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TECHNICAL NOTE—SUPERVISION AND OVERSIGHT OF CENTRAL COUNTERPARTIES AND CENTRAL SECURITIES DEPOSITORIES

This Technical Note on Supervision and Oversight of Central Counterparties and Central Securities Depositories for the euro area was prepared by a staff team of the International Monetary Fund. It is based on the information available at the time it was completed in June 2018.

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TECHNICAL NOTE

SUPERVISION AND OVERSIGHT OF CENTRAL COUNTERPARTIES AND CENTRAL SECURITIES DEPOSITORIES

Prepared By
Monetary and Capital Markets Department

This Technical Note was prepared in the context of an IMF Financial Sector Assessment Program (FSAP) in the euro area. It contains technical analysis and detailed information underpinning the FSAP's findings and recommendations. Further information on the FSAP can be found at http://www.imf.org/external/np/fsap/fssa.aspx

CONTENTS

Glossary

BOE	Bank of England
BRRD	Bank Recovery and Resolution Directive
CBI	Central Bank of Issue
CCP	Central Counterparty
CFTC	U.S. Commodity and Futures Trading Commission
COREP	Common Reporting
CPSS / CPMI	Committee on Payment and Settlement Systems / Committee on Payments and Market Infrastructures
CROE	Cyber Resilience Oversight Expectations
CRR/CRD	Capital Requirements Regulation / Capital Requirements Directive
CSD	Central Securities Depository
EBA	European Banking Authority
ECB	European Central Bank
EMIR	European Market Infrastructure Regulation
ESCB	European System of Central Banks
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
FMI	Financial Market Infrastructure
FSAP	Financial Sector Assessment Program
FX	Foreign exchange
ICSD	International Central Securities Depository
IOSCO	International Organization of Securities Commissions
MIPC	Market Infrastructure and Payment Committee
NCA	National Competent Authority
NCB	National Central Bank
NRA	National Resolution Authority
PFMI	CPSS-IOSCO Principles for Financial Market Infrastructures
OTC	Over the Counter
RTS	Regulatory Technical Standards
SSM	Single Supervisory Mechanism
T2S	TARGET2 Securities

EXECUTIVE SUMMARY

Regulation, supervision, and oversight of central counterparties (CCPs) and central securities depositories (CSDs) in the euro area is evolving. Recent proposed amendments to the European Market Infrastructure Regulation (EMIR) are expected to further alter the landscape, as is the European Central Bank (ECB) proposal to amend article 22 of the Statute of the European System of Central Banks (ESCB) and the ECB. The main objective of this note is to analyze the regulatory and supervisory structure applicable to CCPs and International CSDs (ICSDs) in the European Union (EU) and assess their suitability using international standards and good practices.

The growth and increased systemic importance of CCPs over the past several years suggests that further centralization of the EU supervisory framework would be appropriate. A significant portion of over-the-counter (OTC) traded derivatives now clear through CCPs, concentrating risk in these institutions, which are highly interconnected with euro area and global banks. Currently, national competent authorities (NCAs) are responsible for the authorization and supervision of CCPs. The NCAs coordinate with other relevant authorities, including the European Securities and Markets Authority (ESMA) and central banks of issue (CBIs), in supervisory colleges. These arrangements have increased consistency of supervisory practices, but do not go far enough to ensure a level playing field. Endowing ESMA with direct supervisory power over CCPs would ensure a consistent approach in addressing cross-border risks and enhance the level playing field among CCPs. In order to be fully effective in this role, ESMA must have sufficient resources and qualified staff.

A stronger role for CBIs in the supervision of CCPs would provide them with the necessary information and comfort as potential liquidity providers for CCPs. CBIs would bring a broader financial system stability perspective to oversight of CCPs, as a complement to the financial regulator perspective of ESMA. To avoid overlap and inconsistencies, potential ECB regulations for CCPs should be consistent with EMIR, and limited to areas that are in the ESCB's mandate.

The ECB and Eurosystem should further develop a harmonized policy for CCPs' access to central bank accounts and liquidity provision. Access for all CCPs authorized under EMIR to deposit cash collateral at central bank accounts, would reduce their dependence on commercial banks providing custody services and related operational and liquidity risks. Access to central bank liquidity arrangements, under certain conditions, would reduce CCPs' dependence on commercial banks and repo markets for liquidity, and thus provides a safety net in times of market strain, which is critical to financial stability. There could be extreme circumstances in which CCPs' liquid resources turn out to be insufficient or unavailable and central banks would need to step in. A dedicated, harmonized policy is needed for all CCPs, without distinction between CCPs with and without a banking license, addressing also third-country CCPs, to ensure a level playing field.

