of trades cleared at LCH and the Parties do not dispute this.[106] A multilateral compression provider can offer compression of OTC IRDs cleared at LCH only if it is approved by LCH as a provider. Once approved LCH continues to monitor a provider's suitability.[107] On individual compression runs multilateral compression providers rely on LCH for data on present value and cashflow of the trades eligible for compression. LCH also checks each compression run and any run that fails these checks cannot go ahead. Finally, LCH executes a provider's proposal including the early termination of trades, which only LCH, as the CCP, can do.

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[101] Customers, responses to CMA questionnaire, Q2. Market liquidity, client preference, risk management, fees and margin model were all rated on average as more important.
[102] Parties, Parties' response to the Issues Statement, paragraph 81 and Commission extends equivalence for UK central counterparties (europa.eu).
[103] LCH, LCH website, https://www.lch.com/services/swapclear/volumes.
[104] LCH, LCH website, https://www.lch.com/services/swapclear/volumes.
[105] However, we consider that the EC's plans may impact how customers would respond to foreclosure by making them more willing to switch to another CCP for clearing for euro OTC IRDs.
[106] Parties, Parties' response to the Annotated Issues Statement, paragraph 18.
[107] Parties, Information provided to the CMA at the Site visit.

5.20 As a result of the extensive role of LCH in multilateral compression of OTC IRDs cleared at LCH, LCH has a wide range of potential foreclosure mechanisms.[108] These include mechanisms for total foreclosure, most notably withdrawing approval of TriOptima as a provider, and mechanisms for partial foreclosure, including increasing the fees charged to TriOptima, limiting the days on which TriOptima could access LCH to carry out compression runs, disadvantaging TriOptima in aspects of the run process, limiting the support available when TriOptima seeks to introduce improvements to their service offering or through information sharing.

5.21 While LCH plays no role in the compression of OTC IRDs cleared at other CCPs, any foreclosure of OTC IRDs cleared at LCH may have an impact on TriOptima's ability to provide compression elsewhere, for example were TriOptima no longer able to benefit from scale effects. However, we have focussed on LCH's ability to harm TriOptima's competitiveness in compression of OTC IRDs cleared at LCH. Given the high share of supply of LCH in clearing OTC IRDs, LCH's input is essential for a large proportion of the supply of multilateral compression of OTC IRDs. Harming TriOptima's competitiveness in the supply of multilateral compression of OTC IRDs at LCH would mean TriOptima's competitiveness was harmed in a large proportion of the supply of multilateral compression of OTC IRDs.

5.22 On the basis of the evidence above, we have provisionally found that the input provided by LCH plays a significant role in shaping competition between providers of multilateral compression of OTC IRDs.

Regulation

5.23 In this section we consider whether regulation limits the Merged Entity's ability to foreclose.

Parties' submissions

5.24 The Parties have emphasised the role of regulation in LCH's activities. The Parties have suggested that the regulatory context in which LCH operates would make foreclosure unrealistic and require a brazen disregard for regulatory obligations.[109] The Parties have also repeatedly emphasised that an 'open access' principle is enshrined in LCH's governance structure and that this is required by regulation and regulatory expectation.[110]

5.25 The Parties state that regulation, particularly UK EMIR, and relevant technical standards, regulate LCH's organisation, including governance. They also state

[108] Competitor, Competitor submission 1 February and submission 30 August.
[109] Parties, Parties' Phase 2 Initial Submission, paragraph 3 (third bullet). See also Parties, Parties' response to the Issues Statement, Executive Summary.
[110] Parties, Parties' Phase 2 Initial Submission, paragraph 19.

that the conduct of business rules of the CCP, which fall within regulation, apply to any service provided by the CCP, including compression services and the supply of inputs.[111] However, the Parties accept that there is no specific legally-binding regulatory provision that directly applies to or governs the supply of inputs by LCH to multilateral compression providers.[112]

Our assessment

5.26 We make the following observations on the relevant regulations that were highlighted by the Parties as constraining LCH's ability to foreclose:

(a) The Principles for Financial Market Infrastructures[113] state that a systemically important CCP such as LCH should have 'objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access'. In particular, the Parties highlighted IOSCO Principle 18 and its explanatory note which states that 'access refers to the ability to use an FMI's services and includes the direct use of the FMI's services by participants, including other market infrastructures (for example, trading platforms) and, where relevant, service providers (for example, matching and portfolio compression service providers).' However, as the Parties have confirmed, the principles are not legally binding, even if the Parties consider them to be highly influential.[114]

(b) UK EMIR[115] is primarily concerned with reducing risk and increasing financial stability, as well as requiring good governance and regulatory oversight to ensure that risk is appropriately managed.[116]

(c) UK EMIR does not apply to CCPs' supply of inputs to third party multilateral compression providers. Instead, it primarily regulates the relationship between CCPs, clearing members and their clients, as well

[111] LSEG, LSEG response to Phase 2 RFI (3), question 9.
[112] LSEG, LSEG response to Phase 2 RFI (3), question 9. Parties, Joint main party hearing transcript, page 28 lines 14–18, page 29 lines 6–20, page 35 lines 2–22.
[113] BIS, Principles for Financial Market Infrastructures, April 2012.
[114] LSEG, LSEG response to Phase 2 RFI (3), question 14.
[115] Pursuant to the EU Withdrawal Act, EMIR (and the Markets in Financial Instruments Regulation 2018 (**MiFIR**) ceased to apply directly in the UK. They have been carried into domestic UK law, as retained EU law, via a number of statutory instruments and technical standards. See further The Over the Counter Derivatives, Central Counterparties and Trade Repositories (Amendment, etc., and Transitional Provision) (EU Exit) Regulations 2019 (legislation.gov.uk). See also the European Market Infrastructure Regulation - Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories Text with EEA relevance (europa.eu). EMIR continues to apply to firms in the EU. European Commission, European Commission website, Derivatives / EMIR | European Commission (europa.eu).
[116] Our assessment of UK EMIR is based on a consideration of the following UK EMIR Articles highlighted by the Parties: 7, 26.1, 26.6, 27.1, 27.2, 28, 28.3, 33.1, 33.3, 33.5, 36.1, 37, 38.1 and 38.2. See LSEG, LSEG response to Phase 2 RFI (3), question 9.

as dealing with conflicts of interest with undertakings with which the CCP has a parent undertaking or a subsidiary relationship.

(d) The only reference to open access in UK EMIR is the requirement for a CCP to have membership criteria on non-discriminatory, transparent and objective terms so as to ensure fair and open access by members. The Parties have confirmed in Phase 2 that 'open access' under regulation refers specifically to the requirements in MiFIR and UK EMIR to provide non-discriminatory access to a CCP regardless of trading venue (Article 35 MiFIR and Article 7 UK EMIR).[117,118] This is also supported by the explanation of 'open access' included on LCH's website,[119] as well as the now-removed core operating principle that had previously been included in LCH's articles of association and was referenced in the OFT's review of LSEG's acquisition of LCH.Clearnet.[120]

(e) Portfolio compression services are not referred to in UK EMIR, except in so far as they are brought into scope as a risk management tool under Article 11 UK EMIR to regulate OTC derivatives counterparties who do not clear their transactions via a CCP.[121]

5.27 In terms of regulatory supervision, the Parties' submissions have focussed on the role of the Bank of England.[122] The Bank of England supervises CCPs with respect to their safety and resilience to risks, both financial and operational, which could lead to financial instability[123] (eg counterparty credit risk management, loss absorption, capital and liquid resources, service continuity, disaster recovery plans). Accordingly, the Bank of England would be more

