



European Securities and
Markets Authority

Assessment Report under Article 25(2c) of EMIR

Assessment of LCH Ltd and ICE Clear Europe Ltd



Table of Contents

1	Executive Summary	6
2	Introduction and background	8
2.1	Mandate and objective	8
2.2	Methodological approach	9
2.3	Input to the assessment	10
3	Systemic importance of LCH Ltd for EU financial stability	12
3.1	Introduction	12
3.2	Assessment of the systemic importance of LCH Ltd	12
	Description of clearing services (products, currencies)	12
	Participation of EU Clearing members and Clients in LCH Ltd	14
	The CCP's interconnections with other financial infrastructures	16
	Ownership and governance structure of LCH Ltd	18
	Size of LCH Ltd clearing segments	18
	Buffer capacity to cover credit and liquidity risks	23
	Alternative clearing services provided by other CCPs	32
	Scenarios of how EU financial stability can be impacted	34
	Systemic importance per EU currency area	41
3.3	Conclusions on the systemic importance of LCH Ltd	44
4	Systemic importance of ICEU for EU financial stability	47
4.1	Introduction	47
4.2	Assessment of the systemic importance of ICEU	47
	Description of ICEU clearing services (products, currencies)	47
	Participation of EU Clearing members and Clients in ICEU	48
	The CCP's interconnections with other financial infrastructures	49
	Ownership and governance structure of ICEU	51
	Size of the ICEU clearing segments	52
	Buffer capacity to cover credit and liquidity losses	57
	Alternative clearing services provided by other CCPs	65
	Scenarios of how EU financial stability can be impacted	68
	Systemic importance per EU currency area	73
4.3	Conclusions on the systemic importance of ICEU	73
5	Analysis of Costs, Benefits and Consequences	75
5.1	Introduction	75



5.2	Transfer costs	78
	Transfers and their impacts	79
	Estimating transfer costs	81
5.3	Breaking margin netting sets	90
	IRD Market Overview	91
	Potential cost to EU counterparties from broken netting sets.....	92
	Potential benefits for EU counterparties from cross-product offsets.....	96
	Potential costs for EU counterparties related to the existence of a 'basis'	97
	Potential impact of concentration add-ons charged by TC CCPs and EU CCPs.....	100
5.4	General consequences of non-recognition for EU market participants	101
	Competitiveness of EU market participants	102
	Liquidity of cleared markets.....	103
	Financial Stability Risks.....	104
	Relocation of clearing business outside the EU	107
	Access to hedging and clearing market	110
5.5	Implications for the supervisory framework for CCPs	111
	Impact of potential non-recognition on tiering of UK CCPs	112
	Supervisory framework under a migration of services to an EU CCP	113
	Supervisory framework under a migration of services to a TC CCP	114
5.6	Supervisory capacity in EU in crisis/recovery/resolution events.....	118
	Timely access to information	118
5.7	EU market development considerations	127
	Access to infrastructure	128
	EU's global competitiveness and economic strength.....	129
5.8	Conclusions on the analysis of costs, benefits, and consequences.....	130
	Balancing costs and benefits per clearing segment.....	131
	Conclusions on the inclusion of outstanding contracts held at Tier 2 CCP.....	135
	Conclusions on readiness of the market and transition period.....	135
6	Differences in risk mitigation measures for UK CCPs versus EU CCPs.....	137
7	Conclusions on the recognition of the assessed CCPs.....	140
	Adopting appropriate incentives	141
	Revising the framework for comparable compliance.....	141
	Expanding ESMA's supervisory and crisis management toolbox.....	142
	Enhancing cooperation.....	144
	Annex I. LCH Ltd Assessment against the Tiering Thresholds of DA 2020/1303	145



Annex II. Tables per Currency Area – Swapclear.....	147
Annex III. ICEU Assessment against the Tiering Thresholds of DA 2020/1303.....	151
Annex IV. Transfer cost estimation	153
Annex V. [REDACTED]	155
Annex VI. Breaking of netting sets methodology	157
Annex VII. IRD Market overview for non-euro EU currencies	158
Annex VIII. Cross-currency margin savings	161

1 Executive Summary

1. This report presents the assessment of LCH Ltd and ICE Clear Europe (ICEU) under Article 25(2c) of EMIR, which were determined to be Tier 2 Central Counterparties (CCPs) by ESMA in September 2020. The assessment was conducted by ESMA with the close involvement of the CCP Supervisory Committee (CCP SC) in line with the respective methodology adopted and published by ESMA in July 2021. The assessment is based on data and information received from a wide range of stakeholders, including public authorities, UK and EU CCPs and other market participants, such as clearing members, their clients and trading venues.
 2. All Tier 2 CCP clearing services have been assessed against tiering criteria and indicators (size, impact of a failure, clearing member structure, alternatives, and interconnections) to determine their (substantial) systemic importance. Substantial systemic importance entails that the respective CCP services are assessed to have the potential to negatively impact EU financial stability, even though they are in full compliance with EMIR. Based on the characteristics of each clearing service, and an analysis of scenarios of how they may impact EU financial stability even where the Tier 2 CCPs are in full compliance with EMIR requirements, the assessment concludes that the following clearing services are of substantial systemic importance for the financial stability of the Union or one or more of its Member States: LCH Ltd SwapClear for products denominated in EUR and PLN, ICEU CDS for products denominated in EUR, and ICEU STIR for products denominated in EUR. These conclusions take into account input provided by the relevant central banks of issue (CBIs) for their respective currencies.
 3. The three CCP services identified as being of substantial systemic importance perform functions critical to EU market participants. They support capital formation, risk transition, central risk management, and market liquidity in interest rate and credit markets through their provision of clearing services to EU banks, investment funds, insurance companies, pension funds, and corporates. The large dependencies of the EU stem from the size of the clearing services (using different metrics), in combination with their interconnectedness with EU clearing members and clients in multiple Member States, their dominant nature, and the current lack of viable alternatives. In addition, they are of relevance for financial stability in the EU and for EUR monetary policy implementation, with SwapClear services for PLN interest rate derivatives (IRD) being relevant for the financial stability in Poland.
 4. The clearing services can potentially impact EU financial stability especially during crisis events, including recovery and resolution related to a UK CCP. A termination of access to EU clearing members may disrupt trading in IRD during BAU. In times of crisis, changes to the eligible collateral, margins, or haircuts may create feedback loops that negatively impact sovereign bond markets of one or more Member States, and more broadly EU financial stability. Disruptions in markets relevant for monetary policy
-

implementation may hamper the transmission mechanism critical to CBIs. During recovery and resolution events, the Tier 2 CCPs, or the UK resolution authority, may take discretionary measures directly adversely impacting EU clearing members.

5. For each of the three identified CCP services, ESMA has also conducted an analysis of the costs, benefits, and consequences of a non-recognition. Although the level of costs differs for SwapClear, ICE CDS, and ICEU STIR, a non-recognition would in all cases imply a range of costs, notably transfer costs, costs of breaking netting sets and potentially of a 'basis', significant competitive disadvantages for EU clearing members, and risks related to a potential shift of EU clearing volumes to another third country (TC). The benefits of a potential non-recognition would materialise if positions are transferred to EU CCPs and include the reduction of dependencies on the UK, and an increased ability of relevant EU authorities to access information in a timely manner, and to intervene effectively during a crisis situation. In case of a CCP recovery or resolution, relevant EU authorities will have early intervention powers to guard EU financial stability in case the CCP is in the EU
 6. Taking into account the identified costs, benefits and consequences, it is proposed under the current circumstances, not to issue a recommendation to the Commission under Article 25(2c) with respect to LCH Ltd SwapClear, for EUR and PLN denominated products, and ICEU CDS and ICEU STIR for EUR denominated products. Instead, it is proposed that incentives and regulatory measures be adopted to address risks and vulnerabilities identified in the assessment.
 7. In particular, it is suggested that: i) relevant EU authorities consider adopting appropriate incentives for reducing the size of the Union's exposure to Tier 2 CCPs; ii) the mechanism of comparable compliance set out by Article 25a EMIR be revised to ensure appropriate powers of ESMA over Tier 2 CCPs; iii) it be examined whether to require Tier 2 CCPs to directly comply with all or part of the provisions embedded in the CCPRRR; iv) ESMA be granted the power to approve recovery plans of Tier 2 CCPs; v) ESMA be granted the power to request from Tier 2 CCPs (and third country authorities) to be notified prior to imposing any restriction, suspension, or termination of access to EU clearing members; vi) a new mandate be included in the CCPRRR to provide ESMA with the possibility to negotiate an additional MoU with Tier 2 Third Country authorities on recovery and resolution; and vii) ESMA be consulted by third country authorities before they adopt, in the context of the resolution of a Tier 2 CCP, any measures that could potentially have an adverse impact on EU market participants.
-

2 Introduction and background

2.1 Mandate and objective

8. On 21 September 2020, the European Commission adopted a temporary equivalence decision on the UK framework for the regulation and supervision of CCPs¹ (hereinafter the 'Equivalence Decision'). On the basis of this decision, ESMA temporarily recognised three UK CCPs on September 22 under Article 25 of Regulation (EU) No 648/2012 of the European Parliament and of the Council (hereinafter 'EMIR').² Of these CCPs, two were determined to be systemically important (Tier 2 CCPs) in accordance with Article 25(2a) of EMIR, based on the tiering criteria specified in the Commission Delegated Regulation (EU) 2020/1303 (hereinafter the 'Tiering DA').³ The two Tier 2 CCPs concerned are LCH Ltd and ICE Clear Europe Ltd (ICEU).
9. The Equivalence Decision referred to the mandate given to ESMA in Article 25(2c) of EMIR noting that the temporary duration of the equivalence would allow ESMA time to conduct a comprehensive review of the systemic importance of UK CCPs under Article 25(2c) of EMIR. In accordance with Article 24a(10) of EMIR, ESMA, in close coordination with the CCP Supervisory Committee (CCP SC), initiated this comprehensive review in early 2021, with the objective of completing its assessment well ahead of the expiry of the current recognition decision.
10. The comprehensive review consists of several phases. As a first step, the CCP SC developed a methodology for assessing a Third Country (TC) CCP under Article 25(2c), which was published on 13 July 2021.⁴ As a second step, throughout the summer of 2021, ESMA sought input to its assessment from a wide range of stakeholders, including public authorities and private market participants, through dedicated questionnaires per group of stakeholders. Consequently, ESMA assessed LCH Ltd and ICEU in accordance with Article 25(2c) following the methodology adopted and on the basis of input received.
11. This report presents the outcome of the assessment of LCH Ltd and ICEU conducted by ESMA, in close coordination with the CCP SC, under Article 25(2c) of EMIR. Sections 2.2 and 2.3 describe the methodological approach adopted and the input received for the assessment. Chapter 3 assesses the systemic importance of LCH Ltd and concludes whether and why the CCP, or one or more of its services, are of

¹ Commission Implementing Decision (EU) 2020/1308 of 21 September 2020 determining, for a limited period of time, that the regulatory framework applicable to central counterparties in the United Kingdom of Great Britain and Northern Ireland is equivalent, in accordance with Regulation (EU) No 648/2012 of the European Parliament and of the Council (notified under document C(2020) 6539) (Text with EEA relevance) C/2020/6539 (OJL 306, 21.9.2020, p. 1).

² 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 (OJL 201, 27.7.2012, p. 1).

³ Commission Delegated Regulation (EU) 2020/1303 of 14 July 2020 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to the criteria that ESMA should take into account to determine whether a central counterparty established in a third country is systemically important or likely to become systemically important for the financial stability of the Union or of one or more of its Member States (Text with EEA relevance) C/2020/4892 (OJL 305, 21.9.2020, p. 7).

⁴ Available at ESMA's website: [methodology for assessing a tc ccp under article 252c of emir .pdf \(europa.eu\)](https://www.esma.europa.eu/methodology-for-assessing-a-tc-ccp-under-article-252c-of-emir-pdf).

substantial systemic importance. Chapter 4 contains a similar assessment for ICEU. Chapter 5 considers the costs, benefits, and consequences of a decision not to recognise the CCP to provide clearing services potentially qualifying as of substantial systemic importance. Chapter 6 compares risk measures available to the EU for identifying, managing, and mitigating risks for UK CCPs and EU CCPs. Chapter 7 concludes whether a recommendation to the Commission to adopt an implementing act, confirming that that CCP should not be recognised to provide certain clearing services or activities, should be issued or not.

2.2 Methodological approach

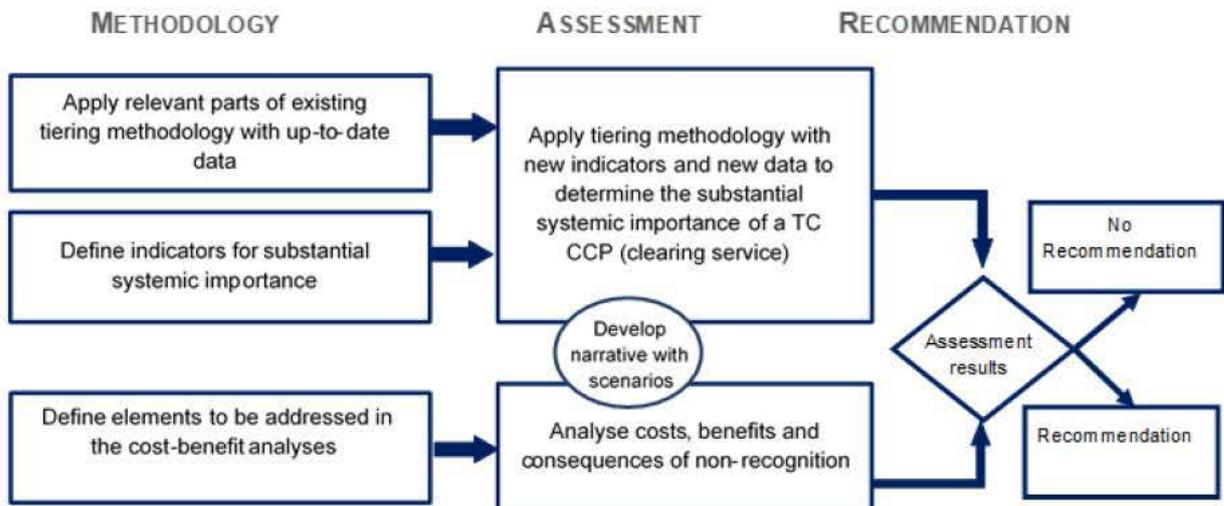
12. ESMA developed a methodology for assessing a TC CCP under Article 25(2c) (thereafter, the methodology).⁵ The methodological approach is illustrated in Figure 1. The methodology consists of a tiering exercise and an analysis of the costs, benefits, and consequences of a decision not to recognise the TC CCP to provide certain clearing services.
13. As part of the tiering exercise, a TC CCP and its services are assessed using existing tiering criteria, as described in the prior 'Methodology for tiering third country CCPs under EMIR 2.2',⁶ which are supplemented by additional indicators to further analyse the level of 'substantial systemic importance'. The outcome feeds into a narrative with possible scenarios of how systemic risks may materialize, and how EU financial stability may be negatively impacted, even if the Tier 2 CCPs are in full compliance with the conditions for recognition. The possible impact on EU financial stability and the probability of the different scenarios are evaluated based on the data collection and analysis as outlined in the methodology, comprehensively taking into account all relevant factors that contribute to or mitigate financial stability risks in a fully reasoned manner.
14. The analysis of costs, benefits and consequences includes a quantitative assessment of costs and benefits of transfers and breaking nettings sets, as well as a qualitative assessment of the impact of a non-recognition on the market structure, supervisory structure, crisis management structure, and EU market development.
15. Based on the findings of the assessment, a conclusion is drawn on whether or not the services are of substantial systemic importance and whether or not the benefits of a derecognition of such substantially systemically important services outweigh the cost. In case a CCP or one of its services is considered of substantial systemic importance, and benefits of derecognition outweigh the cost, a recommendation should be issued to the Commission to adopt an implementing act confirming that LCH Ltd and/or ICEU should not be recognised to provide certain clearing services or activities. The

⁵ See ESMA91-372-1436: [methodology for assessing a tc ccp under article 252c of emir.pdf\(europa.eu\)](#)

⁶ See ESMA70-151-3221

assessment report is shared for consultation with the European Systemic Risk Board (ESRB), and with central banks of issue (CBIs).

FIGURE 1. STRUCTURE OF THE REVIEW



2.3 Input to the assessment

16. ESMA reached out to a wide range of stakeholders, including public authorities and private market participants, requesting input to its assessment to ensure a comprehensive review. In particular, ESMA:
 - a) requested LCH Ltd and ICEU to submit data and relevant information for the assessment of their systemic importance under the methodology;
 - b) invited relevant market participants, including a representative sample⁷ of EU clearing members, clients and trading venues accessing LCH Ltd and ICEU, as well as EU CCPs, to respond to tailored data requests;
 - c) engaged with relevant public authorities, including the ESRB, the relevant CBIs, the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA), the Single Supervisory Mechanism (SSM), the Single Resolution Board (SRB), and the Bank of England (BoE). In some cases, tailored data requests were sent.

17. The above-mentioned data requests were developed to gather data, qualitative information, and views on the risks posed by LCH Ltd and ICEU for the financial stability of the Union or one or more of its Member States. The reference period was June 2020 to June 2021.

⁷ Selected with the help of relevant European and International associations.



18. Furthermore, ESMA organised two roundtables with representatives of EU clearing members and clients of EU clearing members. The roundtables were held on 15 July 2021 and provided ESMA with the user perspective on a) the systemic risk posed by Tier 2 CCPs and b) the costs, benefits, and consequences of a potential decision not to recognise the CCP to provide certain clearing services.

19. Engagement with the stakeholders continued throughout the assessment process through an open dialogue with the Chair and the Independent Members of the CCP SC, and ESMA staff. The CCP SC and ESMA Board of Supervisors were involved throughout the assessment process through presentations, general information sharing, and discussions at regular and dedicated meetings.

3 Systemic importance of LCH Ltd for EU financial stability

3.1 Introduction

20. This chapter analyses the characteristics of the clearing services of LCH Ltd in order to determine their systemic importance to the EU as a whole or its individual Member States. LCH Ltd clearing services are assessed against the criteria of Article 25(2a) of EMIR, based on information provided by the CCP (size, impact of a failure, clearing member structure, alternatives, and interconnections). The assessment includes the additional indicators included in the methodology developed by the CCP SC to further assess the substantial systemic importance of each TC CCP clearing service. Annex I presents an update to the ESMA analysis of September 2020, using criteria to distinguish Tier 1 and Tier 2 CCPs in accordance with Article 6 of the Tiering DA.
21. For the clearing services that are identified as candidates for substantial systemic importance, the impact is evaluated for the occurrence of scenarios through which the financial stability of the Union, or of one or more of its Member States, can be negatively impacted. Further analysis is conducted for each EU currency area. Based on the different analyses the chapter concludes on the substantial systemic importance of each clearing service of LCH Ltd.

3.2 Assessment of the systemic importance of LCH Ltd

Description of clearing services (products, currencies)

22. LCH Ltd offers CCP services for a range of products, traded on-exchange and over-the-counter (OTC), which are organised in five clearing services (see Table 1). The clearing services, including the cleared products, are:
 - a. SwapClear: clearing of interest rate derivatives (IRD), executed on the OTC market, including derivatives in 27 currencies, with tenors up to 51 years, referencing different benchmark rates (as per September 2021). Products are Interest Rate Swaps (IRS), Overnight Index Swaps (OIS), Basis Swaps, Inflation Swaps and Forward Rate Agreements (FRAs).
 - b. ForexClear: clearing of FX spot and derivatives transactions, executed on the OTC FX market, including 26 non-deliverable forward currency pairs, 9 non-deliverable option currency pairs, and 8 deliverable forward currency pairs (as per September 2021).

- c. Listed Rates: clearing of listed rates contracts executed on CurveGlobal,⁸ a fixed income trading venue operated by the LSEG, which include short-term interest rate (STIR) and long-term interest rate (LTIR) derivatives instruments.⁹
- d. RepoClear: clearing of sterling repo and cash bond trades, referencing bonds issued by the UK government.
- e. EquityClear: clearing of cash equities and cash equity equivalents, which are exchange traded funds (ETFs), exchange traded commodities (ETCs), and depository receipts. Transactions are submitted by trading venues, which are Aquis UK and Aquis Europe, Blockmatch MTF, Borsa Italiana, CBOE Europe Equities, Equiduct, London Stock Exchange, , Nasdaq, Oslo Bors, Sigma X MTF and Sigma Europe, SIX Swiss Exchange, Traiana, Turquoise, Turquoise Europe, and UBS MTF.

TABLE 1. OVERVIEW OF LCH LTD'S CLEARING SERVICES

Clearing segment	Products
SwapClear	OTC Interest Rate Derivatives
Listed Rates	Interest Rate Futures
RepoClear	Repo and Outright transactions
EquityClear	Equity Cash and Cash Equivalents
ForexClear	OTC FX Spot and Derivatives

Source: ESMA, based on LCH Ltd Data.

- 23. The SwapClear segment contains products subject to the clearing obligation, while other LCH Ltd clearing segments do not. EMIR requires EU firms that are counterparties to certain OTC derivative contracts to clear these through authorised or recognised CCPs, to reduce risks. The SwapClear service offer includes all OTC Interest Rate Derivatives subject to the clearing obligation, which are SwapClear EUR/GBP/USD/JPY/NOK/PLN/SEK-denominated Basis Swaps, IRS, FRA and OIS, all of which are subject to the clearing obligation pursuant to the Commission Delegated Regulation (EU) 2015/2205 and the Commission Delegated Regulation (EU) 2016/592.¹⁰⁻¹¹ SwapClear's overall market share is estimated to be above 90 percent for these products.
- 24. Contracts denominated in EU currencies are cleared on all segments except RepoClear (Table 2). The EUR is the most prevalent currency of denomination, cleared on four segments for contracts denominated in EU currencies. Trades denominated in

⁸ It was announced that the trading venue will be discontinuing activities on 28 January 2022.

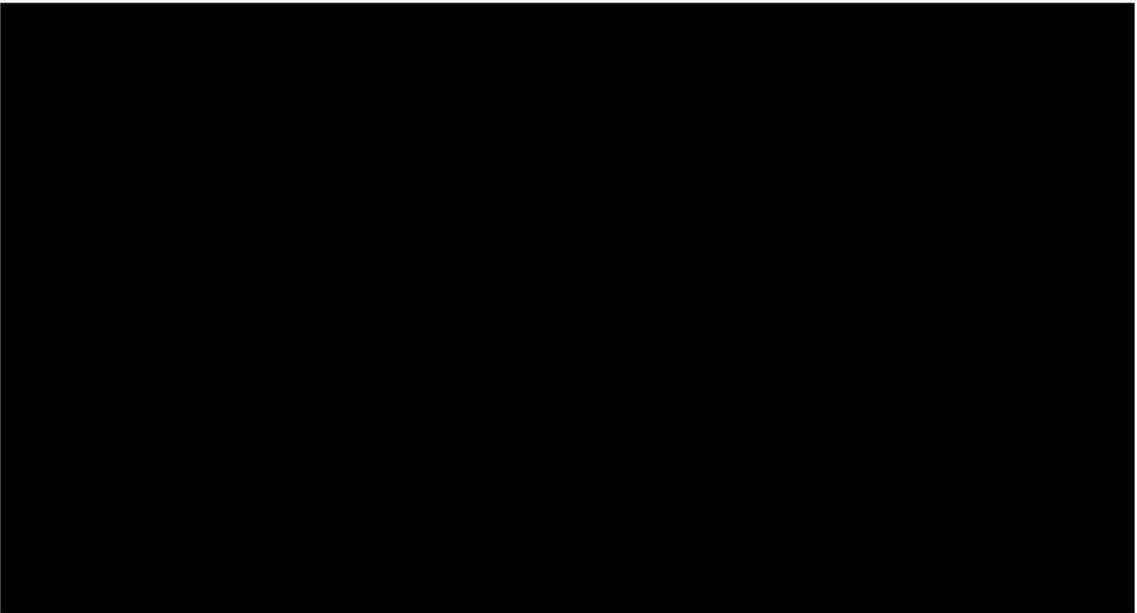
⁹ CurveGlobal Ltd is a joint venture between LSEG, 7 dealer banks (including 2 EU banks), and Chicago Board of Exchange.

¹⁰ Commission Delegated Regulation (EU) 2015/2205 of 6 August 2015 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on the clearing obligation (Text with EEA relevance) (OJ L 314, 1.12.2015, p. 13).

¹¹ Commission Delegated Regulation (EU) 2016/592 of 1 March 2016 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on the clearing obligation (Text with EEA relevance) C/2016/1165 (OJ L 103, 19.4.2016, p. 5).



27. EU clients from 23 Member States are active on SwapClear. Data on clients is limited, however, for SwapClear data is available, reflecting the fact that more than [REDACTED] clients from the EU use SwapClear for hedging interest rate risks, or are otherwise participating in the segment. Clients are EU credit institutions, pension funds, insurance companies, other funds, and corporates, as shown in Table 4. Some, but not all, of the clients are subject to the clearing obligation for IRDs.