While strengthening supervision of third-country CCPs is warranted, strong cooperation and information sharing with third-country authorities is preferred over relocation of clearing to the EU for CCPs servicing global markets. Increased requirements for third-country CCPs, with ongoing supervision by ESMA, is warranted to reduce the risk that changes in the risk management of third-country CCPs go undetected, with potential negative consequences for EU markets. The potential forced relocation of a globally systemically important CCP to the EU should be viewed with great hesitation. Not only is such a measure expected to negatively impact EU markets (market fragmentation, increased cost, reduced market liquidity), it also goes against the grain of greater globalization of markets and may create a precedent for other jurisdictions to request relocation of local currency denominated clearing. Instead of relocation, a global deference framework, characterized by strong cooperation and information sharing among authorities, application of comparable rules, and safeguards to ensure that the home authority is carrying out its responsibilities appropriately should be put in place.

ICSDs are another highly interconnected and systemically important group of financial market infrastructures (FMIs) that should be subject to centralized supervision. Like CCPs, ICSDs are cross-border institutions closely integrated into the global financial system. For example, ESMA's recent stress test of CCPs shows a large dependency of CCPs on only a few institutions that provide custody services for dollar and sterling collateral, including ICSDs. ICSDs on their turn may be dependent on the same commercial banks as CCPs, calling for a further analysis of dependencies of euro area FMIs to non-euro area banks. Furthermore, as with CCPs, a central EU supervisory approach is needed to ensure that cross-border risks are appropriately addressed and a level playing among ICSDs is ensured. A good option would be to transfer supervision of ICSDs to the Single Supervisory Mechanism (SSM), first building capacity within the SSM to take on this task.

Table 1. Main Recommendations

Supervision and Oversight of FMIs	**Time 1/**
Strengthen oversight of cross border risks by centralizing supervision of CCPs in ESMA, while strengthening the role of central banks of issue (EU)	ST
Strengthen supervision of third-country CCPs, and cooperation and information sharing with third-country authorities (Commission, ECB, ESMA)	I
Ensure ESMA has sufficient resources for the proposed supervisory activities (Commission, ESMA)	I
Develop ECB regulations consistent with EMIR for areas that are in the ECB's mandate (ECB)	ST
Bring ICSDs under central supervision and develop needed capacity (SSM, ECB)	MT
Recognize U.K. CCPs at the day of Brexit, under the condition that the United Kingdom is fully equivalent at the point of exit, or alternatively recognize them during a transition period (EU)	ST
System wide risks	
Further harmonize CCPs' access to central bank accounts and liquidity provision (ECB)	ST
Further implement the cyber resilience strategy at EU level (ECB)	I
Develop further analytical tools to analyze interdependencies and interconnections between CCPs, (I)CSDs, and financial institutions and markets (ECB, ESMA)	ST

1/ "Short-term" is within one year; "near-term" is one to three years; "medium-term" is three to five years.

INTRODUCTION[1]

1. Regulation, supervision and oversight of CCPs and CSDs in the euro area is continuously evolving. Important progress was made with the adoption of EMIR in 2012 and the CSD Regulation in 2014, and the publication of secondary legislation. The Regulations established for the first time a harmonized regulatory and supervisory framework for CCPs and CSDs in the EU. With the implementation of the SSM in 2014, CCPs and CSDs with a banking license came under centralized banking supervision as less significant institutions. Recently proposed amendments to EMIR are expected to further change the landscape, as is the ECB proposal to amend article 22 of the ESCB/ECB Statute. Box 1 provides a definition of CCPs and CSDs with benefits and risks related to these two types of FMIs.

2. The main objective of this note is to analyze recent proposals for changing the regulatory and supervisory structure CCPs in the EU. The Commission's proposals for changing EMIR, of June 2017, intend to further centralize decision making at ESMA and strengthen supervision over third-country CCPs that provide services to EU institutions. These proposals are currently discussed in the European Parliament and the Council of the EU. In addition, the ECB proposed in June 2017 to amend the ESCB/ECB Statute in order to be able to provide facilities to CCPs and making regulations for CCPs. This would also give the ECB, as CBI under EMIR, increased powers with regard to the recognition and supervision of systemically important third-country CCPs.