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[117] Article 7 EMIR states that 'A CCP that has been authorised to clear OTC derivative contracts shall accept clearing such contracts on a non-discriminatory and transparent basis, including as regards collateral requirements and fees related to access, regardless of the trading venue'.
[118] LSEG, LSEG response to Phase 2 RFI (3), question 16.
[119] 'That's why we believe that market participants should be able to clear all eligible trades, regardless of the venue traded on. We refer to this approach as open access' (LCH, LCH website, Open Access | LCH Group).
[120] 'The parties state that LCH.Clearnet will continue to operate as an open and horizontal model post-transaction and to bolster this commitment, an open access provision, considered a core operating principle, will be enshrined in the amended Articles of Association post-transaction. This open-access provision states: 'LCH.Clearnet's services must be offered on terms that are fair, reasonable, open and non-discriminatory, and on a basis such that LCH.Clearnet's risk is adequately controlled. No exchange will be favoured over any other and LSEG's trading services users will not be favoured over any other exchange's users'. (CMA, CMA website, Decision in the Anticipated acquisition by London Stock Exchange Group plc of Control of LCH.Clearnet Group Limited, paragraph 131).
[121] LSEG,LSEG response to Phase 2 RFI (3), question 9.
[122] The Bank of England is responsible for the oversight of clearing, settlement and payment systems (also known as 'post-trade systems') in support of its financial stability objective. These responsibilities are respectively established in FSMA (as amended by the Financial Services Act 2012), the Uncertificated Securities Regulations 2001 (as amended) and the Banking Act 2009 (as amended). See also See the MoU between the Bank of England and the FCA: Bank of England, Bank of England website, Financial Services and Markets Act 2000: Memorandum of Understanding between the Financial Conduct Authority and the Bank of England, including the Prudential Regulation Authority. The Parties have not put forward arguments that the FCA or any other regulators beyond the Bank of England are relevant to our assessment.
[123] Bank of England, Bank of England call note, 29 June 2022, paragraph 5.

likely to take an interest where there is an impact on financial stability or regulatory compliance as opposed to where concerns relate to safeguarding competition between downstream service providers of compression services.[124] This characterisation of the Bank of England's role is reflected in the Parties' submissions.[125]

5.28 Therefore, the Bank of England would be unlikely to intervene unless there were concerns relating to safety and resilience to risks, financial stability or regulatory compliance.[126] Where competition between compression service providers is concerned, the Bank of England is unlikely to intervene unless suspected foreclosure may or will raise concerns relating to risk management or financial stability.

5.29 Based on the above, we have provisionally found that regulation would not prevent the Merged Entity from having the ability to foreclose.[127]

Governance

5.30 In this section we consider whether the internal governance of LCH limits the Merged Entity's ability to foreclose.

Parties' submissions

5.31 The Parties submitted that:

(a) LCH does not operate as a typical subsidiary but is subject to a higher degree of independence, and regulatory and customer scrutiny.[128]

(b) The broader structural separation of LCH from LSEG renders any alleged foreclosure strategy untenable. It is inconceivable that LCH would act in favour of a business within LSEG in a way that is not in the best interests of LCH and its members and clients or that LCH would be able to change its Rulebook or other rules and processes to favour one ACSP over another.[129,130]

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[124] Bank of England, Bank of England call note, 29 June 2022, paragraph 5.
[125] Parties, Parties Phase 2 Initial Submission, paragraph 15.
[126] Bank of England, Bank of England call note, 29 June 2022, paragraph 5.
[127] We note that if customers thought that foreclosure was breaking the spirit of regulation that might impact their response to it and that this would be reflected in the customer evidence assessed in the Incentive section.
[128] Parties, Parties' Phase 2 Initial Submission, paragraph 10.
[129] The Parties have confirmed that Quantile would sit outside of LCH and within the wider LSEG. LSEG, LSEG response to Phase 2 RFI (3), question 10.
[130] Parties, Parties' response to the Issues Statement, paragraph 34.

(c) The ‘open access’ principle is enshrined in LCH’s governance structure and that LCH’s governance structure ensures that LCH acts in its own and customers’ best interests.[131]

(d) LCH’s iNEDs must when taking decisions act in the best interests of LCH Limited rather than LSEG and Quantile will not be part of LCH.[132]

(e) The Bank of England has oversight of LCH’s governance framework and that LCH is required to demonstrate that its governance and decision-making processes reflect the risk management purpose of the institution and give adequate regard to the interests of system participants and the financial system as a whole.[133]

Our assessment

5.32 The main element of internal governance constraining the Merged Entity highlighted by the Parties was the structure and operation of LCH’s Board.[134] In relation to this, we note the following:

(a) LSEG owns 82.61% of LCH Group (of which LCH is a wholly owned subsidiary). The remainder of LCH Group’s shares are owned by 14 international financial institutions.[135]

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[131] Parties, Parties’ Phase 2 Initial Submission, paragraph 19. We also note the Parties’ submissions on open access being part of LSEG’s governance as well.

[132] Parties, Parties Merger Notice, paragraph 277.

[133] In particular, a CCP’s corporate governance structure and arrangements need to demonstrate that systemic risk management is not sacrificed in the pursuit of the commercial interests of particular stakeholders and assurances need to be provided that other group priorities are not directly or indirectly imposed on supervised institutions at the expense of the CCP’s responsibility for managing risk. Parties, Parties’ Phase 2 Initial Submission, paragraph 15.

[134] The CMA notes that UK EMIR contains several provisions stipulating criteria pursuant to which the internal governance of a CCP should be organised. For example, UK EMIR contains in Article 27.2 requirements for a CCP (i) to have at least one-third, but not less than two, independent board members; (ii) for independent and other non-executive board members’ compensation not to be linked to the business performance of the CCP; and (iii) to ensure that the members of the board, including its independent members, are of sufficiently good repute and with adequate expertise in financial services, risk management and clearing services. Another example can be seen in Article 28 UK EMIR that requires a CCP to have a risk committee composed of clearing members, iNEDs and representatives of clients, with the advice of the risk committee being independent of any direct influence by the management of the CCP.

[135] Parties, email sent to the CMA on 7 July 2022.

(b) While LCH's Board[136] is composed of five iNEDs,[137] three user directors,[138] three executives of the LCH Group and one director nominated by LSEG (non-executive), the requirement from regulation, ie UK EMIR, is to have at least one-third, but not fewer than two, independent board members, which suggests that LSEG has the ability to change the current number of independent board members in the future.

(c) LSEG's CEO and Chairman are to be consulted regarding all appointments to LCH's Board including all iNED appointments. This confers on LSEG the ability to influence appointments on LCH's Board.[139]

(d) There are also directors on LCH's board who represent LSEG's interests or have roles within LSEG, giving LSEG further influence on LCH's board. For example, there is currently one LSEG-nominated director on the board of LCH. In addition, the executive directors on LCH's board are considered to represent LSEG's interests, noting the fiduciary duties that they owe to LCH. For example, one of these executive directors is also Head of Post Trade at LSEG and reports to the Group CEO of LSEG.[140]

(e) LCH's directors are obliged as a matter of company law to act in the best interests of LCH Limited.[141] However:

   (i) this would not prevent foreclosure where it was judged to be in the best interests of LCH, for example if foreclosure was through increased fees on ACSPs or LSEG could compensate LCH for any loss.

   (ii) In addition, section 172 of the Companies Act 2006 requires directors to have regard to the benefit of a company's 'members' as a whole. Members in this context are shareholders. In the case of LCH, LSEG owns 82.61% of LCH Group, its parent company. LSEG will also indirectly own 100% of Quantile. On this basis, the

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[136] LCH, LCH website, https://www.lch.com/about-us/structure-and-governance/board-directors-0.
[137] According to LCH's accounts (LCH, LCH website, https://www.lch.com/system/files/media_root/2021_ltd_stat_accounts_-ey-signed.pdf, p12), all iNED appointments are made subject to the non-objection of the Bank of England and iNED appointees are limited to serving a maximum of three-year terms. The Parties have defined 'iNED' as 'independent non-executive director'. See the glossary of key terms provided by the parties at the Site Visit: LSEG/QUANTILE, GLOSSARY OF KEY TERMS.
[138] A 'User' Director is an independent director on LCH's Board who is also employed by one of LCH's customers (LSEG, note of call regarding User Directors). There is currently only one user Director due to two recent resignations but two are in the process of being replaced. None of the minority shareholder banks are entitled to appoint directors but they can put forward candidates. The 'User' directors on LCH's Board are formally nominated by the LCH Nominations Committee. It is open to the minority shareholder banks to nominate potential directors for consideration by the LCH Nominations Committee. In selecting candidates, the LCH Nominations Committee NomCo is required to consult with LSEG's CEO, LSEG's Chairman and LCH Group's CEO. Appointments once agreed are confirmed by LCH Board resolution.
[139] LSEG, LSEG response to Phase 2 RFI (3), question 37.
[140] LSEG, LSEG response to s.109(1) (Opening Letter), question 8.
[141] LSEG, LSEG response to Phase 2 RFI (2), question 15.

interests of LSEG are a legitimate factor to be taken into account when LCH's directors take decisions.