28. The Rulebook of LCH Ltd foresees that clearing members support the CCP during the default management process in the case of a member default. LCH Ltd's Default Management Procedures require that clearing members are invited to participate in Default Management Groups, which have a consultative role with regard to the liquidation strategy or, in some cases, to second staff for performing hedging or liquidation transactions on behalf of the CCP. For the SwapClear and ForexClear



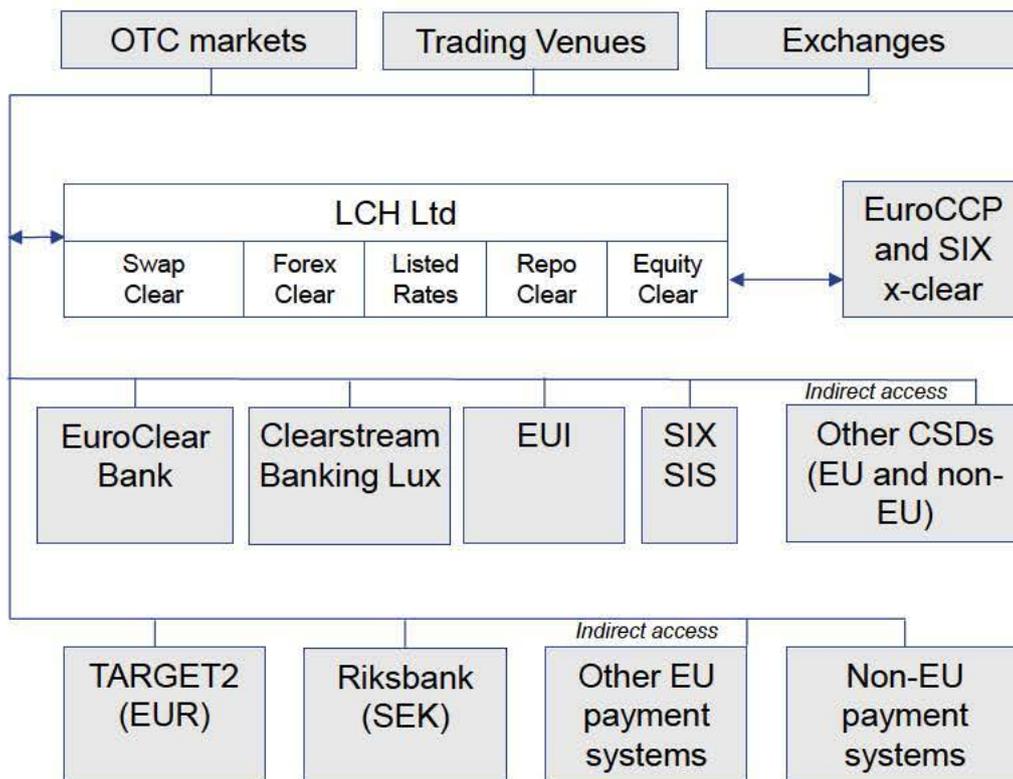
services, the respective Rulebooks require clearing members to participate in the liquidation auctions on a best efforts basis. [REDACTED]

[REDACTED] LCH Ltd organises regular default management exercises, known as “fire drills”, with the participation of clearing members.

The CCP’s interconnections with other financial infrastructures

29. An analysis of the CCP’s relationships, interdependencies, and interactions supports an understanding of channels through which financial and operational shocks at Tier 2 CCPs can be transmitted to EU financial markets and market participants. Higher levels of interconnectedness generally result in an increased impact of a CCP’s actions on participants, linked CCPs, other financial market infrastructures (FMIs), such as payment systems, and markets. Figure 2 illustrates the interconnections between LCH Ltd and other financial infrastructures.

FIGURE 2. LCH LTD CLEARING SERVICES IN TRADE AND POST-TRADE STRUCTURE



Sources: LCH Ltd, ESMA staff.

30. The links between LCH Ltd and several EU CSDs concern both the deposit and withdrawal of collateral and the delivery of equities or bonds. [REDACTED]

[REDACTED] LCH Ltd has direct links with Euroclear UK and International (EUI), SIX SIS AG, Clearstream Banking Luxembourg and Euroclear Bank.

[REDACTED]

31. LCH Ltd has links to multiple EU trading platforms, creating interdependencies between the UK CCP and these trading venues, though these are not of a systemic nature. The EU trading platforms comprise of 28 Multilateral Trading Facilities (MTF) and Organised Trading Facilities (OTF), and 2 Regulated Markets, located in 11 Member States: Belgium, France, Netherlands, Italy, Spain, Germany, Denmark, Finland, Sweden, and the Czech Republic. [REDACTED]

32. The interoperability agreement for the clearing of cash equity trades between LCH Ltd, Netherlands-based EuroCCP, and Switzerland-based Six x-clear creates interdependencies for EuroCCP as an EU-based CCP. Certain EU clearing members (CMs) and clients indirectly access the services of EquityClear through EuroCCP. [REDACTED]

[REDACTED] ue to the short-term maturity of the product, a switch to another CCP is not likely to cause market disruption, but it is worth noting that it provides access to the UK market through the interoperable CCPs. All three CCPs exchange margins on a daily basis. They do not contribute to each other's default funds but instead call an additional margin to cover for this amount.

[REDACTED]

33.

[REDACTED]

34.

[REDACTED]

Ownership and governance structure of LCH Ltd

35. LCH Group fully owns LCH Ltd [REDACTED]. LCH Group is a UK-based holding, whose majority shareholder is the London Stock Exchange Group (LSEG).¹⁸ LCH Group includes a second CCP, LCH SA, based in France, that is authorized under EMIR. [REDACTED]

36. In addition, LCH Ltd is strongly dependent on LSEG due to the substantial level of outsourcing of services to LSEG. Based on the data provided by the CCP (in accordance with Article 5(1) of the Tiering DA), ESMA staff identified that LCH Ltd outsources several functions to the LSEG Business Services Limited (BSL), a company of the LSEG group, notably its shared corporate technology and information security services.

Size of LCH Ltd clearing segments

37. The size of a CCP service, as indicator of its systemic importance, is measured in this assessment by various metrics (Box 1). Generally, the larger the size of the CCP service, the greater the impact of a financial or operational failure of the CCP, and the greater the probability that EU financial stability will be impacted. Table 5 presents the various size metrics for LCH Ltd.

¹⁸ LSEG is the majority shareholder of several FMIs, including a trade repository (UnaVista NL) and several trading venues (such as Turquoise). Until May 2021 the LSE group owned the Italy-based Borsa Italiana Group, consolidating several companies of which a CCP authorized under EMIR (CC&G), a CSD (Monte Titoli), and various Trading Venues authorised under MiFIR. As from May 2021, the Borsa Italiana Group belongs to the Euronext group.

BOX 1. METRICS TO ANALYSE THE SIZE OF A CCP AND ITS SERVICES

Trading and/or clearing volume and value: the number of trades (volume) and currency value of the trades in a specific product or market. This can be used as an indication of liquidity.

Initial margin and default fund exposures: the types of collateral called by a CCP to its clearing members (and in some cases clients) to protect the CCP in the event that a clearing member defaults on its obligations. This may be an indication of credit risk, and is comparable for different services, products and CCPs, although hampered by the different methodologies of CCPs to estimate initial margin and default fund contributions.

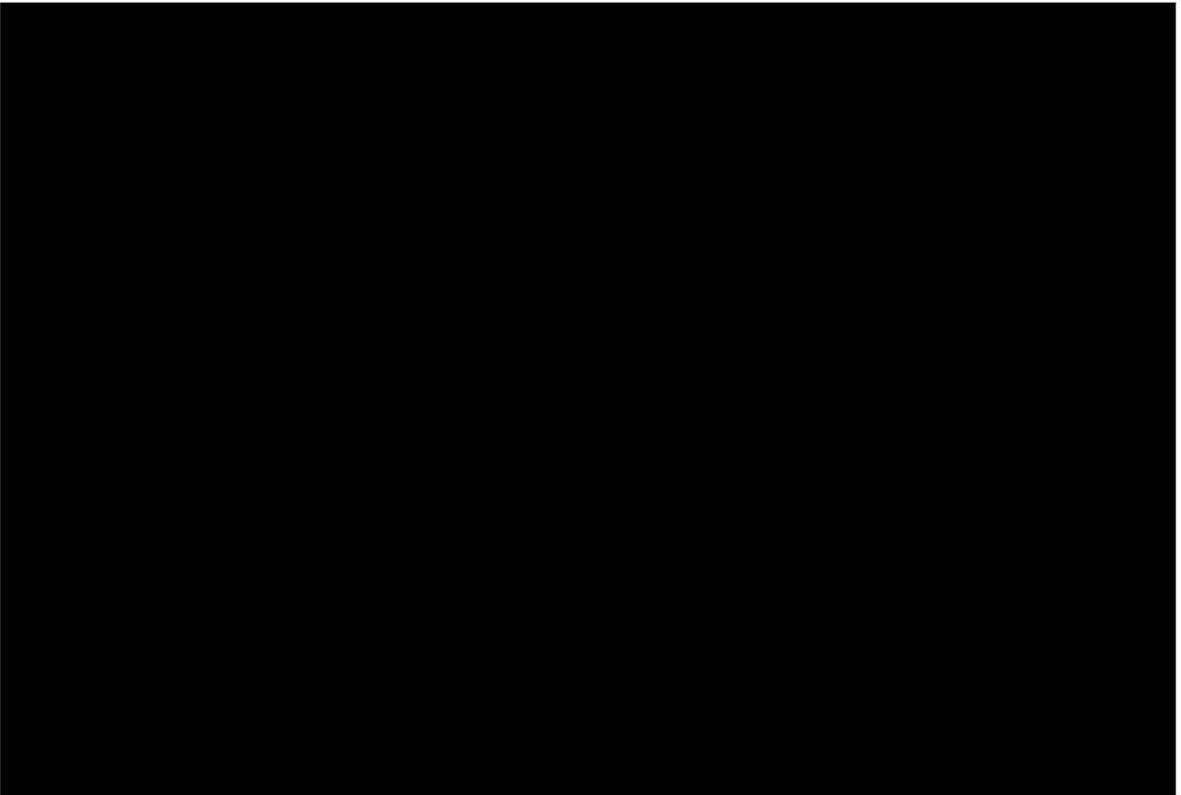
Peak margin call: the maximum one-day margin call for an EU clearing member or an interoperable CCP. May be used as a measure of liquidity risk.

Open interest: the total amount of exchange-traded contracts that have been entered into on a given day and not yet settled. Open interest presents a measure of risk and liquidity.

Notional amount outstanding: the gross nominal or notional value of all derivatives contracts concluded and not yet settled on the reporting date. This may be an indication of the market size (not of liquidity or risk).

Market share: the portion of a market represented by a specific CCP, clearing service, or product, which may be an indication of a CCP's dominance.

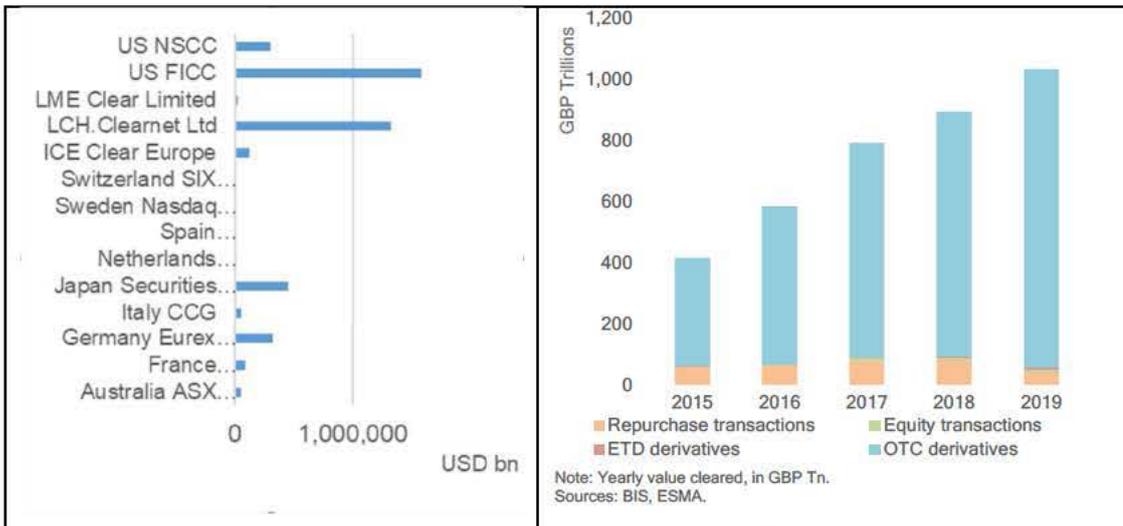
Sources: ESMA, BIS.



38. The size of LCH Ltd, measured in terms of the value of cleared transactions, is one of the largest worldwide and has been growing in recent years. The OTC derivatives segment has grown in particular following the G20 mandate of 2009 to centrally clear all standardised OTC derivatives (Figures 5 and 6). The OTC derivatives segment of LCH Ltd is dominated by SwapClear, which has a global market share of above 90 percent in cleared IRD.

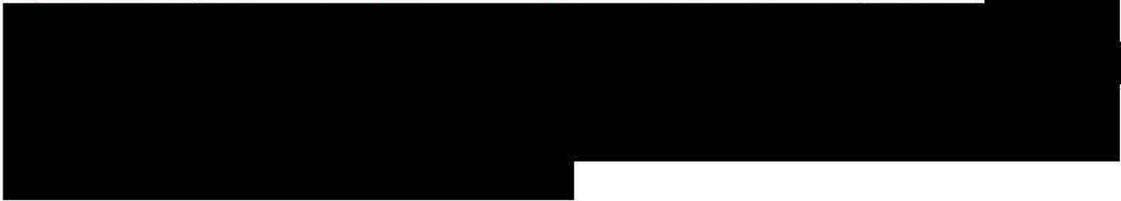
FIGURE 5. LCH LTD CLEARED VALUE WORLDWIDE RANKING, 2019

FIGURE 6. LCH LTD CLEARED VALUE 2015-2019

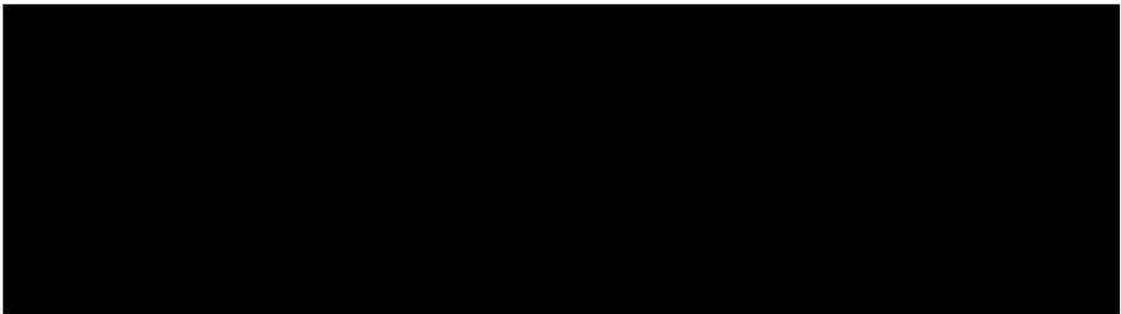


Source: CPMI Statistics Payments and Financial Market Infrastructures, 2021.

39. Within SwapClear, the activity in products denominated in EU currencies is relatively important compared to other currencies with a share of around 27 percent²⁰



- 40.



²⁰ 'EU companies accounted for only 27.1 percent of euro-denominated interest rate derivatives clearing volumes at LCH in London in 2020, with 72.9 percent coming from non-EU firms, LSEG said' quoted in June 2021 Reuters article available at: <https://www.reuters.com/article/us-britain-eu-clearing-idUSKCN2DJ0WA>.

[REDACTED]

[REDACTED]

[REDACTED]

41. The size of LCH Ltd in terms of credit exposures of EU clearing members (initial margin plus default fund contribution) is large and affects clearing members from [REDACTED] Member States, [REDACTED]. This means that a disruption in the operations of LCH Ltd would have an impact on the EU as a whole or, at a minimum, many Member States. [REDACTED]

[Redacted text block]

[Large redacted text block]

42.

[Redacted text block]

[Redacted text block]



Buffer capacity to cover credit and liquidity risks

43. This section analyses the effect of a failure of, or disruption to, the CCP by analysing the financial resources available within the CCP and within EU clearing members. This provides an indication of the financial buffers within these entities and thus their capacity to manage a failure of or a disruption to the CCP.

Buffers held by the CCP

44. Overall, the buffers held by LCH Ltd are in accordance with EMIR. LCH Ltd holds a significant amount of capital overhead (EUR [redacted]) in accordance with EMIR capital requirements. [redacted]

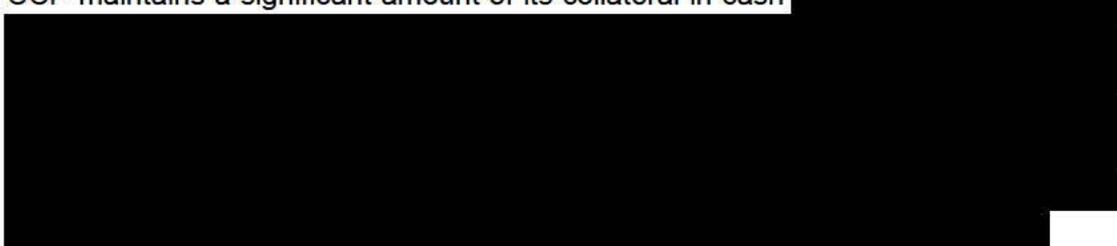


The capital is invested according to the CCP's investment policy, which permits investments only in cash deposits, securities issued by governments or supranationals, repo transactions and derivatives (for hedging purposes only).

45. LCH Ltd maintains an amount of collateral that is significantly higher than EU CCPs, which could be explained due to the relatively large cleared positions. [redacted]

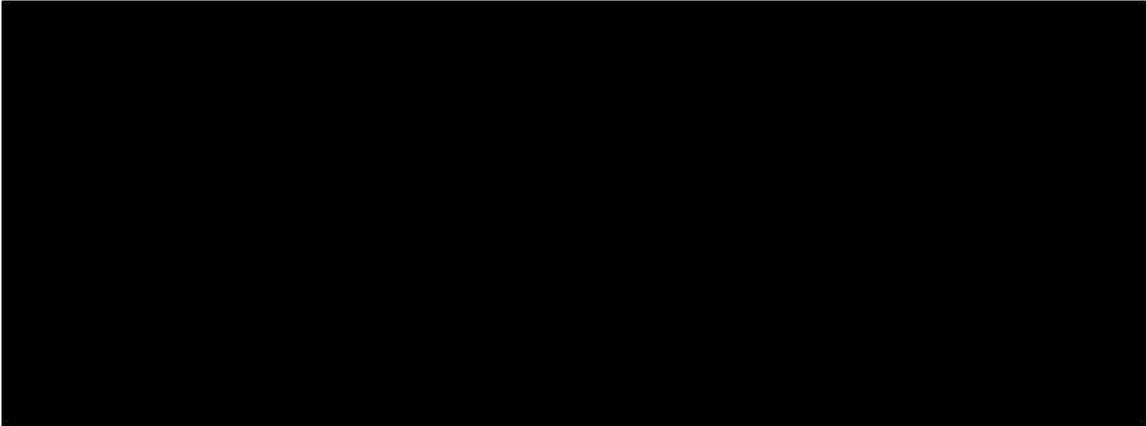


46. Liquid resources of LCH Ltd cover its liquidity needs, especially for EUR, where the CCP maintains a significant amount of its collateral in cash [redacted]

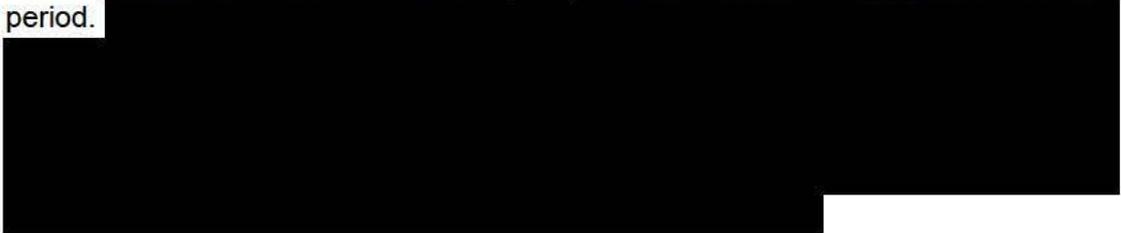


[redacted]

[redacted]



47. Available liquid resources peaked at [redacted] bn euro-equivalent during the reference period.



48. LCH Ltd can obtain additional liquidity through its committed and uncommitted facilities with various counterparties. The CCP reported that the overall amount of resources committed to the CCP by EU institutions (2(1)(i) of the Tiering DA) was around [redacted], mainly from the two EU-based ICSDs. Concerning repo, [redacted]



Clearing members' capacity to handle a CCP's failure or disruption – credit risk

49. Comparing clearing members' credit exposures to the CCP with their capital provides an indication of the impact of a failure of or disruption to the CCP on individual clearing members. The ratio provides an estimation of the importance of these activities to



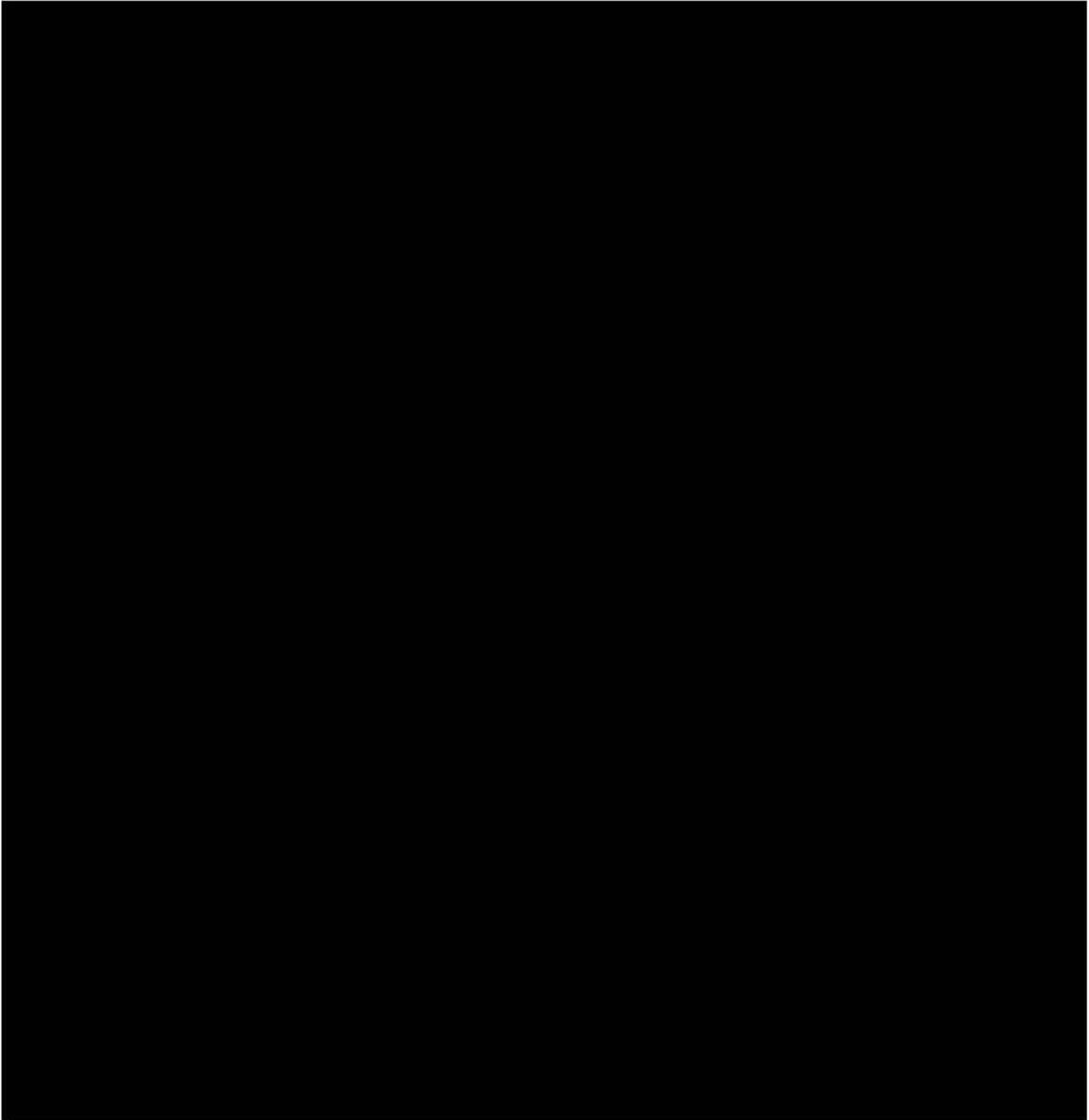
individual clearing members and how credit exposures (measured as initial margin and default fund contribution) relate to their buffer capacity. The data is presented at individual level as well as aggregated per Member State.