3. In addition to an analysis of the framework applicable to CCPs, the note addresses:

a. Regulation and supervision of CSDs, with a focus on the two ICSDs, which are Belgium based Euroclear Bank, and Luxembourg based Clearstream Banking S.A.

b. Cross-border and system-wide risks that may exacerbate a crisis and impact financial stability, including interdependencies among FMIs, their members and markets, as well as cyber risks.

4. The analysis is based on international standards and good practices, and builds on findings from earlier assessments. Relevant international standards are the CPSS-IOSCO Principles for Financial Market Infrastructures (PFMI), issued in 2012. The analysis takes into account the recommendations made during previous FSAPs for individual EU countries, the EU FSAP of 2013, as well as findings of the CPMI-IOSCO implementation monitoring assessments. Annex 1 provides an overview of earlier FMI FSAP assessments for individual EU countries. Annex 2 provides an overview of the status of implementation of the EU FSAP recommendations of 2013.

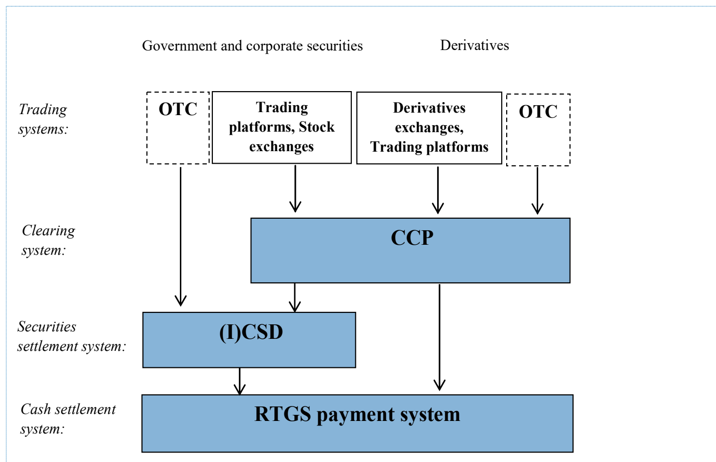
[1] This note was prepared by Froukelien Wendt, Senior Financial Sector Expert from the IMF Monetary and Capital Markets department, for the 2018 Euro Area FSAP. Her analysis was based on publicly available documentation, previous FSAPs, as well as meetings with the Commission, ECB and ESMA, relevant authorities in Belgium, Germany, and the U.K., and various CCPs, CSDs and other market participants.

Box 1. Benefits and Risks of CCPs and CSDs

A **Central Counterparty (CCP)** is an entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts (CPSS-IOSCO 2012).

A **Central Securities Depository (CSD)** is an entity that provides securities accounts, central safekeeping services, and asset services, which may include the administration of corporate actions and redemptions, and plays an important role in helping to ensure the integrity of securities issues (that is, ensure that securities are not accidentally or fraudulently created or destroyed or their details changed) (CPSS-IOSCO 2012).

An **International Central Securities Depository (ICSD)** is considered a specific type of CSD. Where CSDs are primarily created to serve their domestic market, ICSDs operate a multi-currency securities settlement system and CSD for a large number of international financial institutions, including the largest banks, supranationals, central banks and CCPs.



The figure shows relations between trading, clearing and settlement systems. For example, a securities transaction once conducted between market participants directly (OTC), or on-exchange, is cleared through a CCP and settled in the (I)CSD, with the cash leg settled in the payment system. CCPs, CSDs and ICSDs contribute to the safety and efficiency of financial markets through central risk management and large economies of scale related to the centralization of clearing, settlement and custody of transactions, compared to a situation where banks clear and settle bilaterally. (I)CSDs may also enable efficient monetary policy implementation, whereas CCPs may reduce the total counterparty credit risk in a market, and improve risk management practices and transparency.

By their nature these infrastructures concentrate systemic risk. A failure in the functioning of a CCP, CSD, or ICSD would entail a major disruption to the markets it serves, and could entail financial losses for its participants, and a loss of confidence in the financial system. Participants would not be able to access or trade some or all of the securities kept and there may be spillover effects on multiple markets, for example, by affecting the financing activities of banks and corporations and reducing the availability of secured credit. Also, the effectiveness of monetary policy implementation may be hampered. For these reasons these entities are considered systemically important and subject to supervision and oversight.