(f) The Parties have submitted that the iNEDs would not typically be involved in operational matters unless such matters raise strategic issues for LCH, such as substantial clearing member/client discontent, or the relevant issue is a 'reserved matter'. The Chair of LCH (an iNED) told us that [✂]. However, he also told us that if customers were sufficiently concerned, then they would not hesitate to raise their concerns with the iNEDs.[142] Previous complaints about [✂] multilateral compression [✂] were not taken to the Board.[143] This indicates that compression services and any foreclosure of TriOptima may not be a key focus of the Board unless prompted by customers.

(g) The Parties have submitted that Article 11 of the LCH Board's Reserved Matters would limit LCH's ability to foreclose.[144] Article 11 states that 'related party transactions' may be approved only by a sub-committee comprised solely of iNEDs. This committee is obliged to ensure that related party transactions between LCH and other LSEG entities are on bona fide arm's length terms. The decision of the iNEDs on such issues is final. On this basis, the Parties suggest that changes to the terms/prices to ACSPs to disadvantage Quantile's rivals or to favour Quantile would not be feasible because such changes would not be on bona fide arm's length terms.[145] However, the reserved matters can be varied and were last updated in September 2020.[146] We also note that where there were objective reasons for differences in contracts with Quantile and TriOptima, LCH would not need to offer identical terms in order for them to qualify as bona fide arm's length. Further, not all of the foreclosure mechanisms under consideration would require amendments to LCH's contracts with Quantile and TriOptima or unequal treatment.[147]

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[142] iNED call note, 12 July 2022, paragraph 25.
[143] LSEG, LSEG response to MFQ dated 24 May, paragraphs 17–26.
[144] Parties, Parties' response to the Issues Statement , paragraph 32.
[145] Parties, Parties' response to the Issues Statement, paragraph 35(d). See also LSEG, LSEG response to Phase 2 RFI (3), question 25.
[146] LCH, LCH Website, LCH Limited Board Reserved Matters and Delegated Authorities.pdf., 9 September 2020, Article 23. We note that the Bank of England may be notified of any such change to LCH's governance arrangements and may comment on it. However, as noted above, the Bank of England is in particular concerned with managing risk and financial stability. It is not certain, therefore, that the Bank of England would intervene to prevent such a change if it were to be proposed and is not considered to impact safety and resilience to risks, financial stability and/or regulatory compliance.
[147] For example, LCH could raise fees to both Quantile and TriOptima. This could still have a different impact on Quantile and TriOptima because both LCH and Quantile are part of LSEG. Quantile may treat any increased cost differently as it would be a payment within the LSEG group, albeit to an entity that is 17% owned by outside shareholders.

5.33 The Parties argued that the SwapClear Banks[148] and OTC DerivNet (**OTCD**)[149] are able to influence LCH's conduct as a result of which it would not have the ability to foreclose. This is because the business model of SwapClear[150] requires consultation with the SwapClear Banks who are its 14 largest customers. Consultation (either with OTCD,[151] or through a Swaps Consultative Committee) [152] is required [✂].[153] The Parties argued that the SwapClear Banks can also influence LCH through these consultation rights. The Parties also argued that, in practice, LCH consults with market participants much more broadly than it is required to (whether through regulatory obligations or in the contract with OTCD and the SwapClear Banks).[154]

5.34 The Parties argued that [✂].[155] However, it is noted that [✂].

5.35 The Parties acknowledged that consultation with the SwapClear Banks is non-binding but insisted that their views are influential because the SwapClear Banks are LCH's main customers. The Parties argued that there would be no merit in LCH subjecting itself to such broad consultation obligations if LCH felt it could simply ignore the outcome of any consultation or hide any attempted foreclosure of a service in which the SwapClear Banks, and other customers, have a keen interest (such as the ability to multi-source compression services).[156]

5.36 The arrangements in place are sophisticated and extensive but, similar to regulation, do not create any legal block over LCH's freedom of action. They are contractual rights in favour of customers as opposed to regulatory rights or mechanisms of internal governance. As such, they would not prevent LCH from foreclosing.

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[148] The SwapClear Banks are a group of large global banks and broker dealers with which LCH has developed arrangements for its SwapClear business. These banks are: Bank of America Merrill Lynch, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JP Morgan, Morgan Stanley, Nomura, RBS, Société Générale and UBS.
[149] OTCD is a joint venture company body owned and operated by the SwapClear Banks to provide, amongst other things, funding to LCH in order to deliver a secure, efficient and cost-effective post-trade environment for the mutual benefit of the OTC interest rate derivative industry. See LSEG, LSEG response to Phase 2 RFI (3), at Annex 7.1, page 26.
[150] SwapClear is LCH's OTC IRD clearing service.
[151] Consultation with OTCD is required prior to implementing any change that would have a material impact on any of the following matters: [✂].
[152] The Swaps Consultative Committee shall be entitled to be consulted by, and provide its views to, LCH and SwapAgent, in respect of the following matters: [✂].
[153] Parties, Parties' response to the Issues Statement, paragraph 16. We understand that OTCD also benefits from a revenue share arrangement with LCH [✂]. See LSEG, LSEG response to Phase 2 RFI (3), at Annex 7.1.
[154] Parties, Parties' response to the Issues Statement , paragraph 24. Parties, Parties' Phase 2 Initial Submission, paragraph 20, Parties, Parties' submission in relation to open access, 9 March 2022, paragraphs 22 to 23. LCH meets with the SwapClear Banks at the OTCD Board [✂]. At the board meetings, a range of matters are notified and consulted upon, including [✂]. As a result, the Parties argue that there is a high level of transparency [✂] which provides the SwapClear Banks with significant insight and influence into these.
[155] Parties, Parties' response to the Issues Statement, paragraph 16.
[156] Parties, Parties' Phase 2 Initial Submission, paragraph 23.

5.37 The Parties also highlighted the role of the Bank of England in overseeing LCH's governance framework. However, as set out in paragraphs 5.27 - 5.28, the Bank of England's focus is on safety and resilience to risks, financial stability and regulatory compliance. The relevant regulation, UK EMIR, contains several provisions mandating certain requirements for the internal governance of a CCP which are reflected in LCH's internal governance but would not prevent foreclosure.[157]

5.38 Based on the above, we have provisionally found that LCH's internal governance would not prevent the Merged Entity from having the ability to foreclose.

Our view on the Merged Entity's ability to foreclose

5.39 We have provisionally found that the evidence set out above shows that the Merged Entity would have the ability to foreclose its rivals in multilateral compression of OTC IRDs:

(a) LCH has market power in the provision of clearing services for OTC IRDs and Quantile's rivals cannot easily switch away from LCH to alternative suppliers.

(b) LCH's involvement is essential for providers wishing to offer multilateral compression of OTC IRDs cleared at LCH. The importance of OTC IRDs cleared at LCH within multilateral compression of OTC IRDs more generally, means LCH's input plays an important role in shaping competition within the provision of multilateral compression of OTC IRDs.

(c) Neither regulation nor LCH's internal governance prevent the Merged Entity from having the ability to foreclose.

Incentive to foreclose

Introduction

5.40 In this section we assess whether the Merged Entity would have the incentive to engage in foreclosure of rival multilateral compression providers.