50. Clearing members' credit exposures are also compared to the minimum requirement for own funds and eligible liabilities (MREL) at Member State level.²⁸ MREL is the minimum amount of equity and subordinated debt a clearing member must maintain to support an effective resolution. This is separate to the capital requirements. Potential total losses to EU clearing members aggregated per Member State in proportion to MREL indicate thus buffer capacity for extreme circumstances, ensuring that investors and shareholders – and not the taxpayer – absorb losses when the firm fails. ESMA used MREL data provided per Member State by the SRB.

51. An overall finding is that credit exposures are significantly lower than the available capital buffers per clearing member. [REDACTED]

52. The findings reflect the buffers for isolated events when clearing members face credit losses originating from LCH Ltd only. It is not certain that the capital buffers of EU market participants would be available to absorb losses from LCH Ltd during a severe shock originating from multiple sources in case of a market wide event. In such circumstances, EU clearing members could also suffer losses from bilateral transactions with the defaulting counterparty, other failing market participants, other CCPs, or face otherwise strained conditions. [REDACTED]

²⁸ Member State's national compartments of the Single Resolution Fund (SRF) as provided by the Single Resolution Board were also added to MREL for robustness checks, without altering the results.



53. On an individual level, some EU clearing members have relatively high credit exposures compared to their capital (Figure 12). This is particularly the case for clearing members whose activities relate to the offering of client-clearing services.

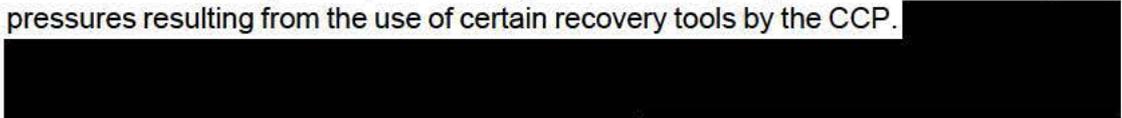


Clearing members' capacity to handle a CCP's failure or disruption – liquidity risk

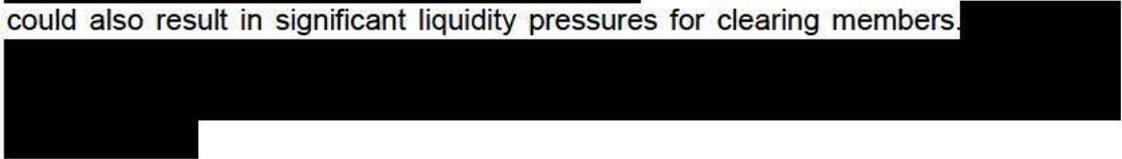
54. During certain market events, such as a member default or high market volatility, the CCP may request clearing members to provide additional collateral through margin calls, potentially putting them under significant liquidity stress. During the reference period, the peak daily total cashflow paid was in certain cases more than [REDACTED] at individual clearing member level. [REDACTED]



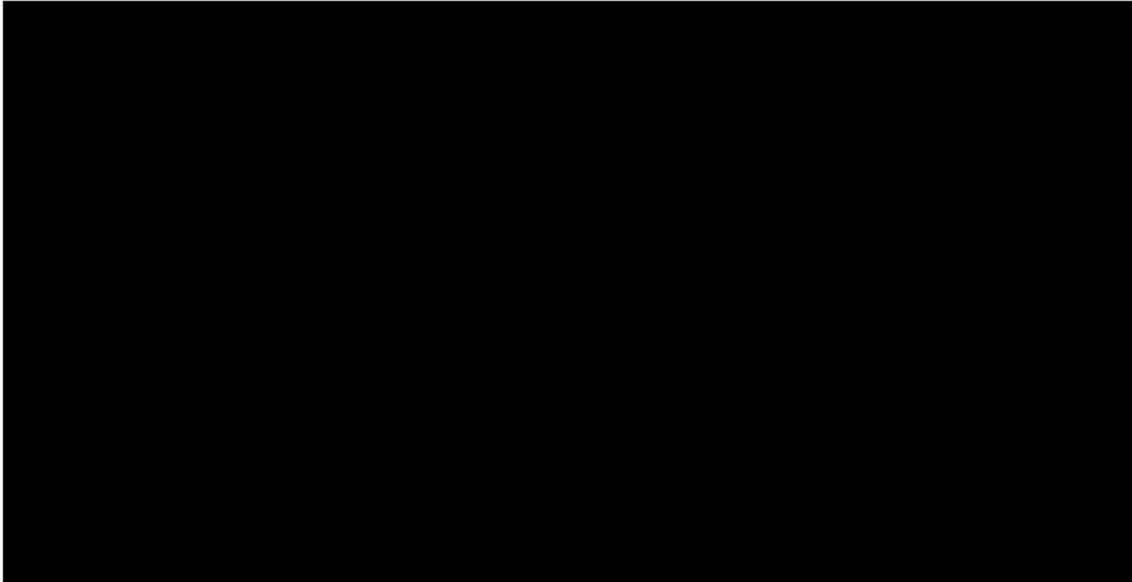
55. In case of a recovery event, EU clearing members may experience additional liquidity pressures resulting from the use of certain recovery tools by the CCP.



Some tools are not quantifiable but could also result in significant liquidity pressures for clearing members.

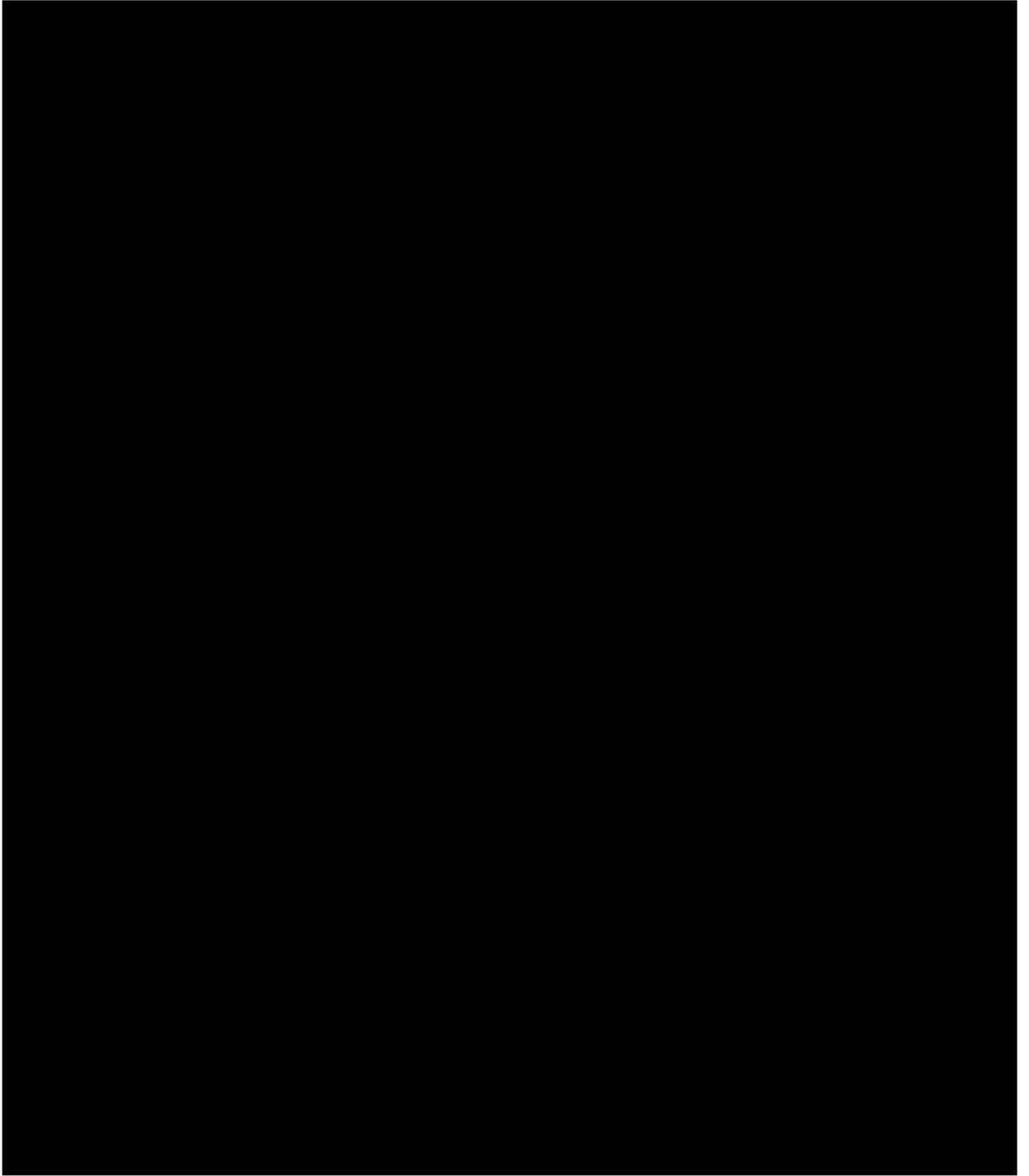






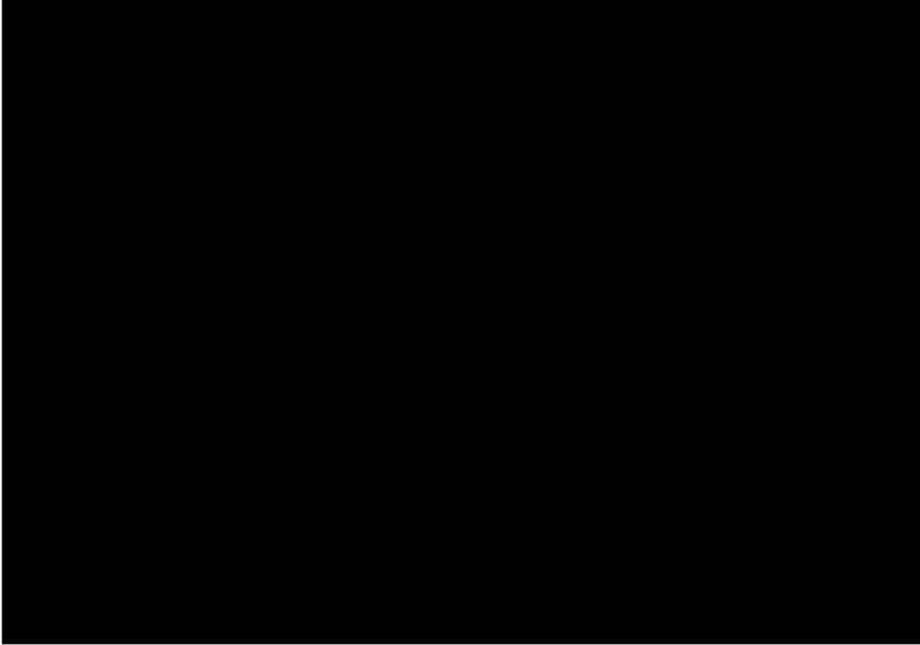
56. An overall finding is that liquidity exposures are significantly lower than available liquidity buffers. Buffer capacity is measured as available stable funding, which measures mid-term resources and is used to build the net stable funding ratio (NSFR). High quality liquid assets (HQLA) measures short term liquid capacity and is used to build the liquidity coverage ratio (LCR).

57. A large, solid black rectangular redaction box covering the text of paragraph 57.



58.





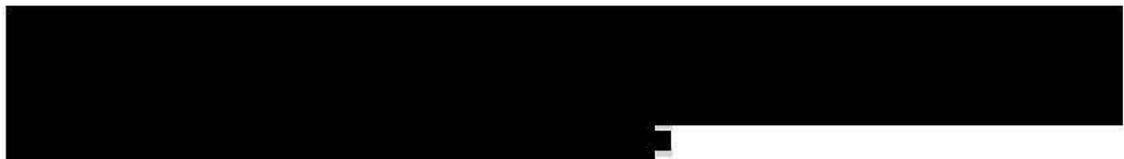
EU capacity to handle a CCP's failure or disruption - exposures through collateral

59. In addition to liquidity risks from CCP margin calls, EU clearing members may also be exposed to liquidity risk from the unavailability of their collateral. As such, collateral held by the CCP is an important element in assessing the effect of a failure of a CCP, as it represents the members' assets withheld by the CCP, and thus provides an indicator for liquidity risks faced by clearing members. Although these assets, being cash or securities, can be used by the CCP only under certain conditions, and securities are considered bankruptcy remote, they are all HQLAs. Therefore, they represent liquid assets which are owned by the clearing members but that are not available to cover their liquidity needs.

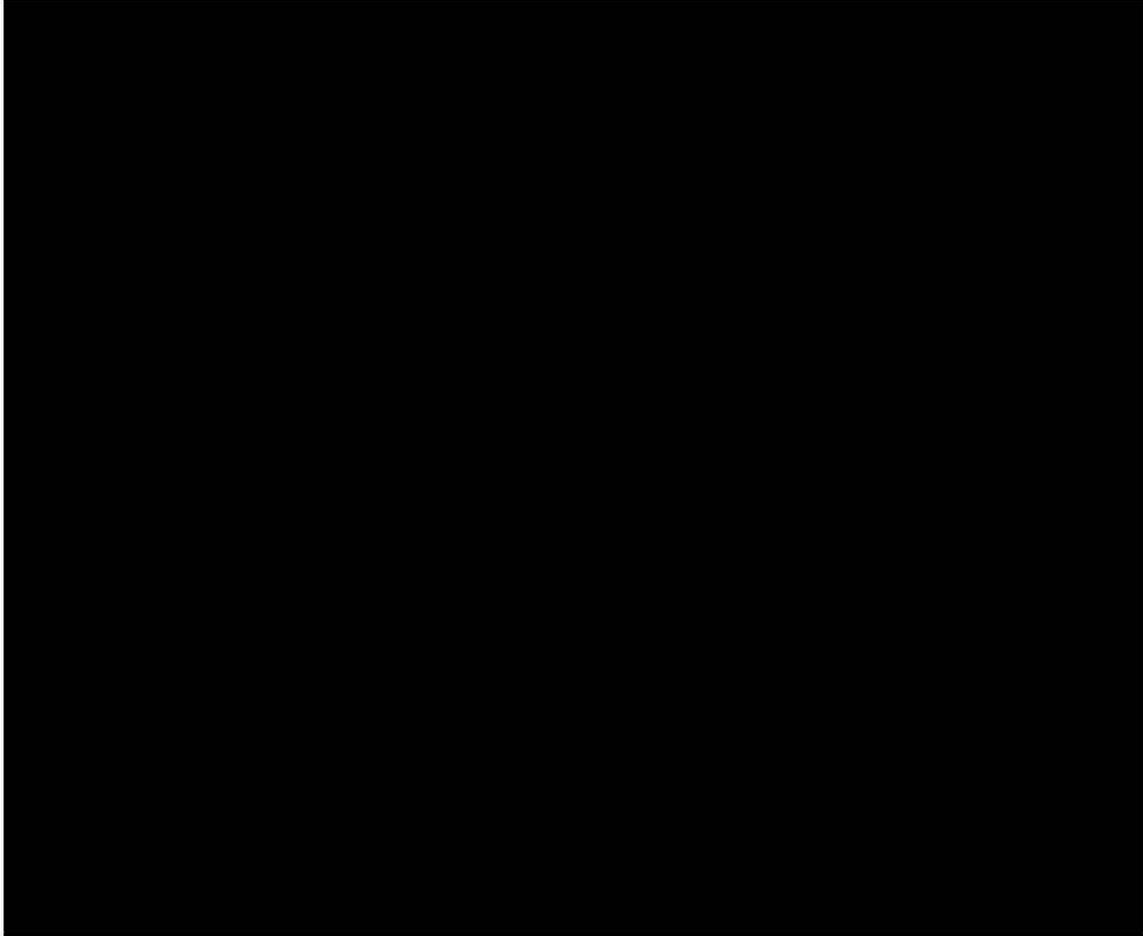
60. EU currencies represent a relative important part of the total collateral posted to the CCP ([REDACTED]), of which the majority was in EUR. EU clearing members are significant contributors to collateral posted in EU currencies. [REDACTED]



61.







62. Acceptable collateral is in line with peer CCPs in the EU, and haircuts applied are calibrated in line with common market practices. LCH Ltd accepts collateral in the form of cash and bonds from sovereign and quasi-sovereign issuers (sovereign bonds, government agency bonds with sovereign guarantees, mortgage-backed securities with sovereign guarantees, government credit guarantee schemes, municipal/regional government issues, supranational entities). Haircuts are applied to cash and non-cash collateral, in order to take into account market, credit and FX risks. According to the CCP, for market and FX risks, haircuts are calibrated at a 99.7 percent confidence interval, during a 3-days liquidation period based on a 10-year lookback period. For liquidity risk, concentration risk and wrong way risk, LCH Ltd applies limits to the collateral accepted.

Alternative clearing services provided by other CCPs

63. An assessment of alternative clearing services provides an indication of the systemic importance of a CCP, since in the absence of other CCPs being able to take over positions of market participants, financial markets may be disrupted. A generally available substitute for a CCP is the return to bilateral clearing. However, such a shift may be conducted in a disorganized manner if the CCP fails, creating further turmoil. Moreover, such an outcome would not be desirable. It may also come with additional costs for market participants and other disadvantages. Bilateral clearing will not be an option for products subject to the clearing obligation under EMIR. Therefore, in

analysing alternatives, in accordance with Articles 4(1) and 4(2) of the Tiering DA, ESMA staff assessed the substitutability of LCH Ltd's services and the availability of existing alternative clearing services of CCPs authorised in the EU or recognised in Third Countries, based on public information (Table 11).

TABLE 11. SUMMARY OF ALTERNATIVE CCP SERVICES TO SWAPCLEAR

	LCH Swapclear	Eurex Clearing	CME Clear
CO Transactions	EUR, USD, GBP, JPY, NOK, PLN, SEK	EUR, USD, GBP, JPY, NOK, PLN, SEK	EUR, USD, GBP, JPY, NOK, PLN, SEK
IRS, ZC, Basis, VNS, FRA, OIS	EUR, USD, GBP	EUR, USD, GBP	EUR, USD, GBP
	CHF, JPY	CHF, JPY	CHF, JPY
	DKK, SEK, NOK	DKK, SEK, NOK	DKK, SEK, NOK
	PLN, CZK, HUF	PLN, CZK, HUF	PLN, CZK, HUF
	AUD, CAD, HKD, MXN, NZD, SGD, ZAR, BRL, CLP, CNY, COP, INR, KRW, ILS, THB, TWD	AUD, CAD, HKD, MXN, NZD, SGD, ZAR, BRL, CLP, CNY, COP, INR, KRW, ILS, THB, TWD	AUD, CAD, HKD, MXN, NZD, SGD, ZAR, BRL, CLP, CNY, COP, INR, KRW, ILS, THB, TWD
Inflation	EUR, GBP, USD	EUR, GBP, USD	EUR, GBP, USD
Basis Overnight/IBOR	AUD, CAD, EUR, GBP, JPY, NZD, SGD, USD	AUD, CAD, EUR, GBP, JPY, NZD, SGD, USD	AUD, CAD, EUR, GBP, JPY, NZD, SGD, USD

Source: CCP websites, green: almost identical product offering, orange: partial product offering, red: no product offering

64. For SwapClear, the main comparable alternatives are Eurex Clearing and CME Clear, especially for products subject to the clearing obligation. Several EU-based CCPs (Eurex Clearing, Nasdaq Clearing, KDPW_CCP, BME Clearing) and non-EU based CCPs (CME Clear, JSCC) offer some of the products offered by LCH Ltd. Most CCPs focus on their local markets, except for Eurex Clearing and CME Clear, which have a comparable offer (especially for the contracts subject to clearing obligation). The clearing members which account for the vast majority of LCH Ltd's volumes on SwapClear³³ are also members of Eurex Clearing³⁴ and CME Clear. However, ESMA understands that LCH Ltd is the only CCP able to offer the clearing of some contracts in certain third country currencies, due to the economies of scale achieved and due to extended membership. Moreover, SwapClear has the highest market share in IRD under CO (Figure 15) and more in general in EU currencies (Figure 16).

³³ The Top 15 CMs represented 88 percent of the average daily flows on all currencies during the reference period.

³⁴ Eurex Clearing offers a Partnership Programme which has similar characteristics to the SwapClear Agreement.

FIGURE 15. MARKET SHARE OTC IRD UNDER CO (EUR, USD, JPY, GBP)

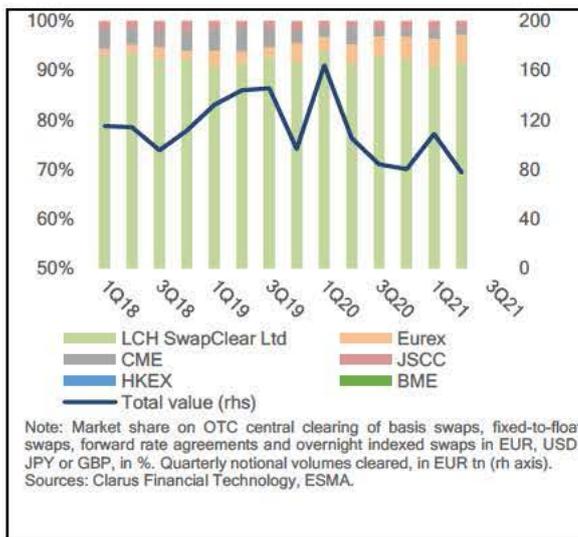
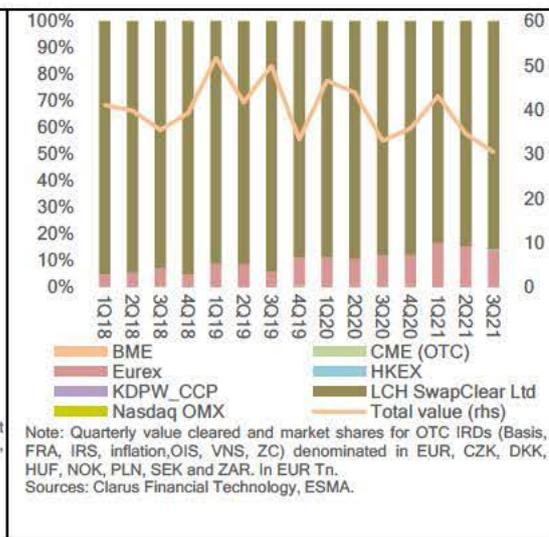


FIGURE 16. MARKET SHARE OTC IRDs IN EU CURRENCIES



65. Alternatives to ForexClear are limited. Data also show that LCH Ltd has a dominant position in the clearing of non-deliverable forwards (NDF) FX contracts. CME Clear offers clearing services for similar products, but volumes are limited.

[REDACTED]

However, it is worth noting that FX contracts are not subject to the clearing obligation, and that the size of the cleared market for these instruments still remains limited.

66. Concerning the other segments, a range of alternative services is currently offered by EU CCPs. Firstly, regarding Listed Rates, Eurex Clearing and ICEU offer very similar products to LCH Ltd. For the EquityClear segment, the analysis shows that alternative clearing services exist within the EU, to which EU clearing members already have access or could easily gain access. With regard to RepoClear, several EU-based CCPs offer comparable products. For example, Eurex Clearing offers a triparty collateral service, GC Pooling, of which one basket includes UK government debt as an underlying.

Scenarios of how EU financial stability can be impacted

67. The analysis above suggests that SwapClear could be a candidate for a determination of substantial systemic importance.

68. This section evaluates scenarios where compliance with the conditions for the recognition of Tier 2 CCPs would not sufficiently address financial stability risks to the Union or one or more of its Member States.

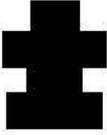
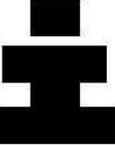
69. The conditions for the recognition of Tier 2 CCPs aim to ensure that such CCPs comply with the requirements under EMIR on an ongoing basis so that, in principle, the risks stemming from services provided by a Tier 2 CCP would be the same if such services were instead to be provided by a CCP established in the Union.

70. However, there might be scenarios where the formal compliance by a CCP with EMIR requirements, located in or outside of the Union, is by itself insufficient to fully mitigate the risks that certain services may pose to the financial stability of the Union or of one or more of its Member States. There are cases where CCPs may adopt discretionary decisions, under business-as-usual (BAU) or crisis situations, on whether, when and how to adopt certain risk management measures which may have broader systemic implications. Moreover, EMIR requirements to be met by CCPs do not address financial stability risks resulting from recovery and resolution scenarios.

71. The analysis of these scenarios with respect to LCH Swapclear is presented below and summarised in Table 12. In order to assess the risks posed by the LCH Ltd SwapClear service on the financial stability of the Union or one or more of its Member States, for each scenario the impact of any relevant CCP action on the EU financial stability has been assessed against existing mitigating factors that should help EU authorities to minimise such risks. In particular, as the scenarios considered are non-specific to UK CCPs (EU-CCPs would also pose comparable risks), the analysis is focused on the additional risks that arise from the Tier 2 CCP being established outside the EU, especially in terms of risk of discriminatory treatment or misalignment of interests.