POST-TRADING INFRASTRUCTURE IN THE EU

A. Overview of CCPs and CSDs

5. There are currently 16 CCPs established in the EU, of which a few are of global systemic importance. Business profiles of EU CCPs differ: some clear one type of instrument, others clear multiple, ranging from OTC derivatives, exchange-traded derivatives, securities to repos. Where some CCPs only service their domestic market, other CCPs provide clearing services to a range of EU or global markets. While all CCPs are systemically important for the markets they serve, their reach differs, for example, the U.K.-based LCH Ltd and Germany based Eurex Clearing service a global member base. Annex 3 provides an overview of EU CCPs and key statistics. In addition, 28 third-country CCPs have been recognized under EMIR's equivalence provisions, and a further 12 CCPs from 10 jurisdictions have applied for recognition.

6. The EU is also home to the two ICSDs, which are systemically important for markets worldwide. Among the member base of Euroclear Bank and Clearstream Banking S.A. are the largest banks in the world, as well as financial institutions considered to be globally systemically important. They maintain links to more than 50 markets worldwide with settlement in over 40 currencies, of which euros, U.S. dollars, and British pounds represent the largest volumes. The value of securities held on their accounts was nearly €20 trillion at the end of 2016. Under their respective banking licenses, the ICSDs provide cash accounts and credit lines to participants to facilitate settlement. The ICSDs form part of larger groups of European CSDs. Euroclear group includes Euroclear Bank and six national CSDs, and is user-owned. Clearstream group includes Clearstream Banking Luxembourg and two national CSDs, and is part of the Deutsche Börse Group.

7. Furthermore, there are 34 national CSDs established in the EU. Several countries have multiple national CSDs, for example, one for sovereign debt and one for equities, where other EU member states have one CSD for all types of securities. CSDs for only sovereign debt are often owned and operated by central banks, whereas CSDs settling equities are user-owned or exchange-owned. Annex 4 contains an overview of EU (I)CSDs and key statistics.

8. In 2015, Target2Securities (T2S) was launched as a harmonized European platform for securities settlement. T2S is not a CSD, but a settlement engine to which over twenty European CSDs are connected. T2S is owned and operated by the Eurosystem, and its operations are assigned to four central banks – those of France, Germany, Italy and Spain. T2S aims to contribute to the development of the single market through one single platform with harmonized rules, standards and tariffs and settlement in central bank money (Target2 for euro settlements). With the introduction of T2S, national CSDs outsourced their securities settlement function in euro to the single platform. As this has impacted CSD's business profiles, further consolidation is expected, although developments so far are slow. T2S also enables non-euro currencies, with Denmark planning to participate in 2018.

B. Overview of the Supervisory and Oversight Framework

9. CCPs and CSDs are supervised by NCAs based on EU Regulations. One or more NCAs are specifically designated by each EU country as authority/ies for authorization and supervision of CCPs and/or (I)CSDs established in their territory. Authorization and supervision of CCPs is based on EMIR[2]. EMIR includes common rules for CCPs, a passport for CCP services, a clearing obligation for eligible OTC derivatives, and rules governing trade repositories. Authorization and supervision of (I)CSDs is based on the CSD Regulation.[3] The CSD Regulation contains rules governing CSDs, including rules to harmonize both the timing and conduct of securities settlement.

10. A college of supervisors is established for each CCP. These colleges comprise the NCAs, other EU national authorities that supervise entities on which the operations of that CCP might have an impact (namely selected clearing members, trading venues, interoperable CCPs and CSDs), as well as members of the ESCB (as overseer and central bank of issue), and ESMA. The college provides the NCAs with an opinion on the compliance of the CCP with EMIR at the time of authorization and at various other points of the supervisory cycle.

11. No colleges are required for CSDs. The CSD Regulation identifies, in addition to the NCA, relevant authorities, which are central banks overseeing the CSD, EU central banks issuing the most relevant currencies in which settlement takes place, and where relevant, the EU central bank in which books the cash leg of the transaction is settled. The NCAs responsible for CSD supervision should consult and cooperate with these relevant authorities according to ESMA guidelines. Where a CSD has subsidiaries in several member states, the CSD Regulation requires the NCA to cooperate with the authorities responsible for the supervision of its subsidiaries, which includes information sharing in case of emergency situations. Where a CSD has become of substantial importance for the functioning of the securities markets and the protection of the investors in more than one host member state, the home member state may decide that such cooperation arrangements include colleges of supervisors, however these colleges do not foresee the participation of ESMA.