5.41 The Merger Assessment Guidelines state that:

> 'even where the merged entity would have the ability to foreclose its rivals, it may not have the incentive to do so. This is because while foreclosure may result in additional profits downstream, it may also result in costs such as a loss of sales upstream. If these costs are greater than the benefits, the merged entity will not have the incentive to engage in

[157] See footnote 134.

input foreclosure. We will therefore consider whether the merged entity would have the incentive to pursue a foreclosure strategy, in particular through a consideration of the magnitude and likelihood of the costs and benefits.'[158]

5.42 In the present case, the potential benefits of foreclosure are increased profits in the supply of multilateral compression of OTC IRDs, while the potential costs relate to potential customer retaliation.[159] Customer retaliation could involve moving trades from LCH to other CCPs and moving spend away from other services offered by the Merged Entity. The value to the Merged Entity of the supply of multilateral compression of OTC IRDs would be much smaller compared to the value of clearing trades with LCH and the value of providing other services by the Merged Entity. This means that the baseline for the benefits of foreclosure is much lower than the baseline for the costs of retaliation. However, this baseline is only the starting point of our analysis: what is important is the value of the customers that would switch to Quantile and the value of customers that would switch from LCH and other services offered by the Merged Entity in response to foreclosure.

Benefits of foreclosure

5.43 Foreclosure may increase the Merged Entity's profits in multilateral compression of OTC IRDs. By foreclosing, the Merged Entity could increase its profits by disadvantaging TriOptima and capturing any diverted sales through its ownership of Quantile. Multilateral compression customers could compress fewer trades with TriOptima or stop using TriOptima altogether if it became too costly (or inefficient) or was no longer available. Customers significantly value multilateral compression, and the largest ones need to compress to manage their capital requirements, so it is unlikely they would stop compressing as a result of foreclosure. Instead, they would switch to an alternative provider and Quantile is effectively the only alternative (see paragraph 5.45 below). As such, any switching away from TriOptima would almost certainly be to Quantile. Therefore, by foreclosing, the Merged Entity would likely be able to capture TriOptima's sales and in turn increase its profits and allow Quantile to compete less aggressively.

5.44 To assess the size of the increased profits in multilateral compression that could be captured by foreclosing, we have examined the structure of the downstream market and customers' views on switching.

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[158] Merger Assessment Guidelines, paragraph 7.16.
[159] Merger Assessment Guidelines, paragraph 7.19e provide that the CMA may also consider 'other costs and benefits. Particularly in complex and dynamic markets, firms may not focus on short term margins but may pursue other objectives to maximise their long-run profitability'.

Structure of the downstream market

5.45 TriOptima and Quantile are the only significant providers of multilateral compression for OTC IRDs, with shares of around [70 - 80%] [✂] and [20 - 30%] [✂], respectively.[160,161] They are also the only providers that compress cleared OTC IRDs.[162]

5.46 Feedback from customers confirmed that TriOptima and Quantile are close competitors.[163]

5.47 The Parties and competitors told us that multilateral compression for OTC IRDs is characterised by significant network effects.[164] As a result, only a limited number of players may be able to compete successfully at a given time.[165] This feature of multilateral compression may reinforce the benefits of foreclosure as any increase in the numbers of customers participating (and volume of trades included) in Quantile compression runs would, in turn, reinforce Quantile's position even further vis-à-vis current and future rivals.[166] We received evidence that:

(a) Network effects within single runs translate to some extent in network effects across runs. This is because the number of customers that participate in a single run with a multilateral compression provider is related to the number of customers that have commercial relationships in place with that provider and pay a fee for using its services (which in some cases is a fixed fee, such as an 'all you can eat' fee). Therefore, the higher the number of customers that have a commercial relationship with one provider, the greater the number of customers that are likely to participate in each multilateral compression run with that provider.

(b) Although some of the largest customers do use both Quantile and TriOptima (and hence 'multi-home'), they would be willing to do so only as long as the benefits of multi-homing (eg maximising their use of multilateral compression) and preserving future competition (eg keeping prices low) exceed the costs of using multiple providers (eg duplication of fees). These customers' willingness to multi-home may change if one of the providers they use became more expensive and/or the quality of

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160 While Capitalab and ClearCompress do have some activities in multilateral compression of OTC IRDs, these activities relate to uncleared products only and the volumes of these activities account for a negligible part (less than [0 – 5]% [✂]) of the total notional compressed of OTC IRDs.
161 Parties, Parties Merger Notice, paragraphs 174–175; Parties, Parties' response to Phase 1 RFI (5), Table 3; Competitors, Competitors response to Phase 1 RFI.
162 Competitors, competitor call note; Competitor, Phase 1 competitor questionnaire response, question 4.
163 Customers, Customers' Phase 1 customer questionnaire response, Q4a.
164 The value that a customer gets from participating in a multilateral compression run increases as more customers participate in the run. (Competitor, competitor call note).
165 Competitors, Competitors' call note;
166 These network effects are likely to constitute a significant barrier to entry or expansion in the provision of multilateral compression services.

its services worsened (although, as set out in paragraph 5.50 the required worsening of price and/or quality may need to be fairly large).

(c) Many customers of multilateral compression services, mainly mid- and small-sized customers use only one provider.[167]

Customers' views on diversion

5.48 We considered the likely extent of diversion from TriOptima to Quantile in the event of an increase in price or a reduction in quality/innovation, as the greater the diversion, the greater the benefits of foreclosure for the Merged Entity.

5.49 To understand customers' diversion behaviour, we asked TriOptima's customers to explain how much TriOptima's quality would have to reduce for them to move a material amount of their business from TriOptima to Quantile.[168] 22 customers responded to this question, accounting for around [70 - 80%] [✂] of TriOptima's revenues from multilateral compression.[169]

5.50 18 customers told us that it would take a fair amount or a lot of quality reduction (or price increase)[170] in TriOptima's offering for them to move a material amount of their business to Quantile.[171] In explaining their answers these customers particularly referenced the network effects in multilateral compression and their keenness to compress as much as possible. Three customers stated that it would take just a little reduction in TriOptima's quality for them to move.

5.51 The results indicate that a foreclosure strategy would need to reduce TriOptima's quality (or increase its price) by a fair amount in order to prompt material switching from TriOptima to Quantile. This evidence is consistent with customers placing a high value on having access to two providers (for security of supply reasons) and as a result there is a reluctance to switch/stickiness in customers' response to changes in providers' offerings.

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[167] CMA analysis of TriOptima and Quantile's customer lists.
[168] CMA customer questionnaire, question 4a: 'how much would TriOptima's quality have to reduce for you to move a material amount of your business from TriOptima to Quantile? Please tick the box that applies and explain your choice.' Respondents were given the following choices: 'just a little', 'a fair amount', 'a lot', and 'N/A we would not move business to Quantile'.
[169] CMA analysis of customer responses to the CMA questionnaire and TriOptima's customer list.
[170] Four customers stated that they would not move business to Quantile in the event of a quality reduction of TriOptima's services. The CMA was concerned that these customers may have misinterpreted that question as it appeared they thought there was no possible reduction in quality that would lead them to move business to Quantile. Therefore, we sent them a follow-up diversion question which presented them with a price increase, rather than a quality reduction scenario. The three customers who responded to that follow-up question submitted that it would take a 'fair amount' of price increase for them to switch business to Quantile, which is in line with the other customers' response to the quality reduction diversion question.
[171] 15 customers indicated 'a fair amount' (including three customers who received the price-based follow-up question); and three customers indicated 'a lot'. As set out in footnote 170, a further customer, not counted among these 18, indicated that they would not move business to Quantile in the event of a quality reduction of TriOptima's services.

However, there is a limit to customers' willingness to use a provider, and if quality were to go down (or price were to go up) beyond a certain level then they would switch.

Size of the gains

5.52 In practice, numerical estimates of the size of the increased profits are unlikely to be precise and will only give a broad sense of the gains from foreclosure. Given that we are estimating, albeit broadly, the benefits to Quantile of capturing TriOptima's sales, we have used TriOptima's revenues as a proxy for the financial benefits that could be achieved through foreclosure.[172]

5.53 As an upper bound, we consider the gains from total foreclosure. By engaging in total foreclosure of TriOptima, the Merged Entity would be able to capture virtually all the revenues currently achieved by TriOptima in multilateral compression of OTC IRDs. The gains in annual revenue would be around £[✂] million or £[✂] million if Quantile could gain revenues from TriOptima in relation to OTC IRDs other than those cleared at LCH.[173] This estimate of the upper bound will likely be an underestimate as the Merged Entity would also have an incentive to raise fees for multilateral compression services as competition would be weakened resulting in additional revenues and profits.[174] However, based on the reasoning set out below, we have provisionally found that even this level of potential benefit would not change our conclusion.