72. It is underlined that these scenarios (except those prevented by existing legal provisions in the EU) are also relevant for EU CCPs, for which the level of impact would vary proportionally to their size and complexity; however, while the level of probability of such scenario would be similar for EU CCPs, as further explained in chapter 6, the EU regulatory and supervisory regime provides stronger mitigating factors to address the risks posed by EU CCPs.

TABLE 12. LCH SWAPCLEAR SCENARIO ASSESSMENT

Scenarios	Impact Assessment	Probability	Mitigating Factors
BAU			
<ul style="list-style-type: none"> - Access to trading venues - Access to clearing members - Operational disruptions 			Moral suasion ESMA Direct Supervision ESMA Direct Supervision
Crisis Management			
<ul style="list-style-type: none"> - Margin requirements - Collateral haircuts - Margin add-ons on clearing member - Call on default of clearing members 			ESMA Direct Supervision, although no ex-ante intervention powers
Recovery & Resolution			
<ul style="list-style-type: none"> - Recovery tools and sequence - Resolution actions (limited under current regime in UK) 			No ESMA supervisory powers The review of UK regime for CCP R&R may add additional recovery and resolution tools, which could possibly imply new risks for financial stability of the EU or mitigate existing ones

Source: ESMA.

Scenarios in BAU

73. Three possible scenarios have been identified under BAU conditions (i.e., assuming no market volatility), where Tier 2 CCPs could pose a systemic risk to the Union or one or more of its Member States.
74. A first BAU scenario where EU financial stability may be impacted, concerns LCH Ltd limiting access of EU trading venues to its clearing services. LCH Ltd has discretionary powers for restricting, suspending, or terminating access to EU. Indeed, Tier 2 CCPs currently do not have to comply with EMIR provisions on open access for trading venues for OTC derivatives under Article 7 and 8 of EMIR.

75. 

76. [REDACTED]

77. [REDACTED]

78. A second BAU scenario concerns a decision by LCH Ltd to terminate membership of EU clearing members. The CCP has discretionary powers for restricting, suspending, or terminating access to EU clearing members altogether e.g., in the case of supervened conflicts with regulatory requirements under UK law.

79. [REDACTED]

80. [REDACTED]
ESMA direct supervision and cooperation with the BoE could limit the likelihood of such scenario [REDACTED]. Under ESMA supervision, LCH Ltd could be requested to notify ESMA of any restriction, suspension, or termination of access to EU clearing members (and trading venues). [REDACTED]

81. A third BAU scenario concerns operational disruptions at LCH Ltd stemming from diverse root causes.

[REDACTED]

82. [REDACTED] perational disruptions may temporarily prevent EU trading venues and clearing members from clearing IRDs subject to the clearing obligation and other IRDs. In the absence of market shocks, considering the global size of SwapClear, all IRD markets within and outside the EU would be similarly affected. Financial stability could be affected if the service were not recovered promptly.
83. [REDACTED]
84. An important mitigating factor concerns ongoing supervision by ESMA in coordination with the BoE. In BAU, service availability should be recovered within 2 hours. ESMA direct supervision and cooperation with BoE should be in a position to ensure that SwapClear complies with EMIR and has an adequate level of operational resilience.

Scenarios in Crisis Management

85. Several scenarios have been identified under crisis management (i.e., assuming market volatility), where Tier 2 CCPs could pose a systemic risk to the Union or one or more of its Member States.
86. A CCP has discretionary powers under stressed market conditions to take actions that may impact the financial stability of the Union or of one or more of its Member States. Such actions could conflict with the coordinated actions of EU authorities and institutions to address the market stress and minimise any second-round effects.³⁶ Discretionary powers include: i) an increase in margin requirements on EU currency IRDs; ii) increases in haircuts on EU collateral (e.g., government bonds; iii) requests for additional margins from EU clearing members, based on internal rating models; and iv) declarations of default of an EU clearing member, irrespective of recovery and resolution measures.³⁷
87. When such discretionary measures are based on an expert judgment diverging from approved risk policies and models, the supervisory monitoring activity should identify inconsistencies with relevant authorities' actions addressing the crisis situation and

³⁶ Past experiences have shown that the risk that CCPs might not act in line with EU financial stability is not an unrealistic concern, as observed for instance in 2011 when sudden hikes in haircuts on EU sovereign collateral were applied by some CCPs.

³⁷ Article 68(3) of BRRD (precluding a CCP from suspending or terminating the CM's access without the agreement of the resolution authority) would not apply to LCH Ltd.

intervene, where necessary and as appropriate, in order to prevent any procyclical effect that could pose risks to financial stability by promoting rational adjustments, without prejudice to the solid risk management at the CCP and compliance with regulatory requirements.

88.



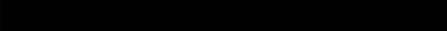
89.



Under direct supervision, ESMA shall review³⁸ (and, where needed, seek changes to) the margin and haircut policies and procedures as well as the internal rating models, to ensure that adjustments are implemented when due in an objective and non-discriminatory manner, in compliance with EMIR (including requirements on anti-procyclicality). ESMA could require to be promptly informed by the CCP of any such upcoming actions in order to ensure a proper coordination.³⁹

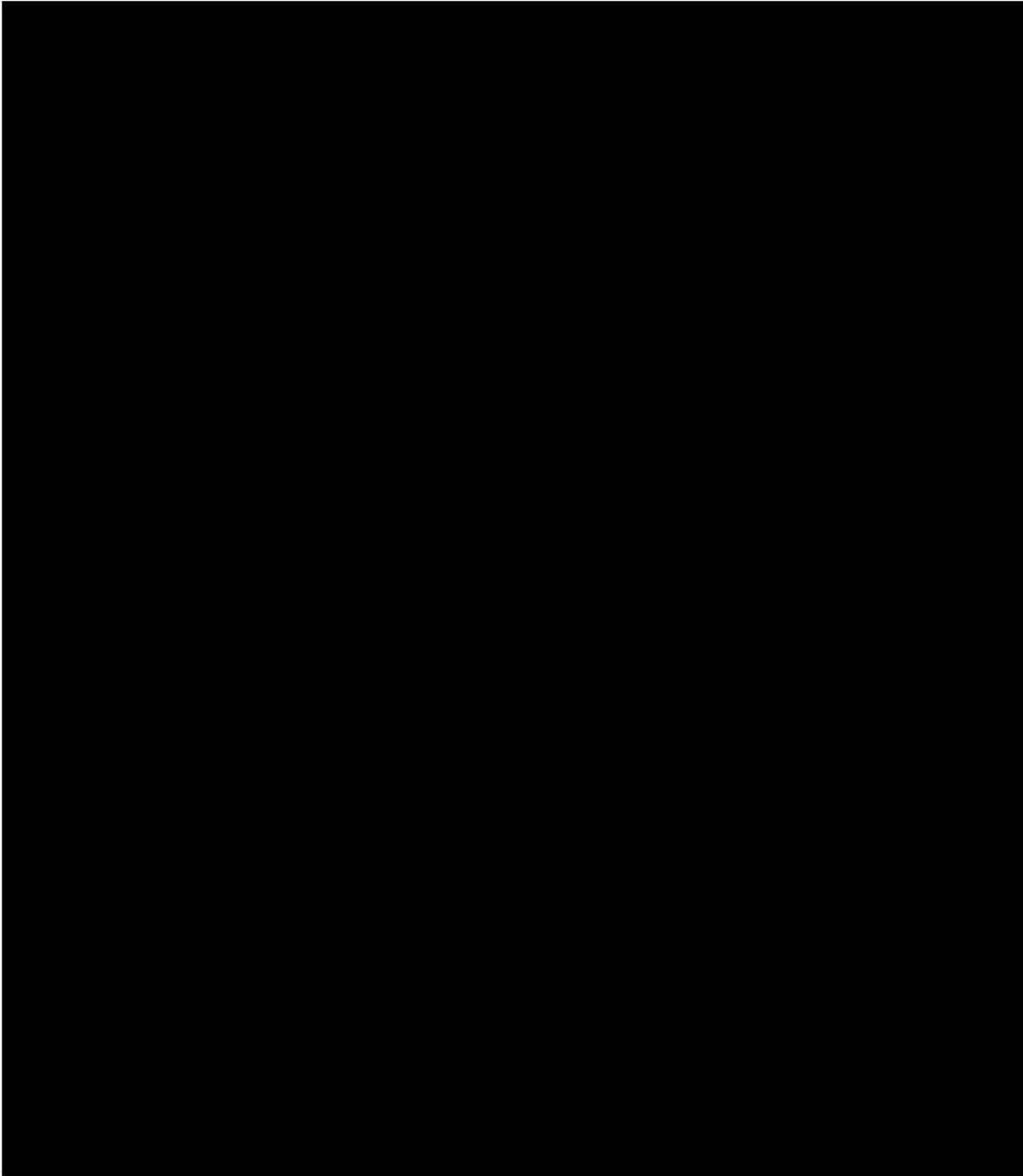
90. Under EMIR ESMA has no ex-ante intervention powers vis-à-vis the CCP to prevent the adoption of measures that are detrimental to the EU financial stability. These particular ex-ante powers are limited in the case of EU CCPs as well. In a somewhat similar vein, ESMA has no ex-ante powers to oppose a supervisory intervention or action by the UK authorities relating to the discretionary risk management measures considered above, when that would negatively affect EU financial stability.

Scenarios in Recovery and Resolution

91. In times of recovery and resolution of LCH Ltd several scenarios may potentially impact EU financial stability. Under a recovery event, LCH Ltd may implement its recovery plan in accordance with its rulebook (see Box 2). 

³⁸ ESMA has also developed regulatory technical standards (RTS) to identify when changes to the risk models are significant and subject to ESMA's validation under Article 49 of EMIR.

³⁹ For instance, based on Article 37(2) of EMIR, ESMA should be informed by LCH Ltd 'of any significant negative development regarding the risk profile of any of its clearing members ..., including any increase in the risk, which the CCP considers to have the potential of triggering a default procedure.'



92. The impact of a recovery event may be disruptive for clearing members per se. The assessment shows that EU clearing members' buffer capacity exceeds credit and liquidity exposures, including capped cash calls and variation margin gains haircutting (VMGH) in recovery (and resolution). However, investment losses cash calls are not quantifiable and, in the case of large losses, could trigger liquidity pressures on clearing members, which could have systemic implications. Service closure could also have systemic implications as EU clearing members would need to re-hedge their torn positions and could find it difficult to find counterparties to clear at alternative CCPs. These remain, however, tail events with low probability.

93.



94. Nevertheless, the recovery rule book is a contractual arrangement that can be adjusted at any time and ESMA has no supervisory mandate over the LCH Ltd recovery plan. The SwapClear recovery plan may evolve to comply with new requirements in the UK. ESMA and other relevant EU or national authorities participate in the global college and in crisis management group (CMG) for LCH Ltd. However, neither the college nor the CMG adopt decisions or opinions on the recovery or resolution plan, respectively. Indeed, BoE is independent in reviewing the CCP recovery plan and defining its resolution strategy and resolution plan. In doing so, it mainly pursues the financial stability of the UK according to its mandate.
95. Under the current regime for CCP recovery and resolution in the UK, the limited scope of (recovery and) resolution tools available to the BoE in principle seems to reduce the ex-ante possibility of misalignment of interests with non-UK authorities. However, the UK is reviewing its regime. Recent public consultations proposed a framework which seems to be similar to the one adopted in EU in many respects. New resolution tools could add discretionary powers to the BoE and potentially increase the possibility of a misalignment of interests with regards to the financial stability of the Union or one of its Member States. However, the review of the regime is still under discussion (see also section 5.6).

Systemic importance per EU currency area⁴⁰

96. CBIs may consider SwapClear as systemically important service for the implementation of their monetary policy and for the financial stability of their currency area. Disruptions may have direct effects through EU clearing members and clients,

⁴⁰ The scope of the assessment includes CBIs for the EU currencies that are cleared by the Tier 2 CCPs. For LCH Ltd, these are EUR, CZK, DDK, HUF, PLN, and SEK. In addition, NOK is included as EEA currency.

some of which are monetary policy counterparties and indirect effects through the functioning of financial markets.

97. The crisis management scenario where LCH Ltd may decide to change margin and collateral requirements could affect the financing conditions for EU banks. For example, banks can face losses through an increase in margins related to perceived increased sovereign risk in their Member States of establishment or a Member State to which they are exposed. Losses could also occur through an increase in haircuts on an EU sovereign bond, or by making the EU sovereign bonds ineligible. It could also be that a disruption at the CCP could lead to collateral becoming unavailable for some time, leading to liquidity strains for EU clearing members in an extreme scenario, either because collateral needs to be sourced quickly to meet requirements at the CCP, which may not be easily achieved in times of stress in money markets, or because collateral cannot be used for other operations of the clearing member.
98. The direct effects are evaluated to be different for different currency areas, [REDACTED]
99. Indirect effects on financial stability relate to the market signalling function for IRD, and ultimately bond valuation. [REDACTED]
100. The indirect effects apply differently to the different currencies and are most prevalent for the euro area (Box 3). [REDACTED]
101. Whether SwapClear is of substantial systemic importance for a specific currency area depends on these and other considerations. Box 3 provides an overview of the different considerations per CBI and currency area. Annex II provides further detailed information.

BOX 3. SYSTEMIC IMPORTANCE OF SWAPCLEAR PER EEA CURRENCY AREA

Currency Area	SwapClear's systemic importance
CZK	The service is not considered of substantial systemic importance: <div style="background-color: black; width: 100%; height: 100%; margin-top: 5px;"></div>
DKK	The service is not considered of substantial systemic importance: <div style="background-color: black; width: 100%; height: 100%; margin-top: 5px;"></div>
EUR	The service is considered of substantial systemic importance: <div style="background-color: black; width: 100%; height: 100%; margin-top: 5px;"></div>
HUF	The service is not considered of substantial systemic importance: <div style="background-color: black; width: 100%; height: 100%; margin-top: 5px;"></div>
PLN	The service could be considered of substantial systemic importanc <div style="background-color: black; width: 100%; height: 100%; margin-top: 5px;"></div>

	[REDACTED]
SEK	The service is not considered of substantial systemic importance: [REDACTED]
NOK	The service is not considered of substantial systemic importance: [REDACTED]

102. Several currencies, other than EEA currencies, are considered of systemic importance to the EU, which are USD, GBP, and JPY.⁴³ OTC derivatives cleared on SwapClear and denominated in these currencies are subject to the clearing obligation under EMIR in order to reduce counterparty risks to EU market participants trading products denominated in these currencies.

103. USD, GBP, and JPY are not considered of substantial systemic importance. [REDACTED]
 [REDACTED] EU clearing members submit collateral in these currencies to LCH Ltd (Table 10). However, the values are substantially lower than collateral submitted in EUR.

3.3 Conclusions on the systemic importance of LCH Ltd

104. LCH Ltd fulfils a critical function to EU financial markets, and the broader financial system, supporting capital formation, risk transition, central risk management, and market liquidity in interest rate, FX, equity, and repo markets, providing clearing services to EU banks (in their roles as dealer, client clearer, and client), investment funds, insurance companies, pension funds, and corporates.

⁴³ Current ESMA proposal is to exclude JPY from the clearing obligation.

105. This creates dependencies of the EU on LCH Ltd, which vary per segment. Therefore, the conclusions of the systemic importance of LCH Ltd for the financial stability of the EU vary per clearing segment.
106. Based on the characteristics of SwapClear, and an analysis of scenarios that may impact EU financial stability, even where SwapClear is in full compliance with EMIR requirements, the assessment concludes that the SwapClear service is of substantial systemic importance for the financial stability of the EU as a whole in relation to certain EU currencies, i.e., for EUR and PLN.
107. The large dependencies of the EU on SwapClear stem from its size and the functions it provides to EU clearing members and clients. SwapClear is the most important market for clearing IRD because of the width of its product offering, its markets share and related market liquidity, and its access to an international dealer market. It clears products denominated in all EU currencies, including all products subject to the clearing obligation. A total of 47 clearing members are active, stemming from 12 Member States. Clients stem from 26 Member States and include entities with an important social function, such as insurance companies and pension funds.
108. EU credit exposures are high for SwapClear (EUR ██████████ total at the end of June 2021), ██████████. Although buffer capacity of clearing members in all ██████████ Member States (no data available for clients) exceeds their exposures to SwapClear, they may be under significant strain in case of a crisis that goes beyond the isolated failure of the CCP.
109. Liquidity risk of EU clearing members towards SwapClear seems well contained in all EU currency areas in case of an isolated event at LCH Ltd. However, in the case of a broader financial crisis the assumption that money markets will continue to function may not hold. As such, in times of a crisis affecting the broader financial system, a failure of SwapClear could reverberate throughout the EU with potentially large losses, impacting a broad range of actors, including EU banks, EU pension funds and insurance companies, and EU companies hedging their interest exposures through SwapClear.
110. The scenario analysis highlights how SwapClear could create additional risks to EU financial stability in BAU, crisis management, and recovery and resolution circumstances, due to its location outside the EU. In a BAU scenario, a termination of access to EU clearing members may disrupt trading in IRD, including in EUR currencies. In times of crisis, financial markets can be impacted through feedback loops, with a potential impact on monetary policy implementation in the euro area. In times of recovery, the possibilities for the CCP to take discretionary measures seem, in principle, limited. However, in CCP resolution the resolution authority may take measures that could impact EU financial stability, for example, by terminating access of an EU bank in resolution to the CCP. While ESMA has tools to minimise any discriminatory treatment of EU trading venues or clearing members, it has no ex-ante

intervention powers during a crisis, or in case of recovery or resolution of LCH Ltd. However, the upcoming reform of such framework in the UK may add new recovery and resolution tools, both potentially decreasing or increasing the level or risks for financial stability of the EU. Furthermore, the lack of supervisory powers of ESMA on the Tier 2 CCP's recovery plan exposes the EU to risks in times of a recovery of LCH Ltd.

111. Furthermore, a failure of or a disruption to CCP could impact the functioning of money markets which may negatively impact financial stability and monetary policy implementation. Negative implications have been identified for PLN and EUR.
112. Although alternatives to LCH Ltd are available (Eurex Clearing, CME Clear), these are currently expected to be able to take over LCH Ltd's role only to a limited extent. [REDACTED] Bilateral clearing will also not be possible for products subject to a clearing obligation – and would not be a desirable outcome. And, in any event, a move to alternatives will come with delays and additional costs.
113. EquityClear is an important clearing service for the EU, but it is not of substantial systemic importance. EU clearing members and Clients have important activity and exposures, but dependencies are contained since EquityClear's market share is limited and there are plenty of alternative services existing in EU. Furthermore, open positions in cash equity would be settled in two days, limiting the duration of EU exposures.
114. Similarly, ForexClear is an important clearing service for the EU but also not of substantial systemic importance. ForexClear has an important market share in the FXD market. However, it remains a niche market for clearing, as bilateral trades remain the norm. EU clearing members and clients have important activity and exposures. Alternative services exist only for a very limited subset of products.
115. Finally, RepoClear and Listed Rates are of limited systemic risk to the EU due to limited activity of EU clearing members and clients. RepoClear has no market share in the EUR repo market since the transfer of these currencies to LCH SA. Listed Rates has only a small share in the market for listed IRD, which is dominated by ICEU and Eurex Clearing.
116. These conclusions are based on the current situation where the UK regulatory framework is fully aligned with EMIR. There is no certainty that the UK regulatory framework will stay aligned. If in the future the UK requirements for CCPs deviate from EMIR, ESMA will conduct the relevant assessment under EMIR.

4 Systemic importance of ICEU for EU financial stability

4.1 Introduction

117. This chapter analyses the features of the clearing services provided by ICEU in order to determine their substantial systemic importance to the EU or one or more of its Member States. The ICEU clearing services are assessed against the five criteria of Article 25(2a) of EMIR, based on the information provided by the CCP (size, impact of a failure, clearing member structure, alternatives, and interconnectedness). The assessment includes the additional indicators of the methodology to further assess the substantial systemic importance per TC CCP clearing service in line with Article 25 (2c) of EMIR. Annex III provides an update to ESMA's analysis of September 2020, that distinguishes Tier 1 and Tier 2 CCPs in accordance with Article 6 of the Tiering DA.
118. For the clearing services that are identified as candidates for substantial systemic importance, the impact is evaluated for the occurrence of scenarios through which the financial stability of the Union, or of one or more of its Member States, can be negatively impacted. Based on the different analyses the chapter then concludes about the (substantial) systemic importance of each ICEU clearing service.

4.2 Assessment of the systemic importance of ICEU

Description of ICEU clearing services (products, currencies)

119. ICEU offers CCP services, which are organised in the Futures and Options segment (F&O) and the credit default swap (CDS) segment (see Table 13). The F&O segment is subdivided into four asset classes. As such, ESMA analyses five different types of products within the two clearing services:
- a. CDS segment: clearing of European CDS, executed in the OTC market, of which 148 index products, 200 corporate single names, and 7 sovereign single names in September 2021.
 - b. F&O segment, energy derivatives: clearing of energy derivatives traded on ICE's global energy markets. Underlying values are crude and refined oil, natural gas, power, coal, and emissions.
 - c. F&O segment, interest rates: clearing of listed interest rate derivatives, including short-term European interest rate futures contracts (STIR), such as EURIBOR and Short Sterling futures.
 - d. F&O segment, equity derivatives: clearing of listed equity derivatives, including MSCI index derivatives, FTSE index derivatives and Russell index derivatives, European single stock futures, and European single stock options.

- e. F&O segment, commodity derivatives: clearing of commodity derivatives traded on London's commodity markets, such as cocoa and sugar, freight, and metals.

TABLE 13. OVERVIEW OF ICEU'S CLEARING SERVICES

Business segment		Products
F&O	Energy	Oil, Natural Gas, Power, Coal, Emissions
	Interest Rates	STIR, OIS, Bonds
	Equities	Equity Derivatives
	Commodity	Soft Commodities
CDS		OTC CDS Index and Single Name

Source: ESMA, based on ICEU data.

120. The CDS segment contains products subject to the clearing obligation, while the other clearing segments do not. The CCP offers clearing of EUR-denominated CDS on iTraxx Main and iTraxx Crossover indexes, all of which are subject to Clearing Obligation pursuant to Regulation (EU) 2016/592. ICEU is estimated to have an important market share for these products in Europe, notably for the transactions of EU clearing members.
121. ICEU is of relevance to the financial stability of the euro currency only, since only clearing in EUR is substantial. Although ICEU clears multiple EU currencies, non-EUR currency activity is very limited, and only in Equity Derivatives, which itself is a small part of the activities of ICEU (Table 14).

TABLE 14. EU CURRENCIES CLEARED PER ICEU SEGMENT

Clearing segment		EU Currencies
F&O	Energy	EUR
	Interest Rates	EUR
	Equities	EUR, CZK, DKK, HUF, PLN, SEK
	Commodity	EUR
CDS		EUR

Source: ESMA, based on ICEU data.

Participation of EU Clearing members and Clients in ICEU

122. The largest EU clearing members participate in both the CDS and F&O segments (Table 15). The CDS segment counts 15 EU clearing members⁴⁴ from 5 Member States, the F&O segment counts 20 EU clearing members from 6 Member States.



⁴⁴ EU clearing members consist of clearing members that are EU entities or entities consolidated in the EU.

TABLE 15. NUMBER OF EU CLEARING MEMBERS AND CLIENTS PER ICEU CLEARING SERVICE (END JUNE 2021)

Business Segment	Number of EU clearing members	Number of non-EU clearing members
CDS	15 (DE, ES, FR, IE, IT)	15
F&O	20 (DE, ES, FR, IT, NL, SE)	55

Sources: ICEU, ESMA Staff.