12. In addition, the following European authorities are relevant for the regulation, supervision and oversight of CCPs and CSDs (Table 2):

a. **European Commission:** The European Commission is responsible for establishing the technical aspects of the regulatory framework, following proposals from ESMA and the European Banking Authority (EBA). It proposes primary legislation to the European Parliament and Council of the EU and adopts secondary legislation.

b. **ESMA:** ESMA develops regulatory technical standards (RTS), in coordination with the ESCB, and proposes these to the European Commission. ESMA is represented in the CCP colleges in a non-voting capacity and is provided with binding mediation powers whenever necessary. ESMA is also responsible for coordination between NCAs and across supervisory

[2] Regulation (EU) No 648/2012.

[3] Regulation (EU) No 909/2014.

CCP colleges to build consistent supervisory practices and eventually settling disagreements between authorities. Tools that ESMA uses are annual peer reviews, guidelines, recommendations, opinions and Q&As. ESMA also initiates and coordinates the annual EU-wide CCP stress test, with the second report issued in February 2018. Finally, ESMA is responsible for cooperation arrangements with third-country authorities and the recognition of a CCP or CSD from a third-country. According to the CSD Regulation, ESMA shall, after consulting the members of the ESCB, organize and conduct, at least every three years, a peer review of the supervision of CSDs which make use of the freedom to provide services in another member state or to participate in an interoperable link.

c. **ESCB/Eurosystem:** The relevant members of the ESCB participate in CCP colleges as overseer or as CBI. They are also involved in the drafting of technical standards, guidelines and recommendations, although ESMA has the final responsibility. In addition, these members are involved in the authorization and supervision of CCPs and CSDs, the recognition of third-country CCPs and CSDs and the approval of links. The Eurosystem comprises the ECB and the national central banks (NCBs) of those countries that have adopted the euro. Typically, based on current internal organizational arrangements within the Eurosystem, the ECB represents the Eurosystem as CBI in CCP colleges outside the euro area, whereas the NCB of a country represents the Eurosystem as CBI in the supervisory college of the CCP established in that country.

d. **SSM:** CCPs with a banking license and CSDs with a banking license fall also under the SSM. They have been categorized as less significant institutions, implying direct supervision by the SSM-NCAs and supervisory oversight by the ECB-SSM.[4]

e. **EBA:** FMIs with a banking license are subject to the EU Capital Requirements Regulation (CRR), the Capital Requirements Directive IV (CRD IV) and the Bank Recovery and Resolution Directive (BRRD) for credit institutions and have to comply with additional reporting requirements (Common Reporting Framework COREP, Basel Pillar 3) and are as such subject to additional requirements prepared by EBA.

Table 2. Overview of EU Authorities and Legislation for CCPs and CSDs

Authority	CCPs	CSDs
NCA, ESMA, ESCB, Eurosystem, Commission	European Market Infrastructure Regulation (Regulation EU No 648/2012), RTS	Central Securities Depository Regulation (Regulation EU No 909/2014), RTS
SSM / EBA	CRR/CRD IV, BRRD (only for CCPs with bank license)	CRR/CRD IV, BRRD (only for (I)CSDs with bank license)

[4] It concerns two CCPs (Eurex Clearing and LCH S.A.), two ICSDs (Euroclear Bank, Clearstream Banking Luxembourg) and one national CSD (Clearstream Banking Frankfurt).

13. Finally, the European Systemic Risk Board (ESRB) is involved from a macroprudential perspective. The ESRB was established in 2010 to oversee the financial system of the EU, including FMIs, and prevent and mitigate systemic risk. The ESRB monitors and assesses systemic risks and has the possibility to issue opinions, warnings and recommendations. In the area of CCPs a task force has been established. So far, the ESRB has published an opinion on recovery and resolution for CCPs, and published on CCP interoperability and procyclicality arrangements.

SUPERVISION AND OVERSIGHT OF CCPS AND CSDS

A. Findings from Individual EU Country FSAPs

14. Recent national euro area FSAPs found that the regulation, supervision and oversight of CCPs is generally sound and in line with international standards.[5] FSAPs find that generally the NCAs and other authorities conduct supervision and oversight in line with the requirements of the five responsibilities of the PFMI, including their supervisory practices, available resources, transparency, adoption of international standards and coordination and cooperation mechanisms with other authorities, both domestically and cross-border. Where weaknesses were identified, these are followed up in the context of individual country FSAPs.