5.54 Partial foreclosure would likely result in a lower benefit. Most obviously, this is because under partial foreclosure TriOptima would be less disadvantaged than under total foreclosure.[175] In addition, as discussed in paragraph 5.50, the benefits of partial foreclosure may be limited by many customers requiring at least a fair amount of quality reduction (or price increase) for them to move a material amount of their business.

Costs of foreclosure

5.55 In this section we consider the costs arising from foreclosure.

5.56 Typically, the main cost of foreclosure is a loss of sales upstream, ie foreclosed rivals may reduce their purchases from the foreclosing company. However, LCH's direct sales to multilateral compression providers, ie the

[172] We have not used TriOptima's profits as they are not allocated to specific sales.
[173] Competitor, Competitor's response to Phase 1 RFI. Competitor, Competitor's response to Phase 2 RFI.
[174] Parties, Parties Merger Notice, Paragraph 258. We note that the current fee structure of Quantile's multilateral compression services has [✂]. To make additional profits from those customers through foreclosure, the Merged Entity could change Quantile's pricing structure [✂].
[175] In the extreme partial foreclosure could eventually cause TriOptima to exit the market and in that case the benefits, undiscounted, would be the same as for total foreclosure.

ACSP fees, are small.[176] As a result, based on this direct loss alone, there would be a very limited, if any, loss of profit in the upstream market.

5.57 The main cost of foreclosing that we considered was the potential response of TriOptima's customers, who are also major customers of the Merged Entity. These customers would be harmed if TriOptima was foreclosed and therefore might take action to prevent foreclosure, for example by switching some business from the Merged Entity to its rivals.

5.58 The Parties submitted that customers would vehemently oppose any attempt to restrict competition and choice in multilateral compression services, and that this would result in significant costs for the Merged Entity.[177] In particular, the Parties submitted that customers could switch OTC IRD clearing away from LCH, switch spend away from LSEG current services, and/or choose not to adopt new services from the Merged Entity.[178]

5.59 The Parties also submitted that foreclosure would cause reputational damage to LSEG – which may in turn lead to customers not adopting new LSEG services.[179] For reputation to impact the Merged Entity's incentives, it must have an impact on the Merged Entity's profitability. We considered that this would most likely manifest itself by customers switching away from the Merged Entity's services now or in the future, including failing to adopt new services from the Merged Entity as they are launched. We consider these potential reactions to foreclosure in the assessment of customer retaliation below.

5.60 We therefore tested whether foreclosure would trigger customer retaliation and if so, whether this would be enough to deter the Merged Entity from foreclosing.

A framework for customer retaliation

5.61 In this case, we define customer retaliation as actions by customers that cause financial harm to the Merged Entity and are undertaken in order to stop the Merged Entity from foreclosing.[180]

5.62 We considered the following two potential retaliatory actions:

(a) 'Narrow' retaliation – moving current or future OTC IRD trades from LCH to other CCPs; and

(b) 'Wider' retaliation – moving spend away from other current or future services offered by the Merged Entity;

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[176] Parties, Parties Merger Notice, paragraph 255.
[177] Parties, Parties' response to the Issues Statement paragraph 70.
[178] Parties, Parties' response to the Issues Statement paragraphs 6.1–6.3.
[179] Parties, Parties' response to the Issues Statement, paragraph 89.
[180] The threat of retaliation may be enough to deter foreclosure provided such a threat was credible.

5.63 The Merged Entity would not have the incentive to foreclose if the expected costs from customer retaliation outweigh the benefits of foreclosure. On the other hand, customers would only retaliate if i) they can detect foreclosure; ii) they are able to retaliate in practice; and iii) the expected benefits of stopping the Merged Entity from foreclosing are larger than the costs of retaliating.

5.64 Whether customers can detect foreclosure depends on the visibility of foreclosure mechanisms. Customers need to be able to clearly identify the link between a reduction in the competitiveness of TriOptima and the foreclosure strategy of the Merged Entity, ie that the change is not as a result of some other unrelated factor and there is sufficient clarity about that link.

5.65 Whether they would be able to retaliate and find it in their commercial interest to do so depends on the practicalities of retaliation, the availability of suitable alternatives, and the costs to customers of moving to those alternatives. Most importantly, retaliation requires customers to harm their own immediate commercial interests by moving to alternatives they had previously rejected (or not taking up new services they would have otherwise adopted).

5.66 Estimating the likelihood and cost of retaliation to the Merged Entity is difficult as it involves assessing the expectations of both the Merged Entity and its customers, including whether the former would find any threats by customers credible. Therefore, and given the uncertainties relating to estimates and the fact that certain factors cannot be estimated quantitively to a sufficient level of accuracy, the assessment of the incentive to foreclose has been qualitative.

5.67 Because retaliation requires customers to act against their immediate interests, we relied heavily on evidence from customers to assess the potential for retaliation. We tested customers' confidence in detecting and deterring foreclosure and the likelihood of each retaliatory action with the top 20 customers of TriOptima in multilateral compression. The customers that responded are all also important customers of LCH.[181]

Visibility of foreclosure to customers

5.68 To help us assess the likely response of customers, we considered the ability of customers to accurately identify foreclosure.

5.69 The Parties submitted that it is not possible to have an undetectable, but successful, foreclosure mechanism, or one which is visible, but which could be justified. They highlighted the following reasons:[182]

[181] These are among the largest customers of LSEG. We note that these customers are most likely to affect the incentives of the Merged Entity, as i) they are the ones who tend to multi-home between multilateral compression providers; and ii) should they retaliate, that would have a bigger impact on LSEG revenues. As well as sending an initial questionnaire, we sent multiple rounds of follow-up requests for information and had follow up calls with some customers.
[182] Parties, Parties' Response to the Annotated Issues Statement, paragraph 22.

(a) The sophisticated nature of compression customers who would not be fooled by unevidenced explanations.

(b) TriOptima would immediately bring any foreclosure attempt to the attention of its customers.

(c) A strategy that is capable of leading to the foreclosure of rivals would be detectable to customers and would prompt customer objection irrespective of any excuse or justification that LSEG/LCH tried to provide.

5.70 The Parties also provided evidence on various potential foreclosure mechanisms and how visible they would be to customers.

5.71 Rival CCPs and multilateral compression providers considered that there were multiple ways in which LCH could disadvantage one of its multilateral compression providers without this being visible to customers.[183] One competitor told us that LCH has a range of foreclosure mechanisms that would either not be visible to customers or could be justified in ways that avoids objections.[184] Another rival said 'There are many ways around the edges from a technical perspective, a sales perspective and an operational perspective that a clearing house could favour one provider over another'.[185]

5.72 We asked TriOptima's 20 largest customers how likely it was that they could accurately assess whether LCH was disadvantaging TriOptima in favour of Quantile. Of the 12 that completed this question eight thought it was fairly likely or very likely that they would be able to accurately assess this.[186] Six of the eight customers highlighted some forms of disadvantaging as more obvious to them, particularly if it was related to scheduling, and four customers referenced their ongoing dialogue with TriOptima as a possible means of issues being flagged.[187] Four customers thought it was fairly or very unlikely that they would be able to accurately assess whether LCH was disadvantaging TriOptima in favour of Quantile and, among these, two customers appeared sceptical that foreclosure would happen.[188]

5.73 We considered various ways in which LCH could disadvantage Quantile's rivals including revoking TriOptima's status as an approved provider, increasing fees, changing the run schedule, changing the compression process, limiting the support available when TriOptima seeks to introduce

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[183] Competitors, Calls with competitors.
[184] Competitor, Competitor's submission 1 February, and 30 August, and response to RFI 2 July 2022.
[185] Competitor, Competitor call note, paragraph 9.
[186] Customers, Customers' responses to CMA questionnaire, Q5: 'how likely do you think it is that you could accurately assess whether LCH was disadvantaging TriOptima in favour of Quantile? Please explain your answer including whether your answer would vary by how LCH disadvantaged TriOptima'. Respondents were given four options and of the 12 responses, one was very unlikely, three were fairly unlikely, six were fairly likely and two were very likely; two respondents to the questionnaire did not answer this question.
[187] Customers, Customers' responses to CMA questionnaire Q5.
[188] Customers, Customers' responses to CMA questionnaire Q5.

improvements to their service offering and information sharing.[189] While customers would feel the impact of any foreclosure mechanism, they may not know the reason for the worsening of TriOptima's offering or may not see the actions taken by LCH as foreclosure. As such, we considered whether the potential foreclosure mechanisms would be visible to customers and whether customers would identify them as foreclosure.