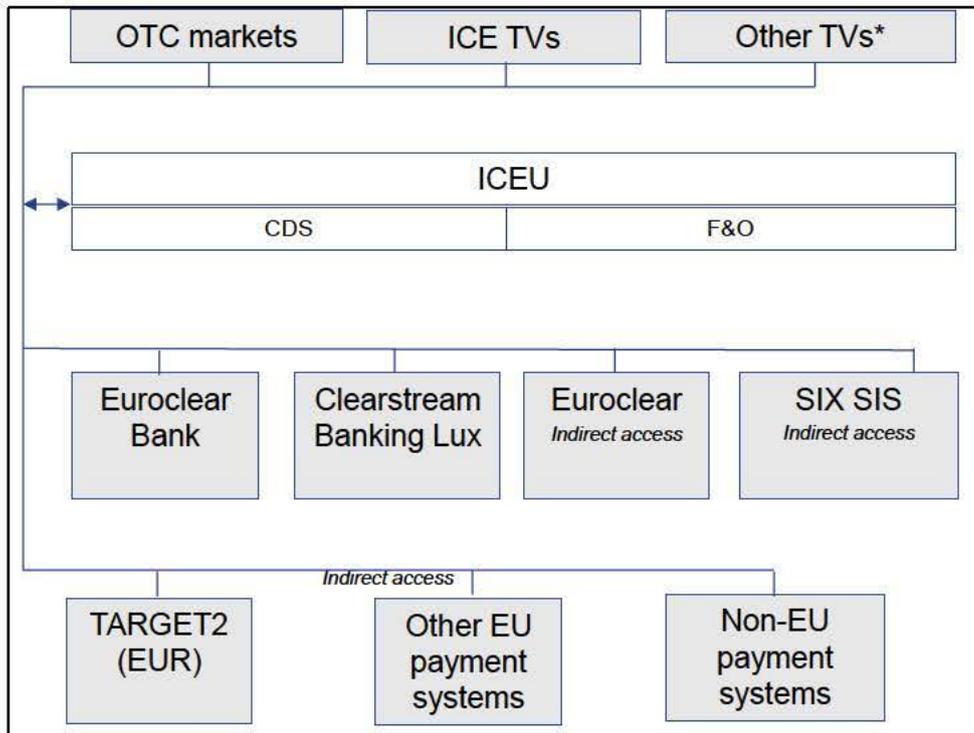
123. The rules of ICEU envisage an obligation for the clearing members’ support during the default management process. ICEU’s default management procedures specify that clearing members could be invited to participate in the CDS default management committee, which has a consultative role with regard to the liquidation strategy or, in some cases, to second staff for performing hedging or liquidation transactions on behalf of the CCP. In addition, according to the rules, clearing members are obliged to actively participate in the liquidation auction.

Finally, ICEU regularly organises default management exercises, known as “default drills”, with the participation of clearing members, notably on the auction phase.

The CCP’s interconnections with other financial infrastructures

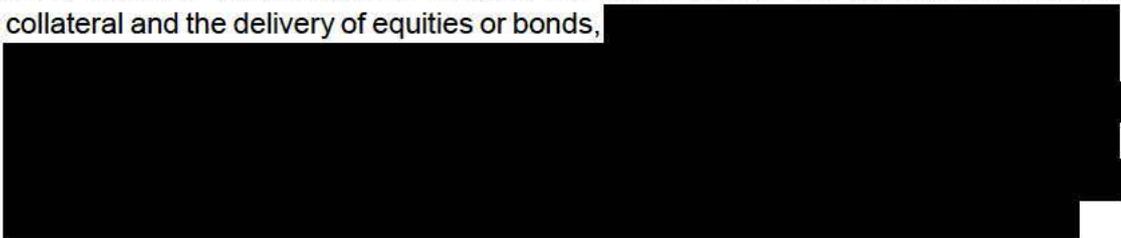
124. An analysis of a CCP’s relationships, interdependencies, and interactions is important to understand how financial and operational problems at a Tier 2 CCP may spread to EU financial markets and market participants. Higher levels of interconnectedness generally result in an increased impact of a CCP’s actions on participants, linked CCPs, other FMIs, such as payment systems, and markets (see Figure 17 for an illustration for ICEU).

FIGURE 17. ICEU CLEARING SERVICES IN TRADE AND POST-TRADE STRUCTURE



Source: ICEU, ESMA Staff.

125. ICEU has links with several EU and non-EU CSDs both for the deposit/withdrawal of collateral and the delivery of equities or bonds,



126. ICEU is linked to three EU trading platforms, creating interdependencies between the UK CCP and these trading venues, though not of a systemic nature. ICEU is the CCP for products traded on the trading venues which are part of the ICE Group (ICE Futures Europe, ICE Futures US, ICE Futures Abu Dhabi). In addition, ICEU clears transactions for three trading venues located in the Netherlands: ICE Endex Markets BV (F&O Energy), Bloomberg Trading Facility BV (CDS) and Tradeweb EU BV (CDS).

[Redacted]

- 127.

[Redacted]

- 128.

[Redacted]

129. Finally, ICEU has a dependency on commercial banks on an intraday basis.

[Redacted]

Ownership and governance structure of ICEU

130. ICEU is 100 percent owned by Intercontinental Exchange Inc (ICE Inc), a US-based publicly listed company on the NYSE. The group is active in trading, clearing and settlement, and includes two US-based CCPs, ICE Clear Credit and ICE Clear US. ICE

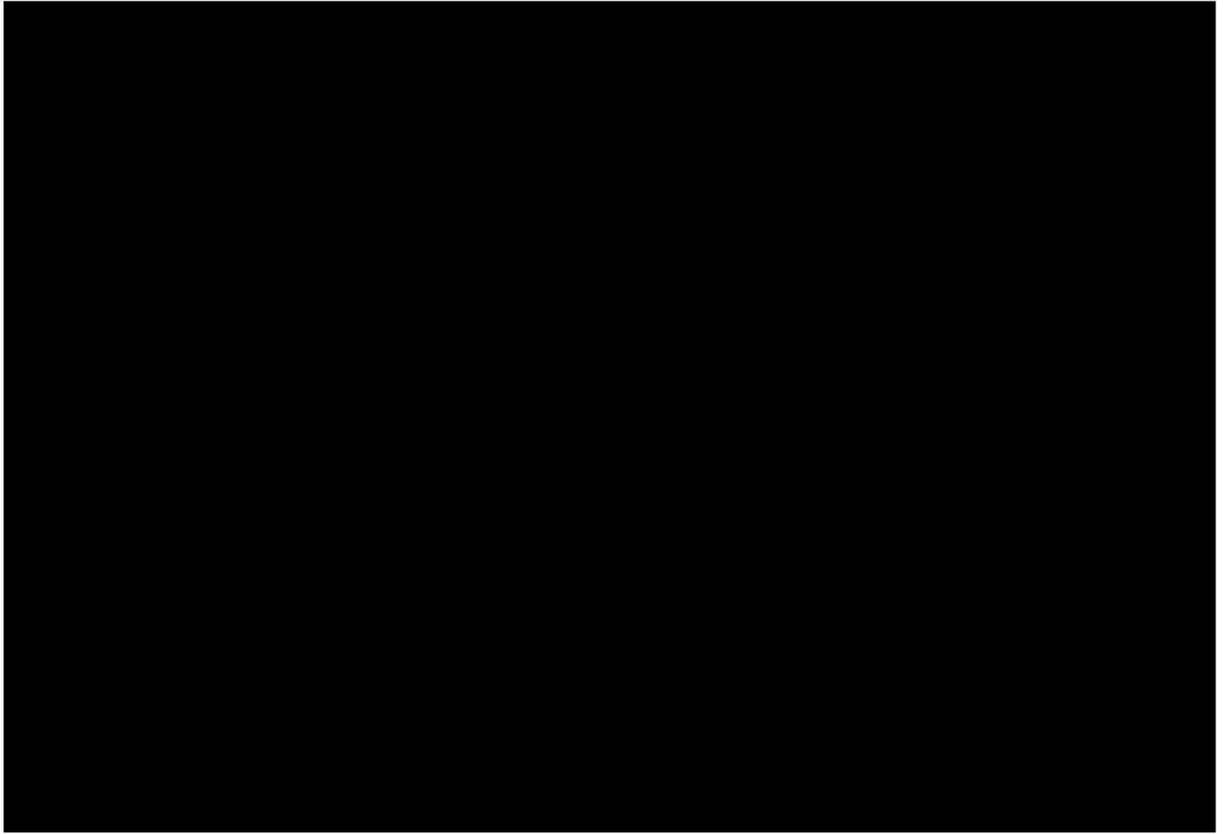
[Redacted]

Inc also own fully a Regulated Market based in the Netherlands, ICE Endex Markets BV, which is supervised by the AFM. In addition, it fully owns a CCP based in the Netherlands, ICE Clear Netherlands BV, authorised under EMIR and supervised by De Nederlandsche Bank (DNB) and the Autoriteit Financiële Markten (AFM). Finally, ICE Inc has a 100 percent stake in most of the trading platforms for which ICEU is the CCP, such as ICE Futures Europe, ICE Futures US and ICE Endex. It also owns the middleware ICE Link, which is its main source of trades for CDS transactions. [REDACTED]

131. [REDACTED]

Size of the ICEU clearing segments

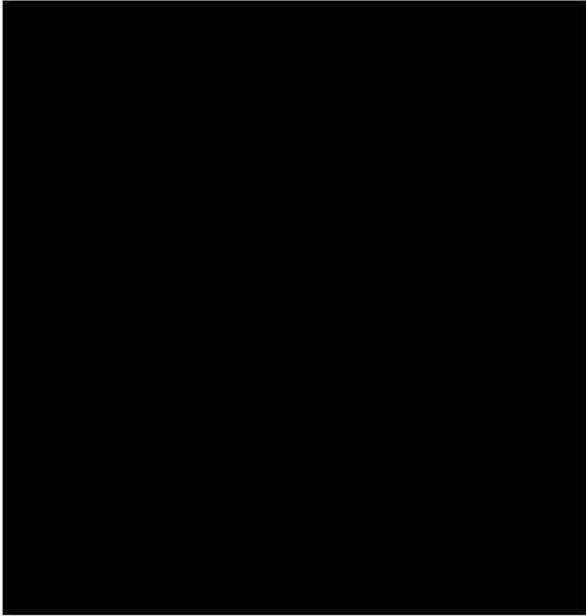
132. The size of ICEU, as relevant indicator of its systemic importance is measured by the same metrics as LCH Ltd (see Box 1, in chapter 3 of this report). Table 16 provides an overview of these metrics for ICEU.



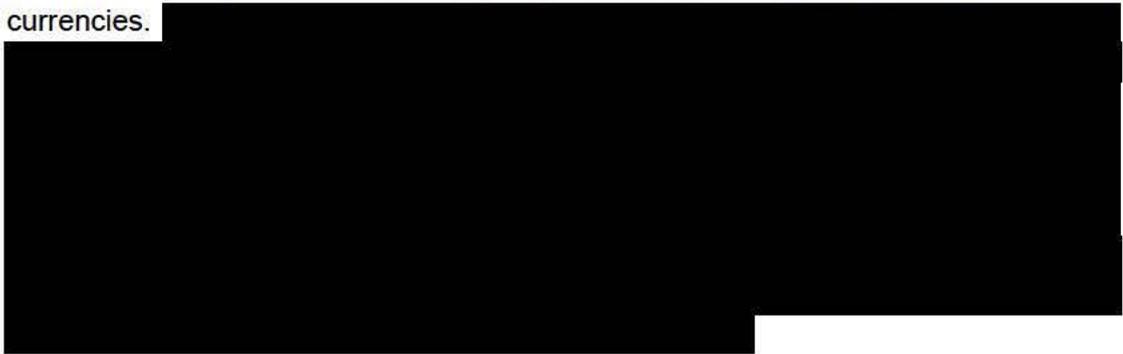
133. The size of ICEU, measured in terms of the value of cleared transactions, is one of the largest compared to its EU peers



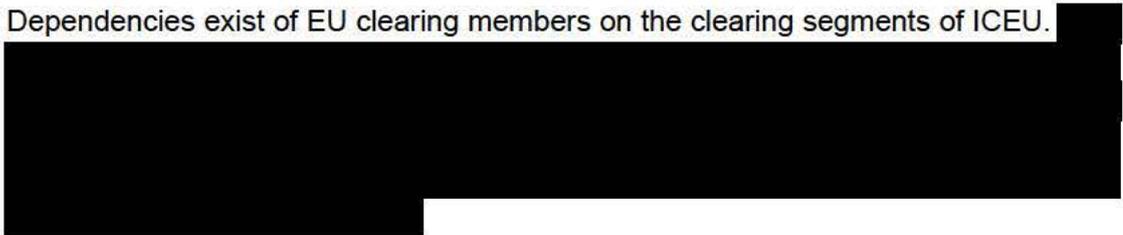
A thick black horizontal redaction bar at the bottom of the page.



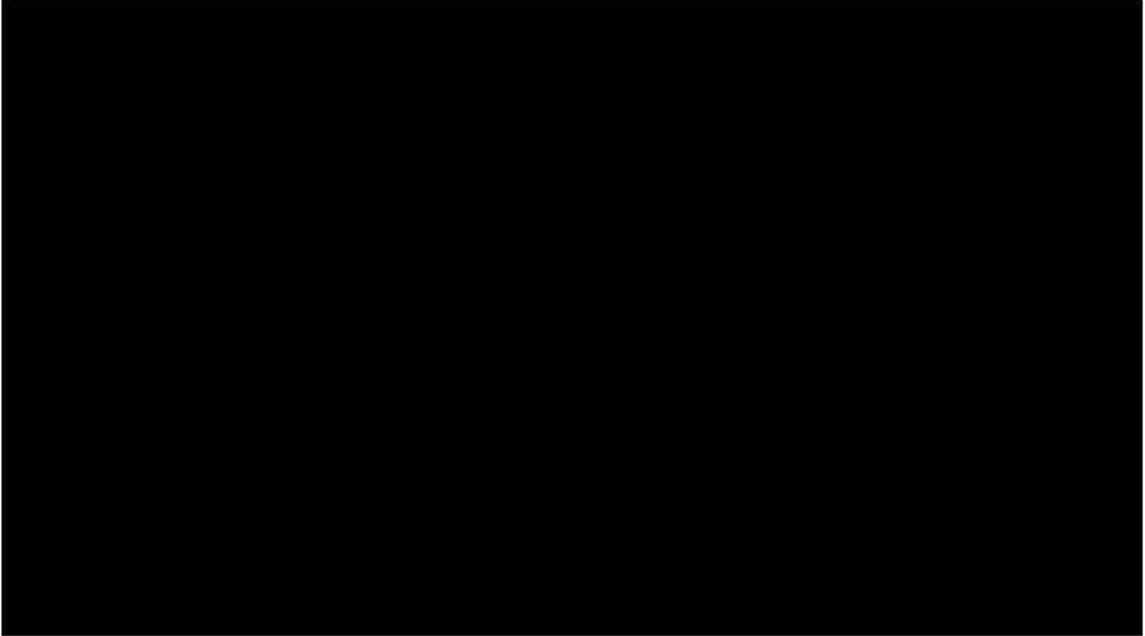
134. In both ICEU segments, EUR trading is the most significant currency relative to other currencies.



135. Dependencies exist of EU clearing members on the clearing segments of ICEU.







136. The size of ICEU in terms of EU clearing member exposures (initial margin plus default fund contribution) is large.



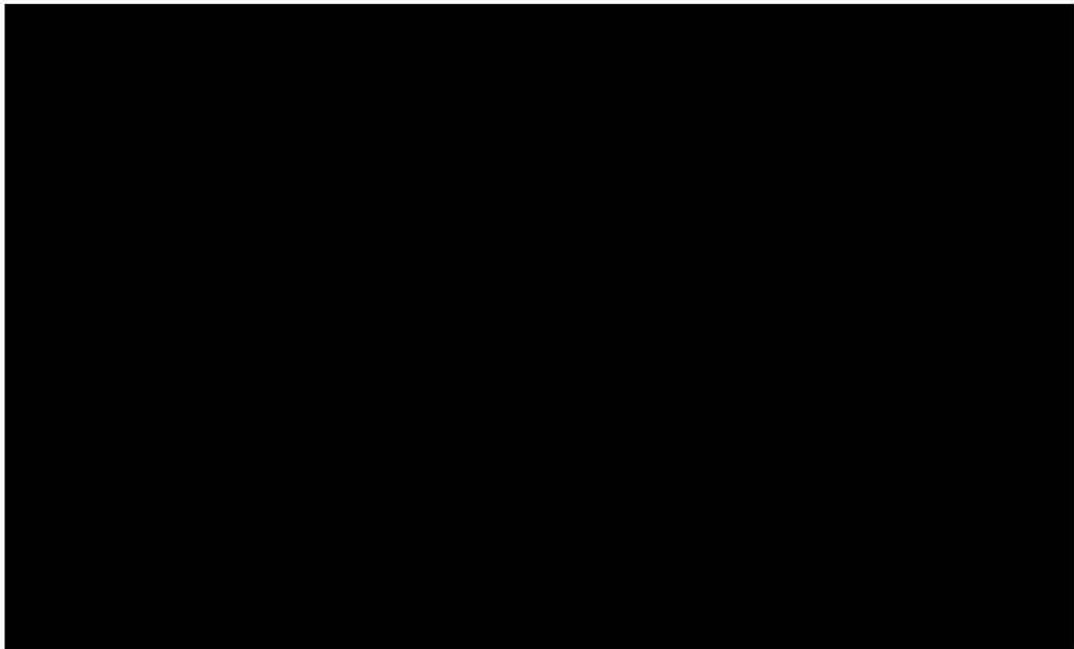
137.



138.







Buffer capacity to cover credit and liquidity losses

139. This section analyses the effect of a failure of or a disruption to the CCP by analysing the financial resources within the CCP and within EU clearing members. This provides



an indication of the financial buffers within these entities and thus, of their capacity to manage a failure of or a disruption to the CCP.

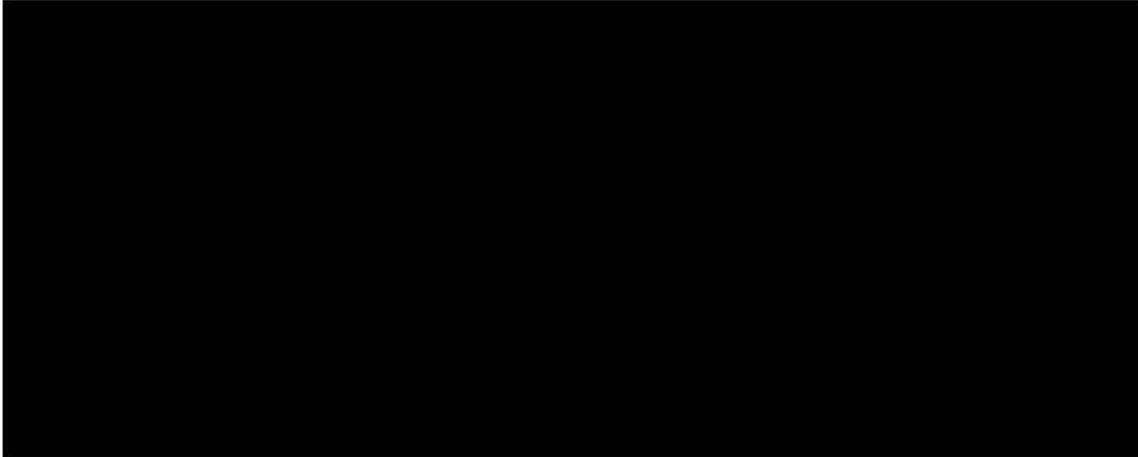
Buffers held by the CCP

140. ICEU holds a sufficient amount of capital overhead, [REDACTED], based on EMIR capital requirements. [REDACTED]

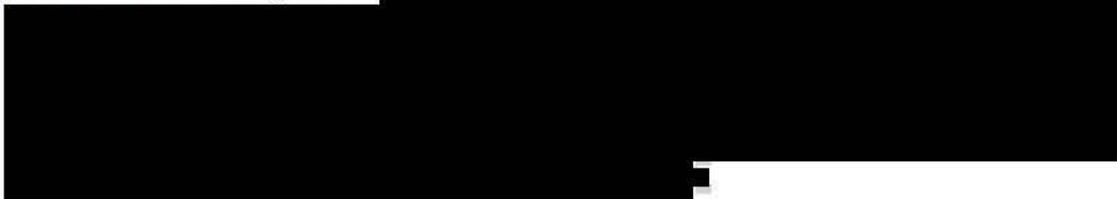
141. The liquidity resources of ICEU cover the liquidity needs well, [REDACTED]

142. ICEU has significant liquidity needs, with EUR representing an important part of the needs in a Cover 2 scenario. Following the requirement of Article 2(1)(g) of the Tiering DA, ESMA staff assessed the maximum paying obligation of ICEU following the default of the two largest clearing members under “extreme but plausible” conditions (“cover-2”). The total amount for end-June 2021 was EUR 20 bn equivalent, of which 9.2 bn was in EUR.

[REDACTED]



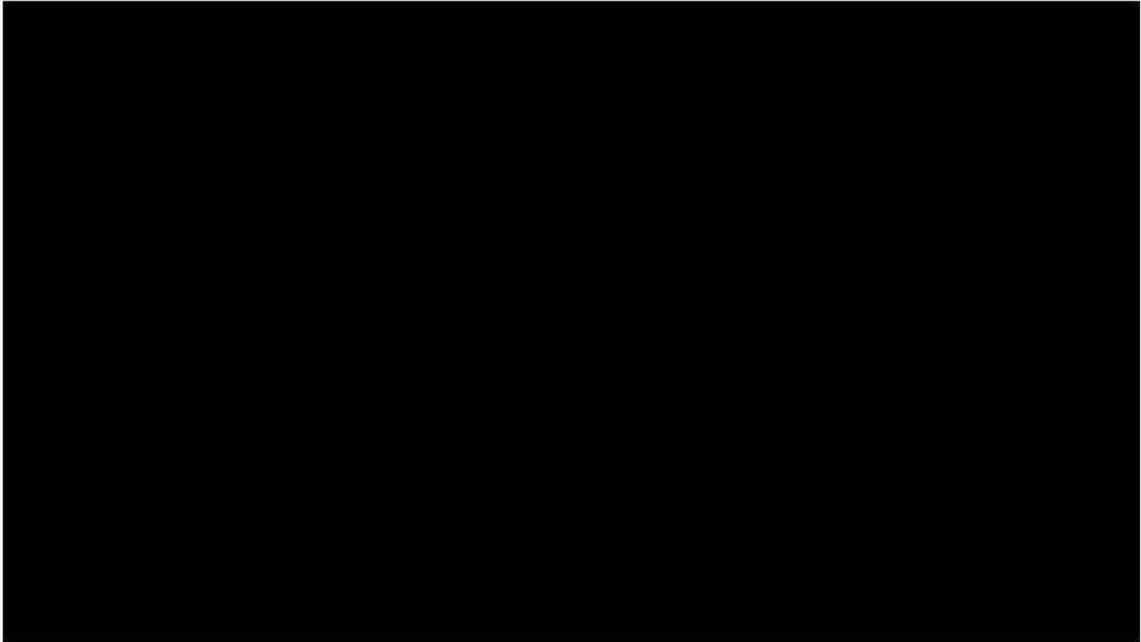
143. ICEU can obtain additional liquidity through its committed and uncommitted facilities with various counterparties. 



Clearing members' capacity to handle a CCP's failure or disruption – credit risk

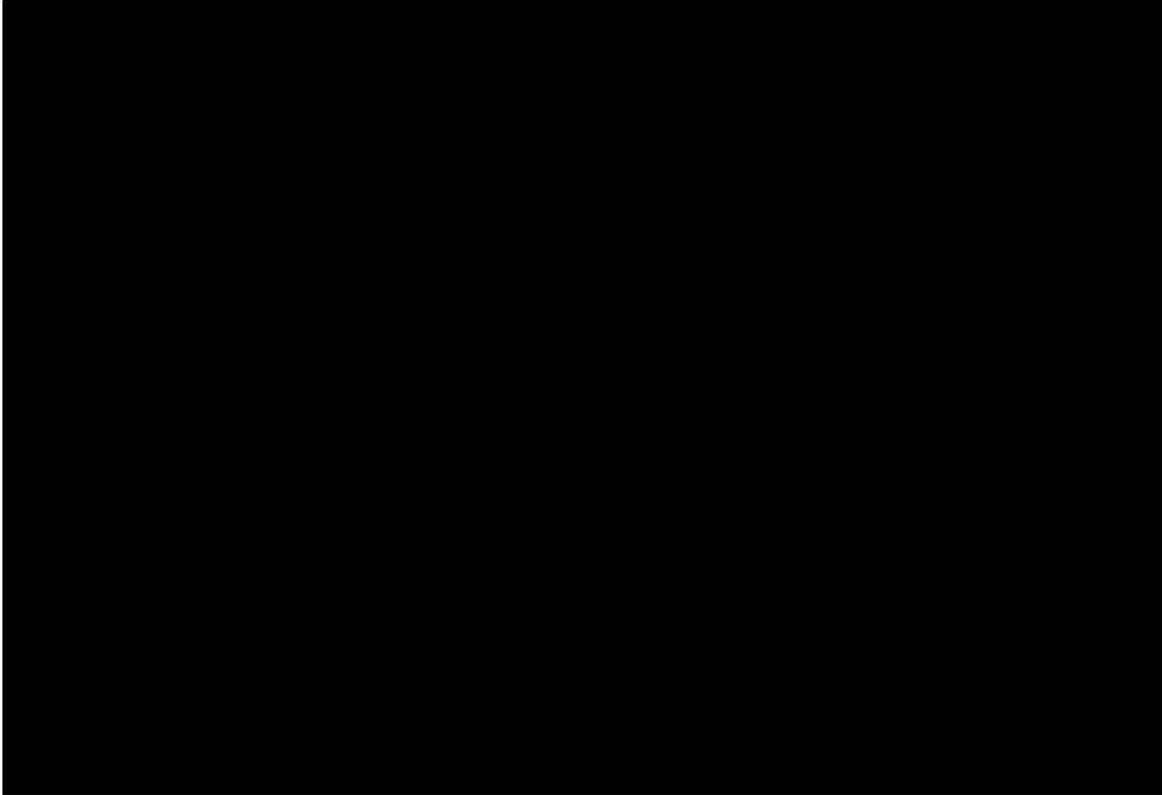
144. An assessment of the clearing members' exposure to the CCP compared to their capital is a good indicator for the systemic importance of the CCP, because it provides an estimation of the importance of these activities to individual clearing members. When analysing the exposure of clearing members, ESMA looked into their buffer capacity, as measured by their capital, in order to understand the importance of these activities for the total exposure of clearing members.
145. Although credit exposures at Member State level for the F&O segment are high at an absolute level () , it remains moderate compared to their aggregated capital or the market absorption capacity (Figure 25).⁵³


⁵³ As measured by MREL.