5.74 We found that the nature of the service means that LCH currently publishes a lot of information about how it engages with multilateral compression providers. This information includes the fees it charges to multilateral compression providers, the upcoming schedule of compression runs and changes to the compression process notified in service releases. Further, we considered the internal governance of LCH provided further ways in which customers could explore what LCH was doing, for example through customer directors. While LCH has the freedom to change its approach to transparency, this itself would give a signal to customers.

5.75 For the reasons set out above, we have provisionally found that it is likely that customers would be able to detect attempts by LCH to foreclose TriOptima in multilateral compression.

Confidence in deterring foreclosure

5.76 We asked customers whether, if the Merged Entity had the ability to weaken TriOptima, they would be able to deter the Merged Entity from doing so.[190]

5.77 Nine out of 11 customers who responded to this question stated that they would be able to deter the Merged Entity from foreclosing TriOptima. These customers explained that actions such as raising their dissatisfaction with LCH or escalating it to a trade association or regulator would be enough to deter the Merged Entity. As discussed in detail in the sections below, three of those customers also stated that they would be fairly likely to retaliate against the Merged Entity by either moving clearing business away from LCH or moving other business away from the Merged Entity.[191] In particular:

(a) Customers placed reliance on their relationship with LCH saying that they would raise concerns through certain mechanisms and forums available to them (eg OTCD).[192]

[189] Information sharing could prevent or dampen, for example, future innovation by Quantile's rivals. However, we found that future innovation is unlikely to be an important aspect of future competition.
[190] CMA, CMA customer questionnaire, question 9: 'Do you think that if LCH had the ability to weaken TriOptima, customers, such as you, would be able to deter LCH from doing so? Please explain your reasoning.'
[191] Customers, Follow-up emails to the CMA customer questionnaire.
[192] See paragraph 5.33.

(b) Customers thought LCH would be sensitive to concerns raised this way.[193]

(c) One customer also thought that due to current concerns with the European Commission's planned onshoring of clearing activity, raising concerns with LCH would be sufficient to deter LCH from foreclosing.[194]

(d) Customers also said that moving significant/material volumes of business away from the Merged Entity would be challenging and generally unlikely, but two of them said that the threat to do so would be sufficient deterrent to prevent disadvantage to TriOptima.[195]

(e) Two other customers also thought that actions by LCH to disadvantage TriOptima may have repercussions on the amount of business that they would have with the Merged Entity over time. These customers did, however, acknowledge that such repercussions would depend on factors like clients' preferences, market liquidity, and fees.[196]

5.78 Customers told us that it was important to them to prevent foreclosure of TriOptima because they value having access to more than one provider of multilateral compression services at LCH. Access to more than one provider increases operational resilience and enables customers to obtain better services through competition. Customers would lose some or all of these benefits if TriOptima were foreclosed. This is also supported by the behaviour of customers in supporting Quantile when it was trying to establish itself as a second multilateral compression provider.

5.79 Customer retaliation needs to have financial impact on the Merged Entity to deter foreclosure. As such, we have given more weight to the evidence on customers' willingness to switch (discussed below) than to customers raising complaints, as customers switching directly impacts the revenues and profitability of the Merged Entity. Therefore, we followed up with those customers who said they would be unlikely to retaliate but also thought they could deter LCH from foreclosing – we did so to better understand where their confidence came from.[197] Generally, these customers confirmed their responses to the CMA questionnaire but provided more nuanced views on their approach to retaliation. As discussed in more detail below, three out of five customers that we spoke to in order to further explore their responses thought that narrow retaliation, ie moving business from LCH to other CCPs, would be more than an idle threat to the Merged Entity if posed by multiple customers at the same time. Two customers out of 13 highlighted that they may be less willing to adopt new services from LSEG or Quantile in the event

[193] However, as set out in paragraphs 5.33–5.36, customers' relationships with LCH, in particular the status of the SwapClear banks and applicable consultation rights via OTC DerivNet do not create any legal block on LCH's freedom of action and would not prevent LCH from foreclosing.
[194] Customer, Customer response to the CMA customer questionnaire and follow-up email.
[195] Customers, Customers' responses to the CMA customer questionnaire and follow-up email.
[196] Customers, Customers' responses to the CMA customer questionnaire.
[197] Customers, Customers' follow-up emails. Customers, Customers' follow-up calls.

of foreclosure and may re-consider some of their spend on the wider range of LSEG services, ie wider retaliation.[198]

Narrow retaliation

5.80 The Parties submitted that LCH's clearing customers could credibly switch – or choose to clear new trades – at a number of credible competitors in the event of foreclosure.[199] However, they recognised that [✂].[200] The Parties further submitted that Eurex has managed to build significant liquidity in recent years which now makes it an attractive venue, and cited examples of recent clearing activity shifting from LCH to Eurex.[201]

5.81 The Parties also submitted that the size of SwapClear's revenues compared to the potential gains from foreclosure (based on the CMA's estimates), meant that the direct damage that a foreclosure strategy would do to SwapClear would single-handedly be sufficient to deter LSEG from pursuing a foreclosure strategy.[202] To illustrate this the Parties submitted data on the spend on LCH's SwapClear by the 14 SwapClear Banks, 13 of which also responded to our questionnaire.[203] This data shows that these 14 customers account for £[✂], and £[✂] on average per customer.[204] They also submitted that losing [✂]% of SwapClear's revenue alone would be approximately [✂] the amount of lost income needed to deter a foreclosure strategy (based on the CMA's upper bound of the potential benefits (see paragraph 5.53)).[205]

5.82 To test the Parties' arguments, we asked customers whether they would move a material volume of their current or future OTC IRDs trades from LCH to other CCPs in response to LCH disadvantaging TriOptima.[206] 13 customers responded to this question.

5.83 11 customers stated that it would be either very unlikely or fairly unlikely that they would do so.[207] Those customers explained that the choice of CCP is mainly driven by liquidity and clients' preference and, as such, moving trades from LCH (where these customers thought the largest liquidity pool currently

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198 This was in response to our customer questionnaire as set out in paragraph 5.94. These were different customers to those that we told us that moving business away from LCH would be more than an idle threat if posed by multiple customers at the same time.
199 Parties, Parties' response to the Annotated Issues Statement, paragraph 7.
200 Parties, Joint main party hearing transcript, page 53, lines 15 - 17.
201 Parties, Parties' response to the Annotated Issues Statement, paragraph 7.
202 Parties, Parties' response to the Annotated Issues Statement, paragraph 7.
203 LSEG, LSEG's response to RFI dated 11 July 2022, Annex 1; the customers are: [✂].
204 LSEG, LSEG's response to RFI dated 11 July 2022, Annex 1, column M – 'Total'.
205 Parties, Parties' response to the Annotated Issues Statement, paragraph 83. The Parties used 15% as it is approximately the proportion of customers that told the CMA that they would be fairly likely to move a material volume of OTC IRD trades from LCH to rival CCPs in response to a foreclosure strategy (ie two out of 13, as set out in paragraph 5.84)
206 CMA, CMA customer questionnaire, question 7a. The question asked customers to estimate the likelihood of them moving a material volume of their current or future OTC IRDs trades from LCH to other CCPs in response to LCH disadvantaging TriOptima. Customers were given the following choices: 'very unlikely', 'fairly unlikely', 'fairly likely', and 'very likely'.
207 Customers, Three customers indicated 'very unlikely' and eight indicated 'fairly unlikely'.

is) for reasons that are not linked to those two factors would be costly and inefficient – for example, it would increase trading and margin costs.