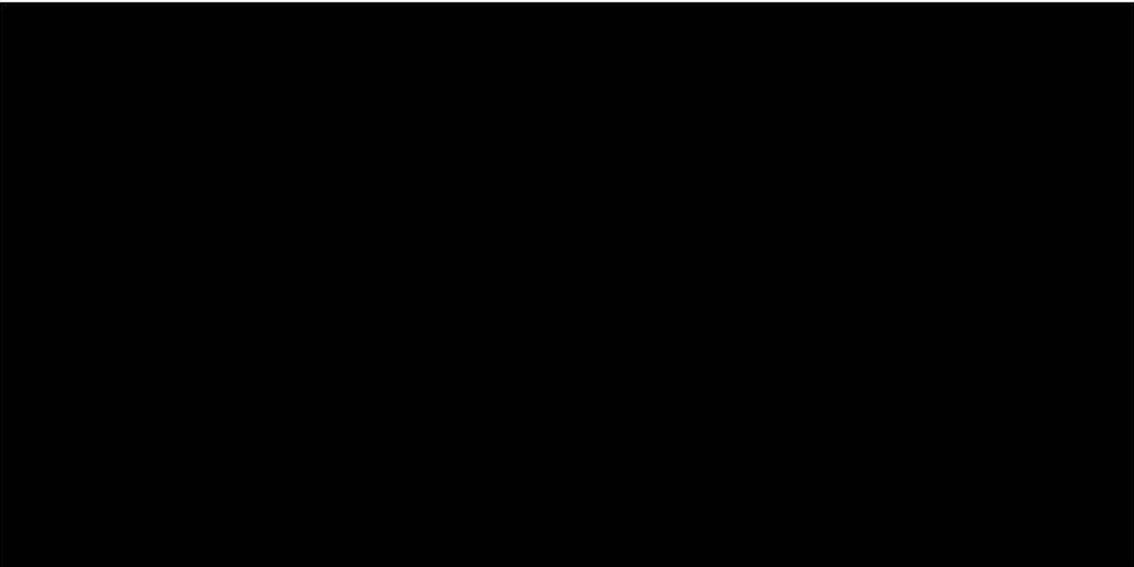
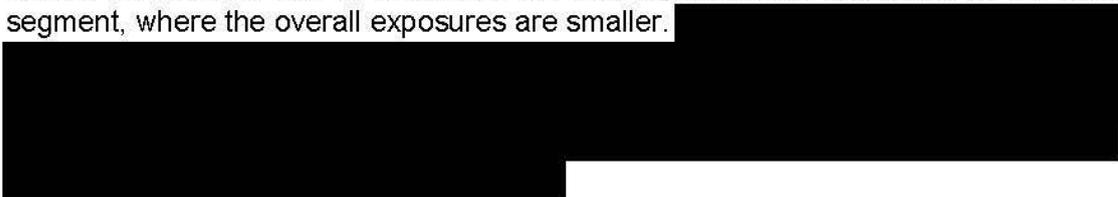


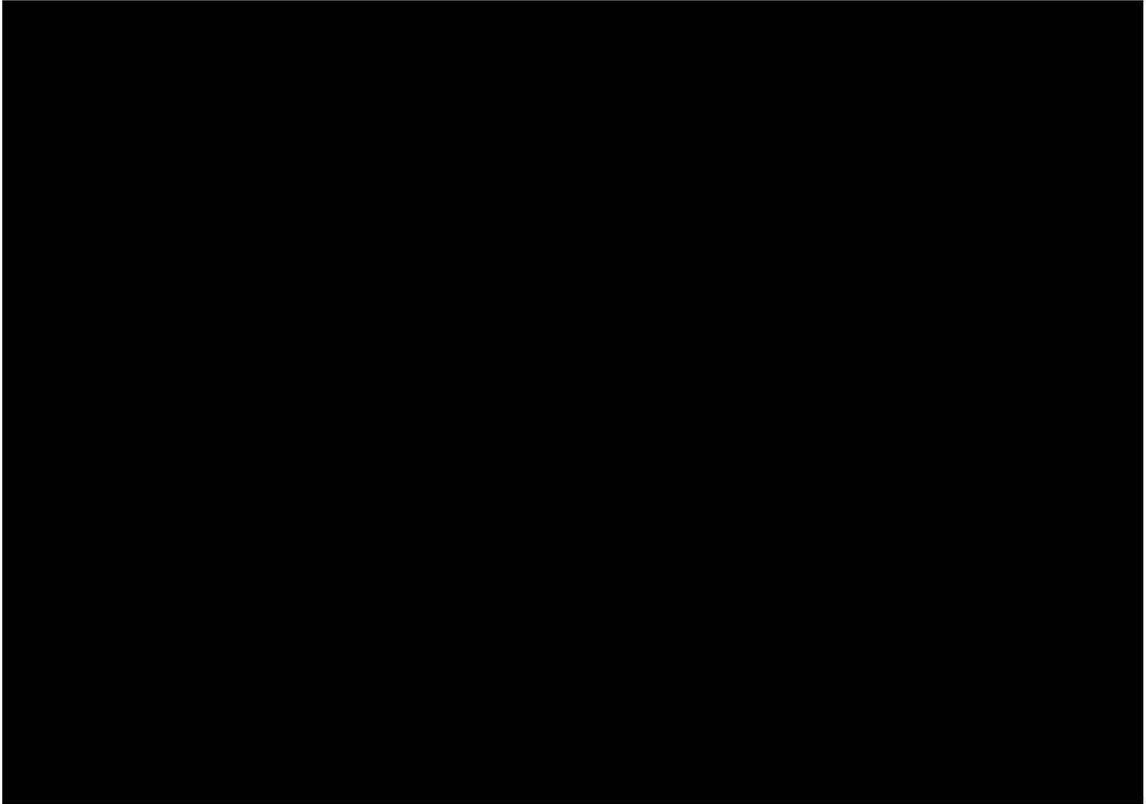
146. However, it is not certain that capital buffers of EU market participants would be available to absorb a severe shock originating from a UK CCP in times of crisis. Clearing members could be suffering losses from other activities, for example, bilateral transactions with the defaulting counterparty, or face otherwise strained conditions. As a result, the available capital of EU market participants to absorb any losses passed by the UK CCP through its default waterfall mechanism might be reduced, and in some individual cases insufficient.

147. On an individual level, some EU clearing members have high credit exposures relative to their capital (Figure 26). This is particularly the case for clearing members whose activities are mainly related to offering client clearing services.



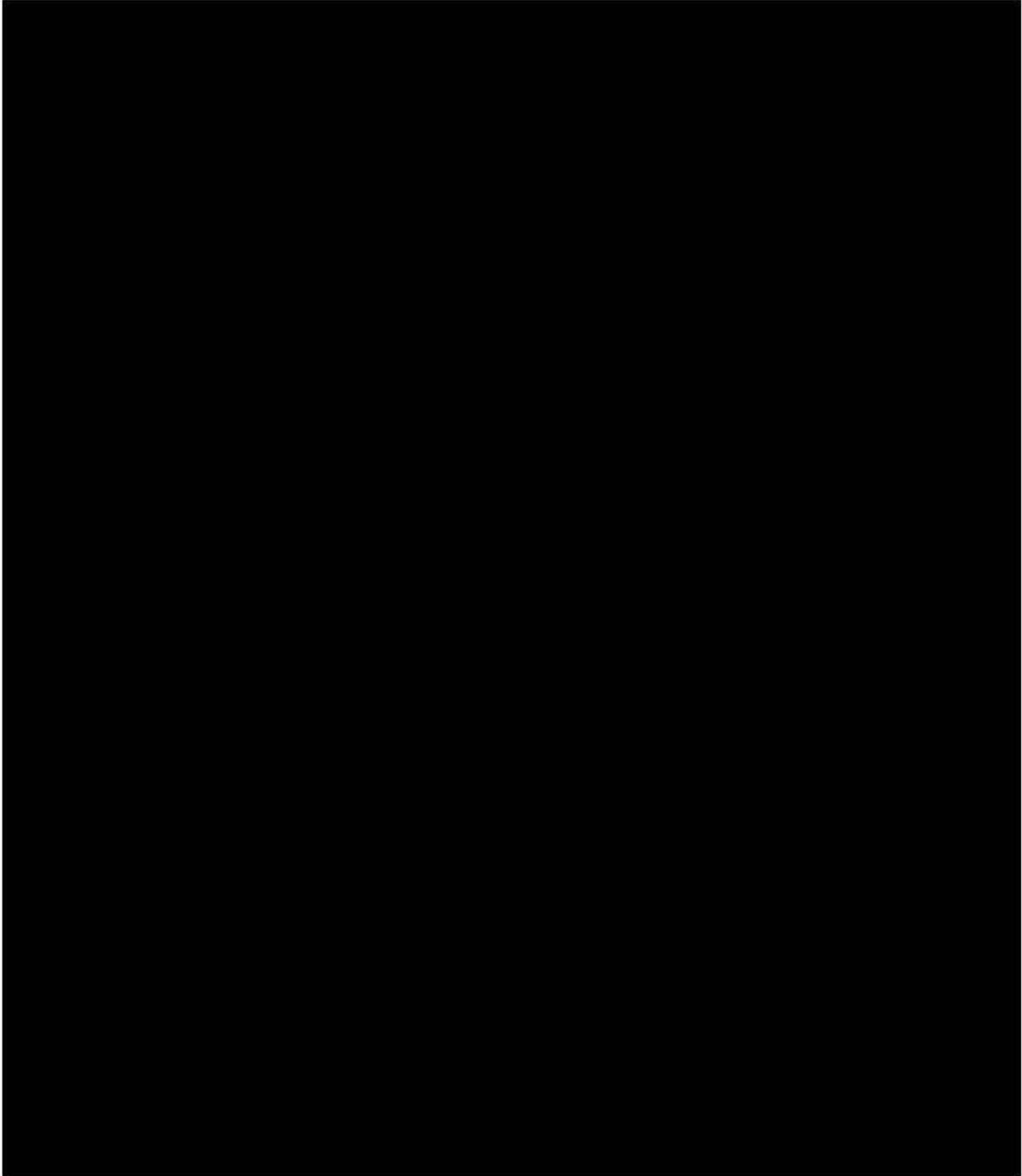
148. Similar conclusions can be drawn for EU clearing members exposures at the CDS segment, where the overall exposures are smaller.





Clearing members' capacity to handle a CCP's failure or disruption – liquidity risk

149. Significant liquidity needs for clearing members might arise during a market stress or recovery phase, which can be more than [redacted] at individual clearing member level. [redacted]

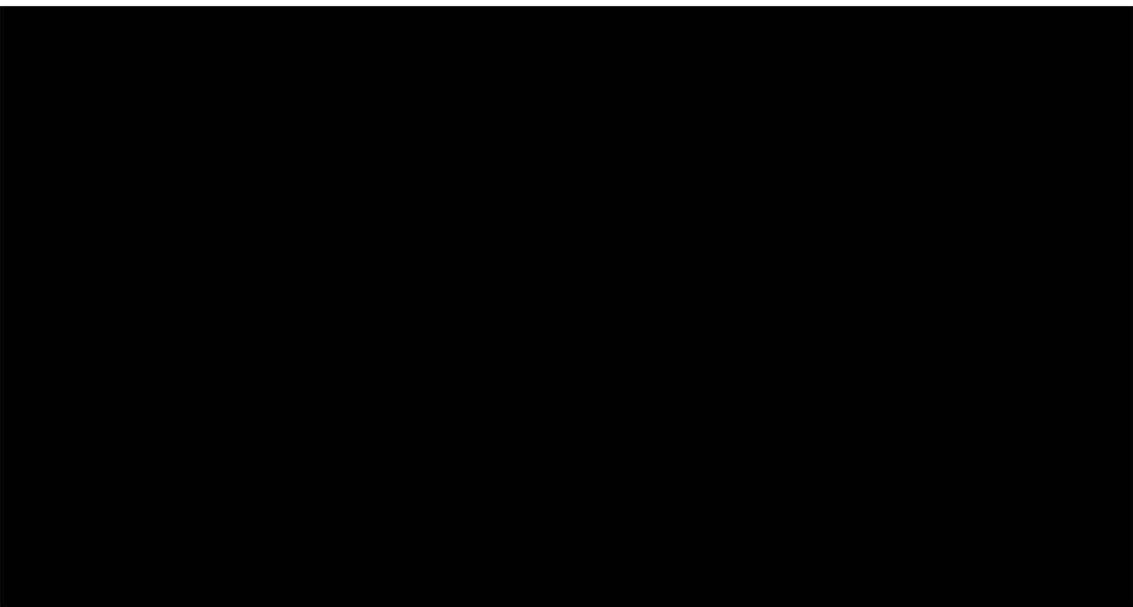


150. From a recovery phase perspective, in the case of a default of one or several Clearing members, losses would be absorbed using ICEU's Default Waterfall, which foresees several tools which would implicate the contribution of its clearing members (Table 19): Default Fund, Cash Calls, Variation Margin Gains Haircutting, and Partial Tear-Up.

 Some tools are not quantifiable but could result in significant losses for clearing members. In addition, concerning Investment Losses, according to the Rulebook of ICEU, the CCP can allocate the amount of losses to the clearing members, after a contribution of the CCP of USD 90 mn.



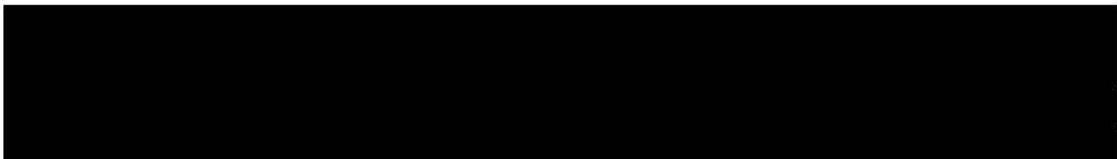
151. Although individual liquidity may be high, exposures are well covered by available liquid resources (Figure 29). The data is presented at Member State level and can vary for individual clearing members. Clearing members, in their capacity as credit institutions, have access to central bank liquidity if needed.

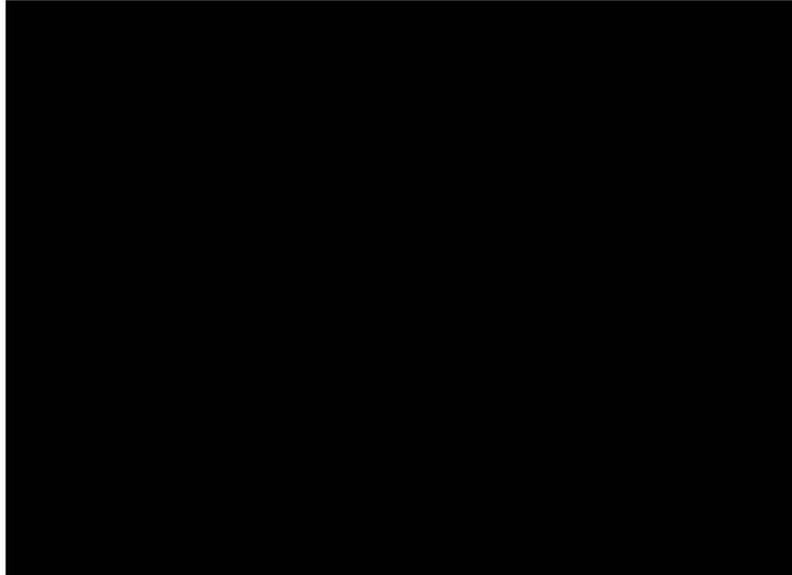


EU Capacity to handle a CCP's failure or disruption – exposures through collateral

152. Analysis of the collateral held by the CCP is an important element in assessing the effect of a failure of a CCP, as it represents the clearing members' assets withheld by the CCP, and thus provides an indicator for liquidity impact on clearing members. Although these assets, being cash or securities, can be used by the CCP only under certain conditions and are considered bankruptcy remote, they are all HQLAs. Therefore, they represent liquid assets which are owned by the clearing members but are not anymore available to cover their liquidity needs.

- 153.





154. Acceptable collateral is in line with peer CCPs in the EU, and haircuts applied are calibrated in line with common market practices. ICEU accepts collateral in the form of cash (in EUR, GBP, and USD) and bonds from sovereign and quasi-sovereign issuers (including Member States: Austria, Belgium, Finland, France, Germany, Italy, Netherlands, Spain, and Sweden). Haircuts are applied to cash and non-cash collateral, in order to take into account credit, market, FX and liquidity risk, as well as market stress conditions. According to the CCP's policy, haircuts are calculated based on a VaR model, at a 99.9 percent confidence interval, during a 1- or 2-days liquidation, taking into account a lookback period of 1,000 days and stress events.

Alternative clearing services provided by other CCPs

155. An assessment of alternative clearing services is an important indicator of the systemic importance of a CCP, since, in the absence of other CCPs taking over positions of market participants, financial markets may be disrupted. A generally available substitute for a CCP is to return to bilateral clearing. However, such a shift may be conducted in a disorganized manner if the CCP fails, creating further turmoil. It may also come with additional costs for market participants and other disadvantages. Moreover, such an outcome would not be desirable. Bilateral clearing will also not be an option for products subject to the clearing obligation under EMIR. Therefore, in analysing alternatives, in accordance with Articles 4(1) and 4(2) of the Tiering DA, ESMA staff assessed the substitutability of ICEU's services and the existing alternative clearing services in the EU and outside the EU, based on public information (Table 20).



TABLE 20. SUMMARY OF ALTERNATIVE CCP SERVICES: INTEREST RATE DERIVATIVES

	ICEU	Eurex Clearing	CME	LCH Ltd
STIR	Euribor	Euribor	Euribor	Euribor
	Short Sterling	Short Sterling	Short Sterling	Short Sterling
	Euroswiss	Euroswiss	Euroswiss	Euroswiss
	Eurodollar	Eurodollar	Eurodollar	Eurodollar
OIS	SONIA	SONIA	SONIA	SONIA
	SOFR	SOFR	SOFR	SOFR
Bonds	Gilt	Gilt	Gilt	Gilt
	Bund	Bund	Bund	Bund
	BTP	BTP	BTP	BTP
	Spanish	Spanish	Spanish	Spanish
	Swiss	Swiss	Swiss	Swiss
Swap Futures	Eris Futures	Eris Futures	Eris Futures	Eris Futures
	Euro Swapnote	Euro Swapnote	Euro Swapnote	Euro Swapnote

Source: CCP websites, green: almost identical product offering, orange: partial product offering, red: no product offering

156. For Interest Rate Derivatives, one EU based CCP (Eurex Clearing) and two non-EU CCPs (LCH Ltd and CME) offer similar products, but neither of these CCPs offers the full range of products of ICEU, as they tend to be specialised in the currencies of their jurisdictions. Eurex Clearing has a similar offer for EUR-denominated products, including Euribor Futures, but seems to have an important market share in long term interest rate derivatives and limited activity in STIR derivatives. LCH Ltd has launched recently a listed rated clearing service, offering similar products in EUR and GBP, but the activity is limited so far.⁵⁵ Finally, CME offers clearing services for similar products in USD (Table 21).

TABLE 21. SUMMARY OF ALTERNATIVE CCP SERVICES: ENERGY PRODUCTS

	ICEU	CME	ECC
Oil	Crude	Crude	Crude
	Refined	Refined	Refined
Coal	EU	EU	EU
	Non-EU	Non-EU	Non-EU
Natural Gas	EU	EU	EU
LNG	EU	EU	EU
	Non-EU	Non-EU	Non-EU
Power	North America	North America	North America
	Europe	Europe	Europe
Emissions	EU	EU	EU
	UK	UK	UK
	US	US	US
Renewable fuels & Sustainable indices	Renewable Fuels	Renewable Fuels	Renewable Fuels
	Sustainable indices	Sustainable indices	Sustainable indices

Source: CCP websites, green: almost identical product offering, orange: partial product offering, red: no product offering

157. With regard to energy products, one EU CCP (European Commodity Clearing – ECC) and one non-EU based CCP (CME) offer comparable clearing services. Given the

⁵⁵ It was announced that the trading venue will discontinue its activities on 28 January 2022.

nature of these products, an exact match can be found in few cases. ECC has, however, a comparable offer for European Power, Natural Gas and Emissions derivatives, while CME offers many comparable products (Table 22).

TABLE 22. SUMMARY OF ALTERNATIVE CCP SERVICES: CDS

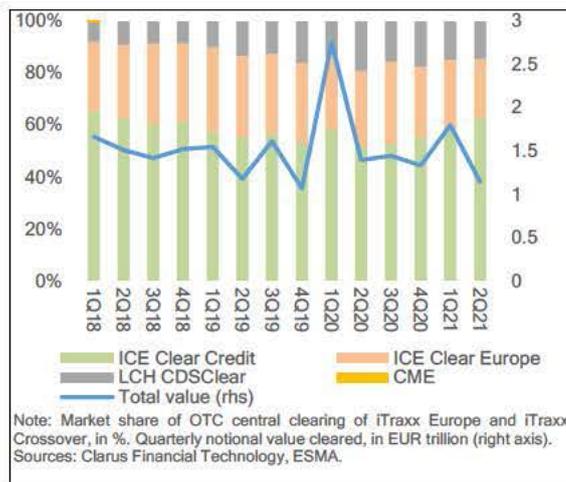
	ICEU	ICE Clear Credit	LCH SA
Clearing Obligation	Itraxx Europe Main	Itraxx Europe Main	Itraxx Europe Main
	Itraxx Europe Crossover	Itraxx Europe Crossover	Itraxx Europe Crossover
Other Indexes	Itraxx Senior Financials	Itraxx Senior Financials	Itraxx Senior Financials
	Itraxx Sub Financials	Itraxx Sub Financials	Itraxx Sub Financials
	CDX.NA.IG	CDX.NA.IG	CDX.NA.IG
	CDX.NA.HY	CDX.NA.HY	CDX.NA.HY
Single Name	European Corporates	European Corporates	European Corporates
Sovereigns	AT	AT	AT
	BE	BE	BE
	ES	ES	ES
	IRL	IRL	IRL
	IT	IT	IT
	NL	NL	NL
	PT	PT	PT

Source: CCP websites, green: almost identical product offering, orange: partial product offering, red: no product offering

158. With regard to CDS, LCH SA offers all clearing services of all the products of ICEU, including contracts subject to the Clearing Obligation, except for CDS on sovereigns. In addition, ICE Clear Credit, a sister company of ICEU, has an almost identical product offering. As shown in Figure 31, at European level, ICEU's market share is high, while at a global level the ICE CCPs have an estimated market share of around 90 percent.⁵⁶

⁵⁶ Source: CCP data from CCPView (ClarusFT).

FIGURE 31. MARKET SHARE CDS UNDER THE CLEARING OBLIGATION

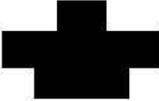


159. Finally, concerning Equity derivatives, Eurex Clearing covers the majority of the European indexes, as well as the single-name derivatives cleared by ICEU. For the commodity derivatives, ESMA has not identified any comparable offer, but notes that there is limited activity in these products.

Scenarios of how EU financial stability can be impacted

160. The analysis above suggests that ICEU services on CDS and STIR could be candidate services of substantial systemic importance for the Union.
161. This section evaluates scenarios where compliance of ICEU services for CDS and STIR with the conditions for recognition of Tier 2 CCPs would not sufficiently address financial stability risks to the Union or one or more of its Member States, with a focus on the location of ICEU being outside of the EU. Consistent with the approach applied for LCH Ltd (see 3.4), the analysis comprises scenarios in BAU conditions, as well as in crisis management, recovery, and resolution situations. The outcome of the analysis is presented in Table 23. The general considerations and caveats on the scenario’s applicability noted in section 3.4 apply also here.