5.84 Two customers stated it would be fairly likely for them to move OTC IRDs trades from LCH to rival CCPs:

(a) One explained that while migrating legacy cleared trades away from the incumbent CCP (ie LCH) is difficult to implement, it would have an opportunity to direct new trading flows to another CCP together with its peers.[208] Based on its response, this customer's ability to move new trades to another CCP depends on whether other customers would do the same.

(b) The other explained that moving trades from LCH would be difficult to do in practical terms and would depend on the relative cost increases, but it would try to steer its clients towards the most competitive/cost efficient CCP.[209] It told us that its ability to convince clients to switch to an alternative CCP is dependent on clients already having access to another CCP and there being a material cost disadvantage to using LCH relative to now. They also told us that this depends on competitors being in a similar position and noted that it is hard to know what other banks would do.[210]

5.85 As noted in paragraph 5.79 above, we followed up with the customers who said they would be unlikely to engage in narrow retaliation but also thought they could deter LCH from foreclosing:

(a) One customer submitted that although moving significant volumes of its business away from the Merged Entity would be challenging in the near term, the mere threat of a significant pool of liquidity shifting away from the Merged Entity has the potential to constrain the Merged Entity's actions to some extent. It added that if a number of dealers independently threatened to move trades away from the Merged Entity's services or raised concerns in user forums, the Merged Entity may view the possibility of a material liquidity shift as a real threat, sufficient to deter foreclosure, without the need for banks to actually shift liquidity.[211]

(b) Another customer told us that if there was a material issue with multilateral compression driven by LCH's behaviour, it would threaten to move business away from the Merged Entity, and the Merged Entity would be aware of this. It added that, [✂].[212]

(c) Another customer said that moving to another CCP is hard for it but more realistic for many banks acting collectively. It added that, while it is

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[208] Customer, Customer's response to the CMA's Phase 2 customer questionnaire, question 7a.
[209] Customer, Customer's response to the CMA's Phase 2 customer questionnaire, question 7a.
[210] Customer, Customer call note.
[211] Customer, Customer response to follow-up email.
[212] Customer, Customer follow-up call.

burdensome to do, a collective move by a number of banks in a concerted way would be worthwhile, and LCH would be worried that many banks could be motivated to move to another CCP. This customer explained that switching CCPs is not a straightforward option for banks and there are a number of steps that banks would need go through for such a move to take place (for example, banks would need to ensure that their clients were also happy to move CCPs). However, it concluded that even accounting for these challenges, it felt LCH would see the threat as credible.[213]

5.86 The Parties provided examples of banks moving OTC IRD clearing to Eurex as evidence that it is entirely plausible that customers could move sufficient volumes of OTC IRD clearing activity to rival CCPs if they were unhappy with LCH. We consider that these examples relate to very specific circumstances (mostly the knock-on effects of Brexit). While they show that switching is possible, they do not show that customers would switch CCP in reaction to foreclosure nor that switching is easy or cheap.

5.87 We also consider that the customer spend data submitted by the Parties (see paragraph 5.81) is a good starting point to understand the relative magnitude of the revenues theoretically at risk from narrow retaliation. However, given the difficulties in switching OTC IRDs from LCH as described above, we consider that this data greatly overestimates the potential costs of foreclosure given the many limitations to how much of that spend could realistically be moved to other CCPs.[214]

5.88 Switching OTC IRDs from LCH to other CCPs in reaction to foreclosure is detrimental to customers, as it requires them to leave their preferred option. The evidence above shows that narrow retaliation would be difficult and costly for customers to execute. In particular, it could not be done unilaterally and would require several steps (in particular convincing clients) over potentially several years. At the same time, customers told us that narrow retaliation could be a non-negligible threat to LCH as customers might collectively be able to move new trades in the medium/ long-term. Overall, we consider that the threat of individual customers switching away from LCH for clearing OTC IRDs is not realistic. However, we consider that, if a sufficient number of customers were motivated to do so, there would be a non-negligible threat that customers could collectively switch away from LCH.

[213] Customer, Customer follow-up call.

[214] Relatedly, we found that the vast majority of clearing member fees is composed of flat fees which do not respond directly to changes in the number of trades. We consider that this weakens the effectiveness of narrow retaliation in the short-run until fees could be renegotiated. [✂] However, this does not undermine the fact that some revenues, eg the member fees of the largest customers, may not decrease as a result of retaliation. Further, this fee structure would make this form of retaliation more expensive for customers because they would not benefit from reduced fees in proportion to the amount of trades they moved away from LCH.

Wider retaliation

5.89 The Parties submitted that customers could move some of their other LSEG business away to credible alternatives, or reduce the volume of new business with them, given the commonality of customers across LSEG's business and the highly competitive environment in which many of these services operate. The Parties further submitted that customers could choose not to use Quantile's new services, instead adopting those of its competitors, or slow or cease take-up of LSEG Post Trade's new solutions businesses, such as SwapAgent [✂].

5.90 The Parties submitted a series of minutes of meetings between LSEG and its customers in support of their argument that leading customers take a holistic approach when considering their relationship with LSEG.[215] The Parties further submitted that these extracts show the impact of reputation and good customer engagement in retaining and winning new business – and therefore the impact of a loss of reputation/credibility.[216]

5.91 The Parties submitted data on the overall spend on LSEG by its largest 10 customers.[217] This data shows that the largest 10 customers of LSEG account for around £[✂], and around £[✂] on average per customer.[218] All ten of these customers are also among TriOptima's top customers and nine of them responded to the CMA questionnaire. The Parties used this data to support their claim that the prospect of even a single one of these customers moving a small share of its business out of LSEG would outweigh the CMA's estimate of the benefits of foreclosure.[219] The Parties also submitted data on Quantile's revenue forecast in services other than multilateral compression (around £[✂] in 2025) and revenue forecast for [✂]).[220] As the success of these services relies on the customers that would be negatively impacted by foreclosure, the Parties argued that this data shows that the prospect of forfeiting either of these growth opportunities would again single-handedly be more than sufficient to deter a foreclosure strategy.[221]

5.92 We tested the Parties' arguments by asking customers whether they would move a material volume of their spend on other LSEG services (ie other than

[215] Parties, Parties' response to the Phase 1 Issues Letter, Annexes 1.01–1.23.
[216] Parties, Parties' response to the Annotated Issues Statement, paragraph 109.
[217] Parties, Parties' response to Annotated Issues Statement, Annex 3; [✂]
[218] Parties, Parties' response to Annotated Issues Statement, Annex 3, tab 'Customer LSEG spend'.
[219] Parties, Parties' response to the Annotated Issues Statement, paragraph 105.
[220] Parties, [Parties' response to the Issues Statement](), paragraph 91.
[221] Parties, Parties' response to the Annotated Issues Statement, paragraph 90.

OTC IRDs clearing) to alternative providers of those services in response to LCH disadvantaging TriOptima.[222]

5.93 The responses were in line with those to the narrow retaliation question – all but two customers said it would be either very unlikely or fairly unlikely that they would engage in such a wider retaliation action.[223] The main reasons given were that multilateral compression and other LSEG services are independent from each other and that it would be difficult to coordinate the various divisions within their businesses to move spend from LSEG. Customers also thought that there may not be credible alternatives to some of LSEG's services and the costs of switching to such alternatives would be too high.