TABLE 23. ICEU CDS AND STIR SCENARIOS ASSESSMENT

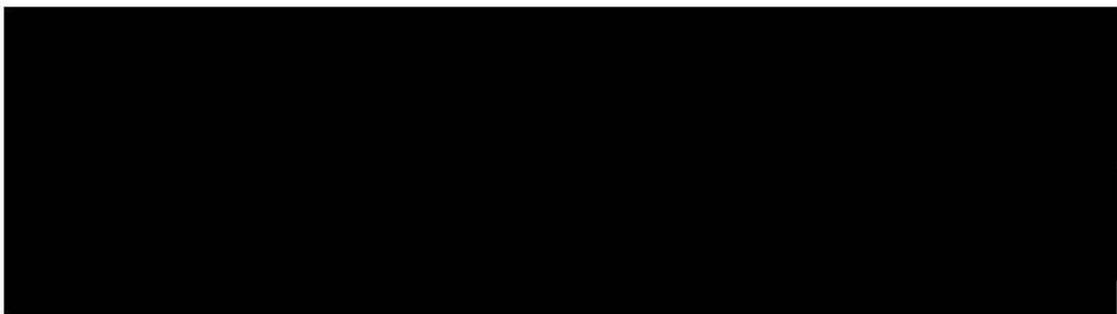
Scenarios	Impact Assessment	Probability	Mitigating Factors
BAU			
<ul style="list-style-type: none"> - Access to trading venues - Access to clearing members - Operational disruptions 			Moral suasion ESMA Direct Supervision ESMA Direct Supervision
Crisis Management			
<ul style="list-style-type: none"> - Margin requirements - Collateral haircuts - Margin add-ons on clearing member - Call on default of clearing members 			ESMA Direct Supervision, although no ex-ante intervention powers
Recovery & Resolution			
<ul style="list-style-type: none"> - Recovery tools and sequence - Resolution actions (limited under current regime in UK) 		 	No ESMA supervisory powers The review of UK regime for CCP R&R may add additional recovery and resolution tools, which could possibly imply new risks for financial stability of the EU or mitigate existing ones

Source: ESMA.

Scenarios in BAU

162. Three possible scenarios have been identified under BAU conditions (i.e., assuming no market volatility), where Tier 2 CCPs could pose systemic risks to the Union or one of its Member States.
163. The first BAU scenario concerns ICEU limiting access to EU trading venues. ICEU has discretionary powers to restrict, suspend or terminate the access to EU trading venues. Tier 2 CCPs do not have to comply with EMIR provisions on open access for trading venues for OTC derivatives under Articles 7 and 8 of EMIR.

164.



165. [REDACTED]
166. The second BAU scenario, where ICEU would terminate access membership of EU clearing members is also assessed [REDACTED]
167. [REDACTED]
168. The risks related to this scenario would be mitigated through ESMA's direct supervision and cooperation with the BoE. ESMA's direct supervision and cooperation with BoE should limit the likelihood of this scenario materialising. ICEU could be requested to notify ESMA of any action to restrict, suspend or terminate access to EU clearing members (or trading venues).
169. The third BAU scenario concerns operational disruptions that ICEU may experience, stemming from diverse root causes.
170. [REDACTED]
171. ESMA's ongoing supervision of ICEU in coordination with the BoE contributes to mitigate this risk. As a Tier 2 CCP, ICEU is subject to EMIR requirements for operational resilience (as are EU CCPs). In BAU, service availability should be recovered within two hours. ESMA's direct supervision and cooperation with BoE fosters ICEU compliance with EMIR on operational risk requirements. [REDACTED]

Scenarios in Crisis Management

172. Several scenarios have been identified under crisis management (i.e., assuming market volatility), where Tier 2 CCPs could pose systemic risk to the Union or one or more of its Member States. ICEU has discretionary powers under stressed market conditions to: i) increase margin requirements on EU CDS or STIRs; ii) increase haircuts on EU collateral (e.g., government bonds); iii) request additional margins from EU clearing members, based on internal rating models; and iv) declare an EU clearing member in default, irrespective of recovery and resolution measures.⁵⁷
173. Such CCP actions could conflict with the coordinated actions of EU authorities and institutions to address the market stress and to minimise any second-round effects. When such discretionary measures are based on an expert judgement diverging from approved risk policies and models, the supervisory monitoring activity should identify inconsistencies with relevant authorities' actions addressing the crisis situation and intervene, where necessary and as appropriate, in order to prevent any procyclical effect that could pose risks to financial stability by promoting rational adjustments, without prejudice to the solid risk management at the CCP and compliance with regulatory requirements.
174. The likelihood of such events could be mitigated by ESMA direct supervision.
175. Under its direct supervision of ICEU, ESMA will review⁵⁸ (and, where needed, seek changes to) the margin and haircut policies and procedures as well as internal rating models, to ensure that adjustments are implemented when due, in an objective and non-discriminatory manner, in compliance with EMIR (including requirements on anti-procyclicality). ESMA can require to be promptly informed by the CCP of any such upcoming actions in order to ensure a proper coordination.

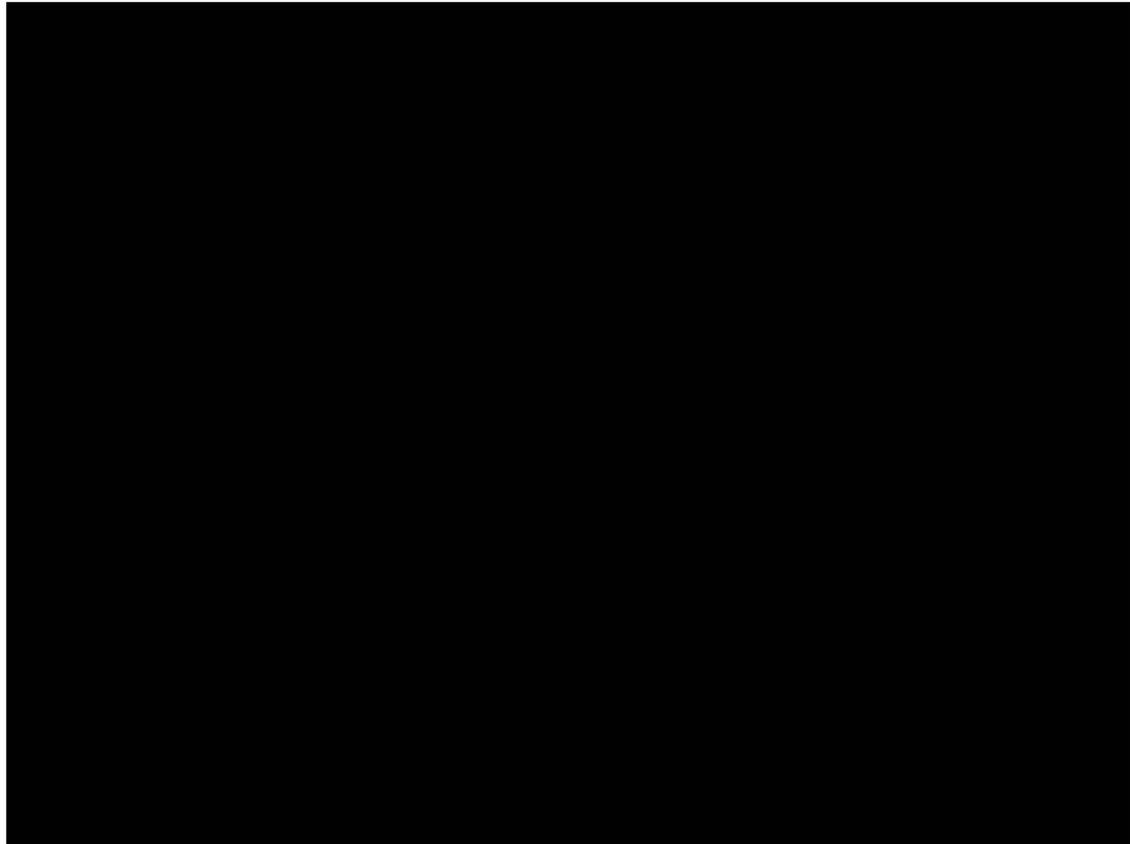
⁵⁷ Article 68(3) of BRRD (precluding a CCP from suspending or terminating the CM's access without the agreement of the resolution authority) would not apply to ICEU.

⁵⁸ ESMA has also developed regulatory technical standards (RTS) to identify when changes to the risk models are significant and subject to ESMA's validation under Article 49 of EMIR.

176. Nevertheless, under EMIR, ESMA has no ex-ante intervention powers vis-à-vis the CCP to prevent it from adopting measures that are detrimental to the EU financial stability. In the same vein, ESMA has no ex-ante power to oppose supervisory intervention or action by the UK authorities relating to the discretionary risk management measures considered above, when that would negatively affect EU financial stability.

Scenarios in Recovery and Resolution

177. A recovery event at ICEU could affect EU financial stability in a similar manner as described for LCH Ltd



178. Mitigating factors are limited. ESMA has no supervisory mandate over the ICEU recovery plan (being outside EMIR requirements applying to Tier 2 CCPs). ESMA and other relevant EU or national authorities participate in the global college and in CMG for ICEU. However, neither the college nor the CMG adopt decisions or opinions on the recovery and/or resolution plan.
179. The BoE is independent in reviewing the CCP recovery plan and in defining its resolution strategy and resolution plan. In so doing, it pursues financial stability of the UK under its mandate.



Systemic importance per EU currency area

180.



4.3 Conclusions on the systemic importance of ICEU

181. ICEU fulfils a critical function to the EU, supporting capital formation, risk transition, central risk management, and market liquidity, in several markets, including credit, interest rate, equity and commodity markets. ICEU provides clearing services to EU banks as clearing members and to EU banks, investment funds, insurance companies, pension funds, governments, and corporates as clients of clearing members.
182. This critical role creates dependencies of the EU on ICEU. The nature and level of dependencies vary per product and market cleared by ICEU. Hence, the conclusions on the systemic importance of ICEU for the EU differ per clearing service.
183. This assessment concludes, based on the characteristics of ICEU's CDS segment and a scenario analysis, that the CDS segment is of substantial systemic importance for the financial stability of the EU. The CDS segment has a significant market share in euro denominated CDS, which includes CDS products subject to the clearing obligation. Strong dependencies exist with the largest EU active clearing members,
-  Liquidity exposures are also high. Even though the potential losses are sufficiently covered by capital in isolated events, EU clearing members would be subject to substantial pressures in the

case of market-wide crises. Alternatives exist (notably US based ICC and France based LCH SA), but market depth is limited, and migration would be costly.

184. For ICEU's F&O segment, the euro-denominated listed STIR derivatives are also considered to be of substantial systemic importance for the financial stability of the EU. These concern important instruments for monetary policy for the euro area, including the Euribor futures, and as such are at the nexus of the EU financial system. Large EU clearing members are active (), EU credit and liquidity exposures are important, Buffer capacity appears to be sufficient. However, it cannot be safely assumed that the buffers will be available during a crisis scenario. ICEU is basically a monopolist in the short-term products. Eurex Clearing, LCH Ltd, and CME also offer interest rate derivatives, but not with the same maturities and underlying values. Finally, ICEU is the only CCP to have access to the trading venue of reference for the STIR products, which is ICE Futures Europe.
185. The scenario analysis illustrates the contagion paths through which ICEU CDS and ICEU STIR could impact EU financial stability in BAU, crisis management, and recovery and resolution circumstances. In BAU, a termination of access to EU clearing members may disrupt trading in CDS and STIR. In times of crisis, financial markets could be impacted through feedback loops, with a possible impact on monetary policy implementation in the euro area. In times of recovery, the possibilities for the CCP to take discretionary measures are available, with a potential negative impact on EU clearing members and clients and more broadly, on EU financial stability. Furthermore, in CCP resolution the resolution authority (BoE for the UK) may take measures that could impact EU financial stability, for example, by terminating access of an EU bank in resolution to the CCP.
186. Other products cleared within the F&O segment are not considered to be of substantial systemic importance. Market shares vary depending on the product (Energy, Equities, Soft Commodities), and though the exact exposures of EU clearing members are not available, EU activity appears to be spread over many different types of products. The energy and commodities segments are clearing for niche markets, with alternatives for the majority of products. For the equity segment, a range of alternatives exist within the EU. Furthermore, these products are not subject to the clearing obligation.

5 Analysis of Costs, Benefits and Consequences

5.1 Introduction

187. In accordance with Article 25 (2c) (c) of EMIR, this chapter presents a technical assessment of the costs, benefits, and consequences of a decision not to recognise the CCP to provide certain clearing services or activities, taking into account the existence of potential alternative substitutes for the provision of the clearing services concerned, and the potential consequences of including the outstanding contracts held at the CCP within the scope of the implementing act. Where quantitative information is not available, or sufficient in itself, the quantitative analysis is complemented with a qualitative analysis.
188. The Methodology has six elements that are relevant to obtain a comprehensive understanding of the costs, benefits, and consequences of a non-recognition decision. These elements are: i) transfer costs; ii) cost of breaking netting sets; iii) general consequences for the EU market participants; iv) consequences for the supervisory structure; v) consequences for EU capacity in times of crisis, recovery, and resolution; and vi) consequences for market development. For each element, the analysis, in line with the Methodology, contains an overview of the costs and benefits⁵⁹ and, where relevant, findings for different stakeholders and the EU as a whole. This holistic analysis is particularly important for assessing the overall impact on financial stability of whether or not to recognise a CCP to provide certain services.
189. In terms of scope, the analysis covers only the CCP services that were identified as substantially systemic important in the previous chapters, i.e., LCH SwapClear, ICEU CDS, and ICEU STIR. For LCH Swapclear the focus is on currencies of issue identified to be of substantial systemic importance, that is, IRD in EUR and IRD in PLN.
190. The analysis of this chapter relies on the responses to the questionnaire and data requests sent to relevant stakeholders and on feedback from the two industry roundtables, and in some parts, data reported under EMIR.
191. Conclusions on costs, benefits, and consequences per element are summarised in a table, where for each element any costs and benefits, as well as their magnitude are summarised. This presents an accessible overview of the costs and benefits for each element and is not used to weigh costs and benefits against each other across the different elements. This is because the assessment in each element has been done separately, on its own terms, which does not lend itself to a simple weighing up of the costs and benefits.⁶⁰

⁵⁹ For transfer costs and breaking of netting sets, as these only involve costs, these elements do not present benefits.

⁶⁰ In line with this approach, in the conclusion to the costs-benefit analysis an overview table is presented for all the elements together, using a narrative rather than the weighting symbols that are used in the overview tables for the individual elements.

192. Where relevant the analysis takes into account that, following a non-recognition, clearing volumes of EU clearing members and clients may flow to different CCPs, both EU and TC CCPs. The migration scenarios are based on the input provided by various stakeholders.
193. In case of a non-recognition of the LCH SwapClear clearing in EU currencies IRDs may migrate to:
- a. Different competitor EU CCPs for their domestic market only or to one EU CCP (while non-EU counterparties may continue to clear on SwapClear). In particular, based on the current membership and EU CCPs' authorisation, EUR IRS of EU clearing members and clients would migrate to Eurex Clearing, while IRD on PLN would either migrate to their domestic CCP where available (KPDW_CCP) or concentrate as well at Eurex Clearing, if a substitute product were to be made available.
 - b. LCH's EU CCP subsidiary, namely LCH SA. This scenario assumes that LCH Ltd, similar to RepoClear in 2020 before Brexit, would decide migrating its IRS segment (for domestic EU currencies) from LCH Ltd to LCH SA. This will require an extension of the LCH SA authorisation.
 - c. Competitor TC CCPs, such as CME Clear, which may be especially attractive for EU clients who can use existing CME clearing members. Indeed, CME is already recognised to clear IRS in several EU currencies. EU counterparties will have to become FCM to clear directly at CME, which would be too costly for regional or local entities. This scenario is complementary to the previous ones and mainly apply with regard to EU counterparties (mostly clients) in multi-currency IRS who may decide to clear their full multi-currency portfolio at CME via a single clearing member.

194.



195. In case of a non-recognition of ICEU CDS, clearing in EUR CDS may migrate to:

- a. A competitor EU CCP, LCH SA, which is already authorised to clear most of the contract cleared at ICEU [REDACTED]
- b. ICE's EU CCP subsidiary ICE NL. This scenario assumes that ICEU would decide migrating its CDS segment from ICEU to ICE NL. This will require an extension of the ICE NL authorisation.
- c. ICE's subsidiary TC-CCP, ICE Clear Credit (ICE CC). ICE CC is already recognised to clear such contracts.

196.



197. In case of a non-recognition of ICEU STIR, clearing in EUR STIR may migrate to:

- a. A competitor EU CCP, Eurex Clearing, which is already authorised to clear such instruments.
- b. ICEU's EU CCP subsidiary ICE NL. This will require an extension of the ICE NL authorisation.

198. Table 24 presents an overview of the different scenarios for the different clearing services. As there is no TC-CCP offering clearing services for EUR-denominated STIRs, no TC-CCP has been considered in the context of this clearing service.

TABLE 24. MIGRATION SCENARIOS FROM TIER 2 CCPs TO EU/TC CCPs

Tier 2 CCP Service	Migration to Competitor EU-CCPs	Migration to EU CCP-subsiary	Migration to TC-CCPs
SwapClear (EUR and PLN IRD)	Eurex Clearing (EUR + other EU currencies) KPDW CCP (PLN)	LCH SA (for EU currencies)	CME (client clearing of IRS in EU currencies)
ICEU CDS	LCH SA	ICE NL	ICE CC
ICE STIRs	Eurex Clearing	ICE NL	-

5.2 Transfer costs

TABLE 25. SUMMARY OF COSTS AND BENEFITS OF NON-RECOGNITION FOR THE EU

Option		All positions relocate		Only new positions relocate	
Report section		Neg. impacts (costs)	Pos. impacts (benefits)	Neg. impacts (costs)	Pos. impacts (benefits)
Direct cost	Transfer cost	LCH Ltd -- (S,L) ICE EU Credit -- (S,L) ICE STIR (L) – (S) ≈	n.a.	– (S) / ≈ (L)	n.a.

Magnitude of impact as compared with the baseline scenario (continued recognition): ++ strongly positive; + positive; -- strongly negative; – negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable; S – short transition period (well under two years), L – long transition period (around two years).

199. This section assesses the direct costs for EU market participants related to the relocation or transfer of positions from a TC CCP to an EU CCP following a non-recognition. Transfer costs comprise all those one-off costs (transaction, legal and operational) that EU counterparties would face if they were to move their clearing activities from a TC CCP (service) to an EU CCP (service).
200. The analysis considers two cases: a first case where a derecognition applies to outstanding and new derivative contracts, and a second where a derecognition applies only to new derivatives contracts. In line with Article 25(2c) of EMIR, we also consider the potential impacts of having a transition period for the derecognition of up to two years. In the discussion below, where we talk about a long transition period, we refer to a transition period that is (or is close to) two years; a short transition period describes a situation where the transition period is much lower, less than a year.
201. Cost estimates, where provided, are for transfers from UK to EU CCPs. In the absence of evidence suggesting major differences, and unless stated, cost estimates of a similar magnitude are assumed to apply to transfers to CCPs in third countries.
202. The assessment of the transfer costs is based on the responses to the ESMA's questionnaire and data submitted by market participants and, where possible, analysis of potential mitigants and actions that could facilitate the transfer and so reduce costs.

Questionnaire responses provided detailed analysis of how the transfers would take place, but data provided on costs were limited. As a result, costs estimates are necessarily based on relatively few responses and so should be interpreted with some caution because they may be subject to particularities or biases of the specific respondents. However, in the absence of additional quantitative evidence on costs, estimates were nonetheless constructed based on these, with appropriate caveats provided. This was based on the view that it is better to use the available evidence, even if limited, than to fall back on a purely qualitative analysis. Where we do not estimate costs, it is because of the lack of data, or because responses suggested these would not be significant relative to other costs.

203. Questionnaire responses on transfer costs were broadly consistent across different respondents. This agreement across stakeholders with widely varying roles indicates that the description of transfers presented here should be relatively uncontroversial.

Transfers and their impacts

204. Respondents generally reported that transferring an existing contract involves entering into a 'switch trade' with an intermediary (dealer) who is a clearing member at the UK and EU CCPs. This will involve closing the existing UK CCP position, by entering into (as closely as possible) an opposite transaction with the intermediary, who clears it with the UK CCP, while opening a replacement for the original contract with the same intermediary, that is then cleared with the EU CCP. Table 26 below describes switch trades and their associated costs.

TABLE 26. SWITCH TRADE STEPS, ASSOCIATED COSTS AND IMPACTS

Step	Associated one-off costs and impacts
<p>1. Preparing trades to transfer: identifying trades to transfer and the possible benefits from bundling trades, compressing trades pre-transfer, or being matched with other counterparties also looking to transfer in order to increase the efficiency of the transfer. More broadly, pre-transfer coordination (direct or mediated) with other counterparties transferring positions could potentially bring major efficiency gains.</p>	<p>Preparation exercises would incur one-off costs either directly, from use of in-house resources, or indirectly from fees paid to third-party providers. The complexity and costs of this exercise would grow with the size and diversity of the products held by the counterparty. Given the large number of trades to be transferred by a large number of participants, the overall costs of the preparational exercises would likely be significant.</p>
<p>2. Counterparty enters into the switch trade with an intermediary (dealer), a clearing member of the UK CCP and EU CCP. Specifically, the counterparty enters into positions with the intermediary to offset its UK CCP positions with the aim of reducing their risk as much as possible. These are then cleared with the UK CCP. At the same time, the counterparty enters into replacement positions with the intermediary that are then cleared with the EU CCP.</p>	<p>The intermediary would recover its costs of entering positions with both the UK CCP and EU CCP and from clearing these (CCP membership costs, IT system costs, legal costs). These would also include the cost of the basis between the two CCPs plus the additional bid/offer spread reflecting market liquidity and market power of the intermediary. The basis is discussed in more detail in the next section. The counterparty would also incur its own transaction costs (IT, legal) in entering into business with the intermediary in addition to the fees it would pay to the intermediary.</p> <p>Product differences between the UK and the EU CCP and limits to the risks the intermediary is willing to take, mean the EU counterparty would likely retain some legacy positions with UK CCP post-transfer that carry non-zero risk, and which would need to be managed going forward.</p>
<p>3. Netting and/or compressing trades at the EU CCP: where the counterparty already holds positions at the EU CCP, there may be benefits from netting and compression exercise post-transfer.</p>	<p>Costs to identify these efficiency opportunities and to realise them, costs which will be borne directly by the counterparty or indirectly through using the services of a third-party provider.</p>

205. As indicated above, though a scenario in which trades would migrate from the original TC CCP to another TC CCP is possible, the scenario in which new contracts would be cleared with an EU CCP instead of the original TC CCP forms the basis of this transfer costs estimation. This would be most straightforward where the EU CCP clears similar products as the original CCP. However, the more products differ across the CCPs, the more the counterparty will need to adjust the contracts they use and thus face opportunity costs from using a less suitable product for their purposes. Depending on product coverage, suitable alternative products may not always be available. However, where there is strong demand for a product from an EU CCP, we would expect the EU CCP to respond by filling the product gaps in its offering. Transaction costs would also arise from differences in costs to enter into business with the CCPs, which may depend on differences in the memberships costs and fees charged by the CCPs, which for clients would be passed through by clearing members. Clients could also incur costs in switching if their original clearing member is not a member of the EU CCP. Overall, though, responses did not focus on these transaction costs nor indicate they would be particularly significant.
206. Increased demand for derivative products by those needing to transfer existing trades would increase bid-offer spreads, potentially more so for products where EU positions

are unbalanced, because there will be greater demand for either buy (or sell-side) positions to carry out the required offsets. The shorter the transition period for switches the more demand would increase and so to, the costs to transfer. Market impacts of switches could grow significantly if large positions need to be moved very quickly. Positions with longer maturities would incur greater market impacts due to their being less liquid. Also, as intermediaries need to be clearing members of both CCPs and need to have the capacity to enter into large trades, intermediation for switching is likely to be offered by relatively few large international banks (non-EU banks if large international EU banks no longer have access to the UK CCP). This would likely grant these intermediating banks market power to charge a premium for carrying out transfers.

207. If demand for switch trades was particularly acute for a product then there could be implications for market liquidity. There will be limits in the ability and willingness of intermediaries to offer their services for certain products or in certain situations, particularly where the positions are large, products are more illiquid (such as single-name CDSs, products with longer maturities). Where the demand for switching is particularly high, driven by a relatively short transition period or a market where the EU positions are more unbalanced or where the product is generally less liquid, a situation could arise where product liquidity becomes severely limited, compromising the functioning of the market, with potential for associated negative financial stability impacts.

Estimating transfer costs

LCH Swapclear - clients

208. We estimate client positions in IRS in EUR [REDACTED].⁶¹
- For these client positions, we estimate transfer costs for EU clients transferring their outstanding positions from LCH Swapclear, assuming a two-year transition period, to be about EUR 71 mn, ranging from EUR 12 mn to EUR 824 mn. Costs increase as the length of the transition period decreases, reflecting the fact that more positions will require costly switch trades, as fewer mature within the transition period. The table below shows how transfer cost estimates fall as the transition period lengthens, by different currencies of issue. Note that as only IRS in EUR and IRS in PLN were identified as substantially systemically important, transfer costs for the other currencies would not actually be incurred.