5.94 Two customers out of 13 stated it would be fairly likely for them to move spend from LSEG to LSEG's rivals. One of these customers explained that it looks at the holistic relationships with CCPs and the services provided across the value chain. It added that while some products / services are easier to reallocate than others, it would consider making adjustments if LCH were to engage in anti-competitive activity or otherwise try to reduce choice in the marketplace.[224] The other customer explained that it would have to consider a wider retaliation action for the rest of services provided by LSEG (ie not just OTC IRDs clearing), if raising the issue with LCH did not lead to a change in LCH's behaviour.[225]

5.95 When we asked customers whether they would consider not adopting new services from the Merged Entity in response to foreclosure, some said they would consider the option, while others excluded it. In particular:

(a) One customer told us that when deciding to purchase any new service, it will always evaluate the performance of the service, the costs etc. It explained that it would be unlikely not to choose a new service from a provider such as Quantile because of that provider's poor conduct in another market (for example in the event of foreclosure).[226]

(b) Another customer said that as part of LSEG's ongoing development, LSEG will develop a number of new services. It explained that these new services will need support and new starter co-operation from clients within the industry. It added that LSEG would be particularly vulnerable to action such as withholding co-operation for the development and

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222 CMA, CMA customer questionnaire, question 7b. The question asked customers to estimate the likelihood of them moving a material volume of their spend on other LSEG services (ie excluding OTC IRDs clearing) to alternative providers of those services in response to LCH disadvantaging TriOptima. Customers were given the following choices: 'very unlikely', 'fairly unlikely', 'fairly likely', and 'very likely'.
223 Customers, Four customers indicated 'very unlikely' and seven indicated 'fairly unlikely'.
224 Customer, Customer's response to the CMA's Phase 2 customer questionnaire, question 7b. This is one of the two customers who thought it fairly likely that they would engage in narrow retaliation (see paragraph 5.84).
225 Customer, Customer response to follow-up email.
226 Customer, Customer call note.

launch of new products, as LSEG requires a great deal of industry support to launch initiatives. It concluded that such industry support could be hugely reduced if LSEG was acting badly elsewhere and the industries' incentive to do future business with LSEG would also be affected. However, this customer also said that in the event of foreclosure, it would be incentivised to find an alternative to other services offered by the Merged Entity rather than moving business from Quantile.[227]

(c) Another customer submitted that, historically, it has never needed to look at the Merged Entity's services as a whole. However, it explained that if it were unsatisfied with LCH's performance because of foreclosure by LCH, then it would need to look at the whole range of services LCH provides to it. However, it would need to see where clients and counterparties are trading (where the liquidity is) for different currencies, before making a decision on whether to switch from those services. It further submitted that it would not consider reducing spend/not taking on Quantile services (existing and pipeline) in the event of foreclosure.[228]

(d) Another customer told us that if the issues it raised with LCH in relation to foreclosure of TriOptima were not resolved this could impact its decision to buy additional services from LSEG. It added that optimisation is a very competitive area with many companies operating (including both Quantile and TriOptima) and new players regularly launching new services. It said that given the availability of alternatives, there would be no reason for it to stick with Quantile in this area if there was an unresolved aggravating issue in multilateral compression.[229]

5.96 We consider that the meeting minutes between LSEG and its customers submitted by the Parties at best indicate that some customers look at their holistic relationship with LSEG, but they do not show customers using their position in one LSEG service (or their overall position) to negotiate successfully with LSEG in relation to another service, eg to reduce fees for that other service. Neither do they demonstrate an escalation of a dispute outside the specific business unit.

5.97 We considered that the customer spend data submitted by the Parties (see paragraph 5.91) is a good starting point to understand the relative magnitude of the revenues theoretically at risk from wider retaliation. However, given the difficulties in switching spend from LSEG as described above, we consider that this data greatly overestimates the potential costs of foreclosure given the many limitations to how much of that spend could realistically be moved to alternative providers.

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[227] Customer, Customer call note.
[228] Customer, Customer call note.
[229] Customer, Customer call note

5.98 Overall, we consider that there are significant limits to customers' willingness to switch away from other services provided by the Merged Entity in response to foreclosure within multilateral compression. Switching spend from the Merged Entity to alternative providers in reaction to foreclosure is detrimental to customers, as they would need to leave their preferred option. It also depends on the availability of alternatives for each service, as the worse the alternatives the higher the cost of retaliating. The evidence above shows that wider retaliation would be difficult and costly for customers.[230] However, some customers told us that in response to the foreclosure of TriOptima they would switch away from other (new or existing) LSEG or Quantile services.

Provisional conclusion on incentive

5.99 In terms of the benefits, we found that the Merged Entity could gain additional revenue in multilateral compression of OTC IRDs up to around £[✂] million per annum.[231] The benefit would be less if foreclosure was partial because TriOptima would be less disadvantaged and because many customers require at least a fair amount of quality reduction (or price increase) for them to move a material amount of their business.

5.100 We did not estimate a figure for costs given the uncertainties involved. We consider that there is uncertainty as to the magnitude of any customer response to foreclosure. Both narrow and wider forms of retaliation would face hurdles and would impose costs on customers. While most customers said they would not move CCP, some said that acting collectively, the threat to move clearing to other CCPs would not be negligible. Similarly, most customers have sufficient interactions with LSEG and Quantile and some would consider switching away from other services supplied by the Merged Entity, or not supporting the development of new services.

5.101 When considering the threat of retaliation, we also noted that the customers that would be affected by foreclosure, are sophisticated and well-informed and due to LCH's transparency in relation to multilateral compression and TriOptima's ability to highlight issues, would be able to detect attempts by LCH to foreclose TriOptima. The evidence supported the confidence that the large majority of these customers had that the retaliatory mechanisms available to them would be sufficient to prevent LSEG taking steps to foreclose TriOptima.

5.102 In terms of weighing up the benefits against the costs, we note the following:

[230] Not adopting new LSEG/Quantile services would have some of the same problems for customers as moving spend on existing services. In particular, if customers would have decided to adopt a new LSEG service absent any retaliation considerations (eg because it would improve their offering), by retaliating they would still have to forego their preferred option, hurting their own interests. Moreover, if customers do not adopt a new service that is likely to improve their own offering, they run the risk of their offering being less good than those of their competitors.

[231] With potentially more were Quantile to increase prices or win multilateral compression of OTC IRDs not cleared at LCH as a result of foreclosure.

(a) In terms of revenues, the supply of multilateral compression services is much smaller compared to the other services provided by the Merged Entity to the same customers. This means that a losing even a small proportion of the revenues from these other services would be sufficient to easily offset any potential gain from foreclosure related to multilateral compression.

(b) Because of the nature of the multilateral compression process, the more overt the foreclosure strategy, the larger the gains but also the higher the risk from customer retaliation. On the other hand, a foreclosure strategy that is less clear would be unlikely to trigger significant diversion from TriOptima – thereby reducing the size of the gains, while still carrying a non-negligible risk of retaliation.

(c) Focussing on the total spend of the largest customers of LSEG is misleading because only some of these customers would switch business in response to foreclosure. However, while we consider that a large portion of that spend would not be moved by customers in response to foreclosure (eg because of the lack of alternatives or high switching costs), some switching is still possible.

(d) Therefore, given the relatively small potential gains from foreclosure, even the credible threat of a small number of these large customers moving or potentially moving even a small proportion of their business with the Merged Entity could be a sufficient deterrent to the Merged Entity. This is supported by the views of customers, who are confident they can deter foreclosure.

5.103 The value of the business that customers have with the Merged Entity is much larger than the value of the compression services provided by each of Quantile and TriOptima. As a result, the prospect of even a relatively low proportion of switching by these customers would offset any potential gains from foreclosure and would be a significant risk to the Merged Entity. Based on the evidence from customers, we judged that, the likely response would be sufficient to more than offset the benefits of foreclosing. On this basis, we have provisionally found that the Merged Entity would not have the incentive to engage in foreclosure strategies.

Effect of foreclosure on competition

5.104 In light of our provisional finding on incentives, we have not considered the effects of foreclosure on competition.

6. Provisional Conclusion

6.1 For the reasons set out in the preceding Chapters, we have made the following provisional findings on the statutory questions we have to decide pursuant to section 36(1) of the Act:

(a) arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation; and

(b) the creation of that situation may not be expected to result in a substantial lessening of competition as a result of vertical effects in relation to UK customers, in the supply of multilateral compression of OTC IRDs.

6.2 We invite any parties to make representations to us on these provisional findings by no later than 17.00 GMT, on Friday 30 September 2022. Please make any response to these findings by email to LSEG_Quantile@cma.gov.uk. We will take all submissions received by this date into account in reaching our final decision.