⁶¹ The share of client notional was roughly estimated using EMIR data: by comparing the outstanding notional amount in IRS in EUR held in cleared transactions between non-LCH clearing members and LCH clearing members as a proportion of the total notional amount in IRS in EUR cleared at LCH Ltd. Analogous calculations were carried out for IRS in other currencies. The calculation was done as of 13 December 2020, taking advantage of EMIR data that had already been cleaned and prepared for the forthcoming Annual EU Derivatives Statistical Report. It is assumed the share has remained broadly stable since then.

TABLE 27. EU CLIENT TRANSFER COST ESTIMATES

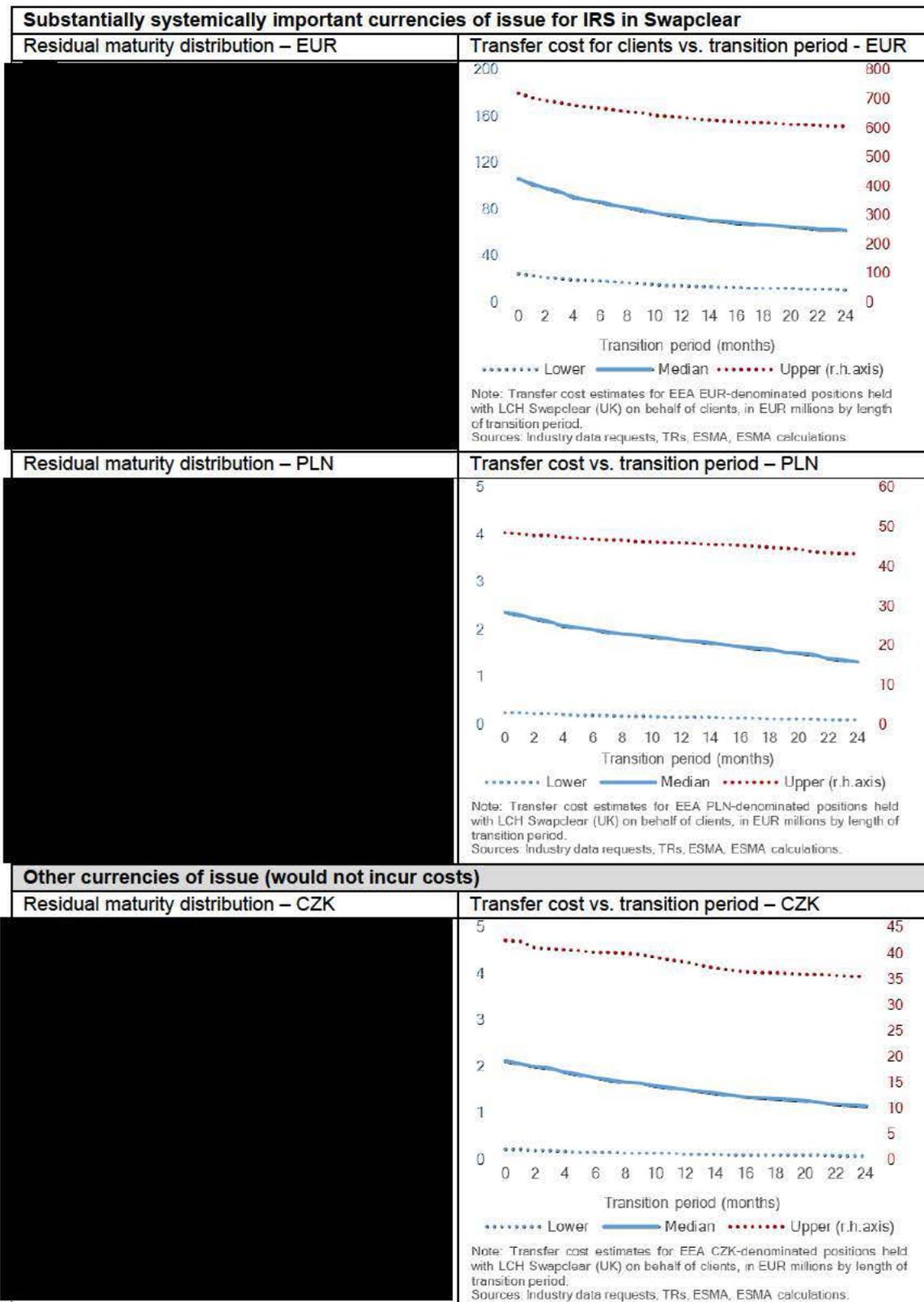
Transition period (months)	Substantially systemically important			Not substantially systemically important (costs not incurred)		
	All (EUR, PLN)	EUR	PLN	CZK	HUF	SEK
0	109 (24 to 767)	107 (24 to 719)	2.4 (0.3 to 48)	2.1 (0.2 to 43)	1.9 (0.2 to 43)	12.4 (2.3 to 123)
6	88 (18 to 716)	86 (18 to 669)	2 (0.2 to 47)	1.8 (0.2 to 40)	1.5 (0.1 to 42)	10 (1.6 to 116)
12	76 (14 to 683)	74 (14 to 637)	1.8 (0.2 to 46)	1.5 (0.1 to 38)	1.3 (0.1 to 40)	8.3 (1.2 to 112)
18	69 (12 to 6663)	67 (12 to 618)	1.6 (0.1 to 45)	1.3 (0.1 to 36)	1.2 (0.1 to 39)	7.1 (0.9 to 108)
24	63 (11 to 647)	62 (11 to 604)	1.3 (0.1 to 43)	1.2 (0.1 to 35)	1 (0.1 to 38)	6.1 (0.7 to 104)

209. These cost estimates are constructed based on data provided by respondents to our data request on the aggregate one-off costs incurred in recent transfers carried out from UK to EU CCPs. The transfers were all of client positions and were from LCH Swapclear to Eurex Clearing in EUR. A simple regression model was constructed (see Annex IV for further details). The wide range to the estimates is due to the very small sample of responses (n=8) available for regressing the cost relationship and the fact that one respondent reported much larger costs relative to the others.
210. Using EMIR data to estimate the total size of outstanding client positions that would need to be transferred under different transition periods (since positions that expire before the transition ends would not require a switch trade) the inferred cost relationship is then applied to estimate the total one-off transfer costs for EU clients with LCH Swapclear for different transition periods, with upper and lower bounds for the costs. In line with the information provided in the questionnaire responses, it is assumed that contracts which mature before the transition period can be replaced with new contracts at the EU CCP at negligible cost (relative to costs of switch trades).
211. From this data analysis the following cost relationships for different currencies are estimated, corresponding to the residual maturity distributions for notional amounts outstanding at LCH Swapclear by currency of the denomination of the contract, as estimated using EMIR data,⁶² and as shown in Figure 32 below. As in the previous table, this presents the analysis for all currencies of issue, but only contracts denominated in currencies for clearing services deemed to be of substantial systemic importance would incur costs (i.e., IRD in EUR and IRD in PLN⁶³).

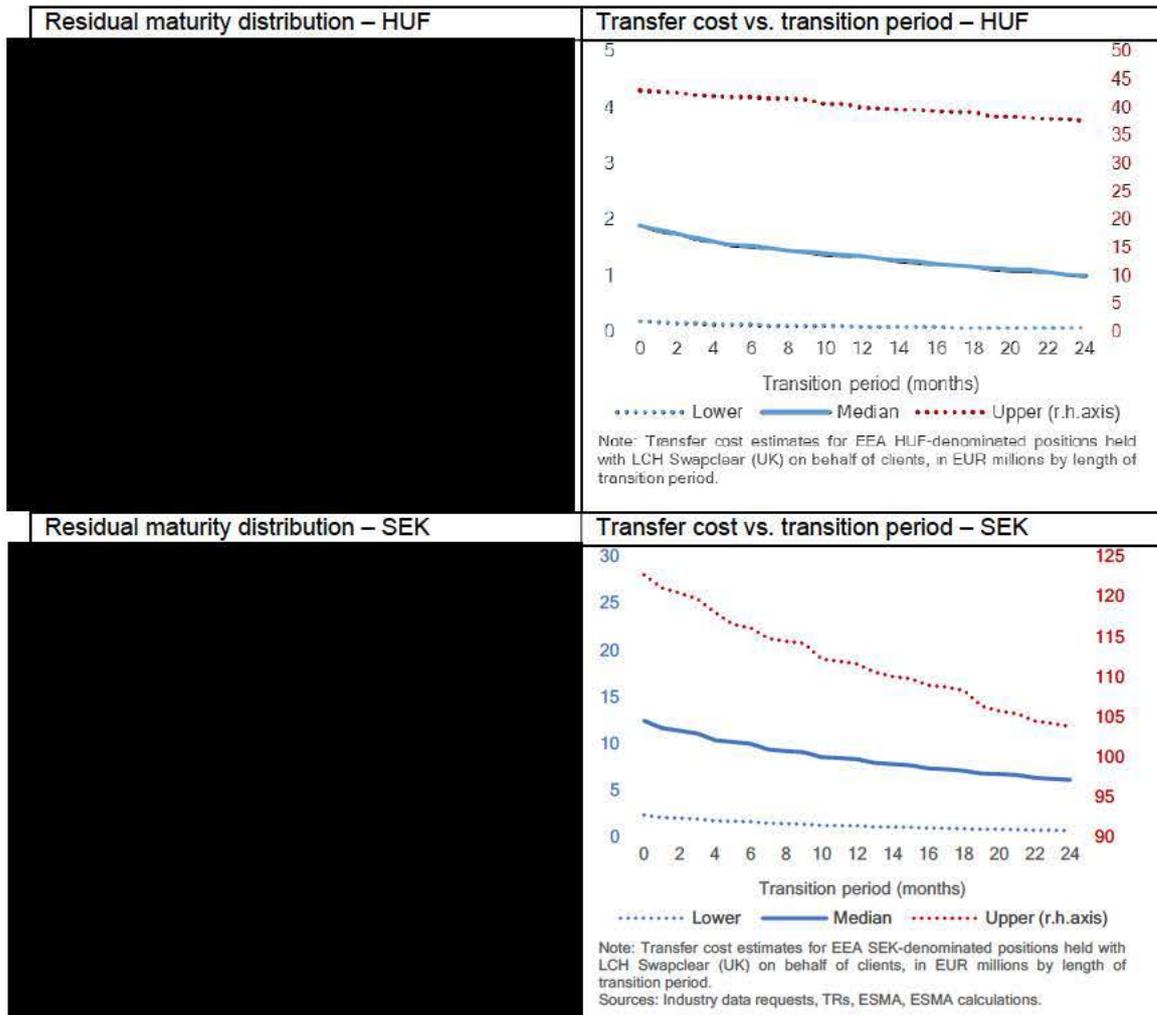
⁶² The residual maturity distributions were calculated using the share of total outstanding notional amount by time left to maturity for IRS cleared at LCH Swapclear, by currency of issue. As for the client share calculation, this was done using EMIR data as of 13 December 2020, taking advantage of data that had already been cleaned and prepared for the forthcoming Annual EU Derivatives Statistical report. It is assumed the maturity distribution has remained broadly stable since then and would be representative when a derecognition entered effect.

⁶³ Note that the transfer of IRD in PLN may be operationally complicated. In particular, Eurex Clearing would need to widen its product offer to include all IRD denominated in PLN subject to the clearing obligation. In case of potential transfers to KDPW_CCP, either some other, clearing members

FIGURE 32. RESIDUAL MATURITY DISTRIBUTIONS AND CLIENT COSTS (EUR MN)



currently at LCH Ltd would need to migrate their business and those of their clients to KDPW_CCP, or the existing clearing members at KDPW_CCP would need to start offering client clearing services. In either case, there would be some additional costs. These costs, however, should not be very significant relative to the costs of entering into switch trades.



Sources: ESMA, TRs, data responses and ESMA calculations.

212. The wide bands in the estimates reflect the limited evidence available on transfer costs, from past transfers of client positions. The sample is small and from transfers carried out under relative normal conditions (where there were no generally mandated transfers). As a result, they are unlikely to be able to fully capture the diversity of costs that different EU clients may face under a derecognition. Moreover, estimates here could potentially underestimate costs (transfer costs are likely to increase as demand rises) and overestimate costs (due to the potential upwards bias in respondents' estimates). So, there is significant uncertainty in the estimates which needs to be kept in mind in their interpretation and use.
213. Nonetheless, in spite of these important limitations, the estimates here are based on costs actually incurred in transferring positions as reported by market participants, and so are based on concrete, realised transfer costs. Thus, in our view, the estimates should be considered – at least – to provide an order of the magnitude of the potential costs, with the wide bands indicating the significant uncertainty as to their extent.

LCH Swapclear – clearing members

214. For LCH Swapclear, we estimate that [REDACTED] percent of the outstanding notional amount for IRD in EUR would require a switch trade for a transition period of two years (Figure 32). The proportion requiring a switch trade increases rapidly as the transition period shortens. For IRD in PLN, the situation is similar and with the corresponding proportion [REDACTED] percent maturing after two years (Figure 32). The transition period helps to significantly reduce the volume that would require switch trades. Yet for both, a significant share [REDACTED] would still need switch trades to be transferred with a long (2-year) transition period.
215. Responses from a couple of large European banks provided estimates of aggregate transfer costs of moving their IRD in EUR from LCH Ltd. One of the two respondents which provided estimates, for example, cited total transfer costs of EUR 10 mn to 160 mn, while a second cited transfer costs ranging from EUR 50 mn to 550 mn. In both cases, most of the estimated cost was attributed to the spreads of entering into a switch trade and the basis. Also, for both of these banks the upper estimate was linked to a situation where there would be significant pressure on clearing members to transfer positions with liquidity reduced. Therefore, we assume these higher estimates are more representative of a situation in which the transition period is short (significantly shorter than two years) as this situation is more likely to experience liquidity pressures.
216. From these estimates, we can get a very rough estimate of the potential scale of the costs to clearing members to transfer their house positions, by scaling up the estimate in line in proportion to the bank's share of the EEA clearing notional amounts outstanding with LCH Swapclear. This yields a rough estimate for the clearing member positions at LCH Swapclear [REDACTED] of up to EUR 115 mn to 1.8 bn in transfer costs from the first bank's estimate, and a range of EUR 420 mn to 4.6 bn from the second (the second bank's range excludes operational costs). As with client estimates, these estimates rely on very few respondents and therefore need to be interpreted with caution, as they may be subject to particularities and biases of the respondent banks.
217. Operational costs are expected to be in proportion to the size of the positions being transferred, with another bank providing an estimate [REDACTED]. Scaling this estimate up to all EEA clearing members of LCH Ltd, excluding those that would mature during the transition period, yields an operational cost estimate for all LCH Ltd clearing members ranging between EUR 375 mn to 510 mn, depending on the transition period. As with the estimates above, however, it is important to remember that this estimate is based on one bank's estimate and so should be treated with caution. Other costs were cited (legal costs, capital costs, membership costs), with bank-specific estimates sometimes provided that were significant, but much smaller than the costs estimated above. For this reason, and the fact that the data provided on these were not straightforwardly scalable to all clearing members, we do not provide general estimates for these here.

218. One of the main sources of transfer costs is the bid-offer spread to enter into a switch trade, paid to the intermediary. This cost is the additional spread charged by an intermediary to enter into a switch trade, on top of any basis between the two CCPs (discussed in more detail in the next section). This spread will reflect liquidity in the market and market power of the intermediaries. This spread is included in the transfer cost estimates provided by the two banks above.
219. The cost from the spread charged by intermediaries on top of the basis is also referenced as one of the main transfer costs in the responses provided by banks in their responses. In our data request we requested that banks provide estimates of the additional spread for entering into switch trades of a certain size. The table below shows how this spread increases with the maturity and size of the position. Importantly, these estimates are based on recent, normal market conditions and so could increase the more liquidity is reduced or if the market power of intermediaries grows.

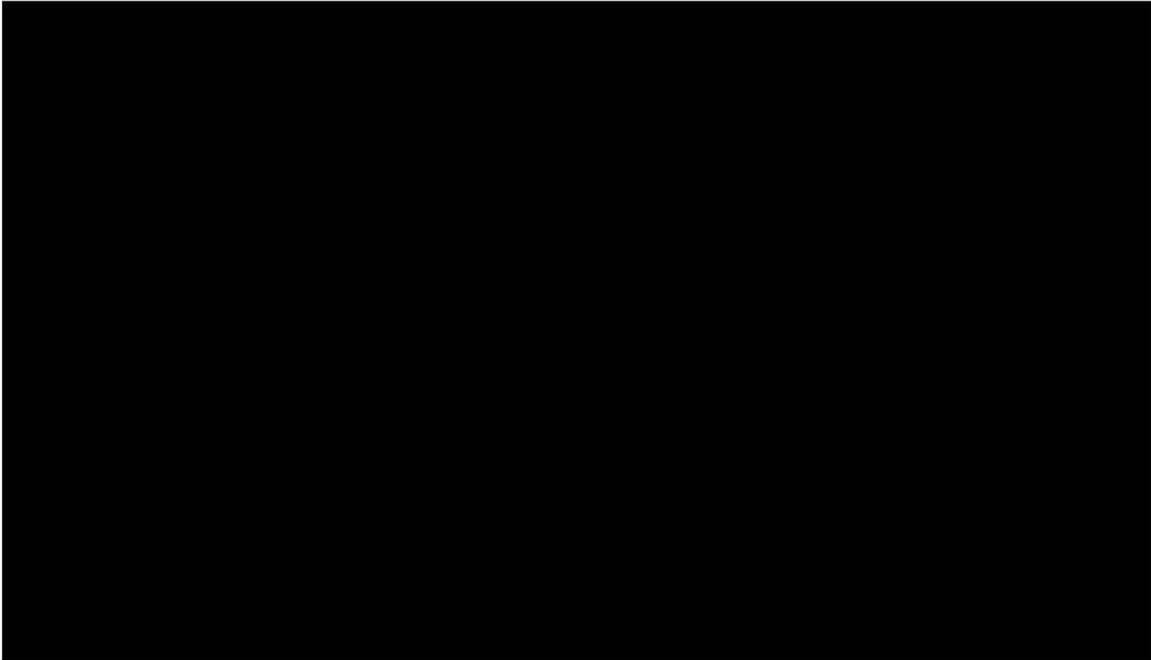
TABLE 28. AVERAGE SPREAD FROM MARKET IMPACT OF IRS IN EUR BY SIZE (BPS)

Reference Notional amount (EUR)	Maturity			
	2 yr	5 yr	10 yr	30 yr
500,000	-	-	0.07 (0.05 to 0.1)	0.08 (0.05 to 0.12)
1,000,000	0.08 (0.04 to 0.12)	0.09 (0.05 to 0.11)	0.09 (0.05 to 0.11)	0.12 (0.01 to 0.38)
10,000,000	0.07 (0.01 to 0.12)	0.09 (0.02 to 0.17)	0.12 (0.07 to 0.29)	0.5 (0.1 to 3)
100,000,000	0.11 (0.05 to 0.18)	0.28 (0.1 to 0.9)	0.66 (0.1 to 2)	0.64 (0.1 to 1.5)

Sources: Data responses with interpolation for the notional amounts presented. Figures omitted where samples of respondents very limited in number. Range presents estimated minimum and maximums from responses.

ICEU CDS and ICEU STIR (Short term interest rates)

220. Information provided by respondents on the ICE clearing services was more limited. However, some conclusions can nevertheless be drawn from the maturity distributions in Figure 33 below and from responses from clearing members.



221. For the ICEU CDS clearing service, only a relatively small share of outstanding positions, [REDACTED], would mature within 2 years. Therefore, the vast majority, [REDACTED], would need to be switched using switch trades. In addition, one respondent cited there are limited options to switch index CDS between CCPs, mentioning they currently use a broker to enter into switch trades using auctions, but that they can usually only a transfer a fraction because of a lack of demand in the auctions on the other side and due to illiquidity of some positions. For single name CDS, where liquidity is lower, they expect to have to request third party providers to run the auctions for each single CDS position they hold. The fact that the bulk of CDS would mature after a two-year transition period and that some of these products have more restrictive liquidity, raises concerns on the ability to move positions in a constrained period of time. [REDACTED]

222. Importantly, however, ICEU transfers could also be to ICE NL or ICE CC in the US. [REDACTED] his would significantly reduce transfer costs.

223. For ICEU STIR, the bulk of the contracts outstanding held by EEA counterparties ([REDACTED]) would mature within a two-year transition period. This means that with a transition period approaching two years, or extended to 2.5 years⁶⁴ EU counterparties would have the transition period to devote to entering into switch trades for relatively small share of positions ([REDACTED])

⁶⁴ Article 25(2c) of EMIR allows for the possibility of a further 6-month extension to a two-year transition period.

[REDACTED]). These contracts, interest rate futures and options on short term interest rate benchmarks (e.g., EURIBOR) are more liquid and so – at least compared to credit derivatives and IRDs held with LCH Ltd – more straightforward and relatively speaking, less costly to switch. Moreover, these contracts are exchange-traded and could be closed out through the central order book if needed. [REDACTED]

Summary on significance of transfers costs for different clearing services

224. For LCH Swapclear, both the responses and our rough estimates suggest potentially significant one-off costs for making transfers of existing positions held with LCH Ltd by EU counterparties. For EU clients, for IRS in EUR our central estimate for transfer is EUR 60 mn, ranging up to EUR 0.6 bn in our upper estimate for a two-year transition period. Estimates for the other currencies of issue are smaller in proportion to the size of these markets relative to that of the euro. For clearing members, our simple estimates, based on a few responses, are higher. This reflects the fact that clearing members account for much more of the market held at LCH Swapclear. Averaging the two bank-based estimates ranges (and adding operational cost estimate to the second bank which excluded operational costs) yields a range of about EUR 0.5 bn to EUR 3.5 bn. These upper estimates would be more likely with shorter transition periods, and where liquidity is strained, though with about half of the notional amount maturing after two years, we would expect costs to still be very significant even with a two-year, or two-and-half year extended, transition period. As was the case for the clients estimates, we would expect costs for clearing members for IRD in PLN, identified to be of substantial systemic importance, to be similar, albeit smaller in proportion to the smaller size of this market.
225. As noted above, the cost estimates need to be treated with some caution because they rely on few responses. As a result, they are subject to potential bias and limited representativeness. However, with limited data available, quantitative conclusions on costs would not be possible without using estimates provided by clearing members and clients. Yet, the uncertainty in the estimates remains very significant, as shown in the very large ranges. Thus, in our view, cost estimates here are probably better read as indicative as to the potential order of magnitude of transfer costs and their uncertainty, rather than as precise forecasts.
226. It is also important to note that our analysis is based the market as it is currently. In practice, the market would respond to a derecognition in ways that should help to mitigate costs. For example, EU counterparties could potentially coordinate to identify mutually beneficial trades, perhaps relying on third parties to help find matches, to facilitate the closing out positions in the UK without the need to enter into switch trades with intermediary dealers. To the extent this is possible, which depends on the balance of the EU book and counterparties' ability to find close matches and coordinate, it could reduce transfer costs. In addition, if and when clearing volumes move to EU CCPs, the increasing liquidity pool there should help reduce the liquidity premium for switch trades and so lower costs for subsequent transfers. At this stage, however, it is not possible

to assess the extent to which market developments like these would arise and reduce costs.

227. With the above in mind, we assess the transfer costs to be substantial ('--' in Table 25) for both short (much less than 2 years) and long (2 years or 2.5 years) transition periods for LCH Ltd for IRD in EUR and IRD in PLN. This is borne out consistently in the questionnaire responses and in our rough cost estimates, which despite their limitations, indicate a potential for significant costs. With such a significant magnitude of IRDs maturing after two years, a derecognition would result in significant transaction costs for EU market participants to close out their EUR and PLN portfolios at LCH Ltd and open new trades at an EU CCP. Longer transition periods reduce costs and liquidity-related risks. Transaction costs could be potentially mitigated by a more extensive adaptation period (beyond the 2 and half years envisaged under Article 25(2c) of EMIR) or by applying the derecognition of new contracts only (some a form of grandfathering of legacy contracts, which would also need to allow EU market participants to continue managing their legacy portfolios at LCH Ltd).
228. For ICEU CDS clearing, the evidence we have on both maturities of outstanding positions and the responses suggest that transferring these to LCH SA will face liquidity challenges for all transition periods that will make some transfers burdensome. For that reason, we also assess the transfer costs for this clearing service to be substantial for both short and long transition periods ('--' in Table 25). [REDACTED]
229. For ICEU STIR, the rapid maturation of outstanding positions, relatively liquid markets, and their being exchange-traded suggests costs of moving these will be relatively low for a two-year transition period. If the transition period were significantly shorter, then a significant share of positions would need to be switched using switch trades and costs would increase. Hence, we assess the costs to be moderate for short transition periods ('-' in Table 25) and marginal for a longer transition period ('≈' in Table 25).
230. Finally, responses suggest that if only new positions needed to be transferred then costs would be relatively limited. [REDACTED] or longer transition periods, of about two years, firms should have time to absorb moving their new positions to new CCPs into business-as-usual costs. For these reasons, we assess the cost of transferring new positions to be moderate for short transition periods ('-' in Table 25) and marginal for long transition periods ('≈' in the table), for all of the clearing services considered here.