15. These findings are in line with reports from ESMA and CPMI-IOSCO. ESMA's recent credit and liquidity stress testing results[6] indicate that, overall, EU CCPs are resilient to multiple clearing member defaults and extreme market shocks. CPMI-IOSCO[7] found that EMIR and the accompanying technical standards for CCPs are consistent or broadly consistent with a majority of the PFMI principles. Some observed gaps and inconsistencies relate to instances where the regulations do not address the requirement for ex ante planning, such as for recovery plans. However, for most of the participating individual EU countries, effective central bank oversight on top of EMIR and the RTS was sufficient to achieve full consistency with the PFMI.

16. Similarly, FSAPs found that the supervision and oversight of the two ICSDs is generally sound and in line with international standards, although FSAPs recommended the involvement of the ECB and/or SSM. The legal and regulatory framework provides the authorities with sufficient powers to obtain timely information and induce change. FSAPs recommended, however, that authorities should strengthen their cooperation and information sharing arrangements, especially at an international level, through consultation of international authorities and central banks as part of their assessment of the ICSDs. Furthermore, involvement of the ECB and/or the SSM in the supervision of the ICSDs would help ensure consistent implementation of supervisory requirements and yield harmonization benefits, thus ensuring a level playing field.

[5] See links to FSAP reports in Appendix 1 for Germany, Italy, Netherlands, Sweden, and the United Kingdom.

[6] ESMA EU-wide CCP Stress Test 2017, February 2018.

[7] CPMI-IOSCO Implementation monitoring of PFMI: Level 2 assessment report for central counterparties and trade repositories – European Union, February 2015

B. Centralization Versus Decentralization of Supervision and Oversight

17. As part of the EMIR Review, which is still under discussion, the Commission proposed in June 2017 changes to the EU framework for authorization and recognition of CCPs, endowing ESMA with direct supervisory powers. The NCAs would remain responsible for the direct supervision of EU CCPs, but ESMA would have a stronger role in the colleges, i.e. CCP colleges will be chaired and managed by an ESMA representative, and ESMA contributes three voting members to each college. Furthermore, ESMA would have increased responsibilities towards the NCAs. ESMA provides prior consent for certain decisions, it can propose amendments to a draft decision, it can adopt decisions that are directly addressed to a CCP, participate in on-site inspections and request specific supervisory action. As these supervisory responsibilities are new to ESMA, the proposal entails changes to ESMA's organizational structure, including an increase in the number of staff. The Commission proposes 49 additional full-time staff, whereas ESMA currently employs 8 full time staff for its CCP activities.

18. The Commission also proposes a stronger role for the CBI. Any decisions on the authorization of a CCP, interoperability, liquidity risk controls, collaterals and settlement have to be submitted to CBIs of the college of the respective CCP. According to the June 2017 proposals, the CBI's consent is required on any aspect relating to their monetary policy tasks. If the CBI proposes amendments, these have to be implemented. If the CBI objects, no decision is possible. ESMA will need to obtain prior consent by the relevant CBI for any decisions on margins, liquidity risk controls, collateral, settlement and interoperability as part of its ongoing supervision of recognized third-country CCPs.

19. The mission is of the opinion that further centralization of supervisory responsibilities for CCPs would be desirable to help address identified negative cross-border externalities:

a. In times of stress, a central supervisory authority, would explicitly take into account pan-European financial stability. In the current situation, international coordination among authorities could be challenging in case of a default impacting multiple jurisdictions. The NCA may give priority to maintaining the CCP's operations, whereas the authorities of other countries may prioritize the stability of their financial system or local banks. Insufficient coordination may result in a delayed response to manage the stress situation with potential negative consequences for financial stability.

b. A level playing field is better ensured with a central supervisor. It reduces occurrences of different interpretations of EMIR by NCAs and other college members, which may result in different conditions for authorization of CCPs and supervisory approvals. ESMA has identified substantial differences in supervisory practices, and reflects these in its annual peer reviews.[8]

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[8] See, for example, ESMA, Annual peer review of EU CCP supervision Supervisory activities on CCPs' Default Management Procedures, December 2017.

c. Centralizing supervision at EU level increases efficiencies in the single market by eliminating the duplication of tasks between national authorities, which would create economies of scale at EU level. For CCPs this means a reduced number of supervisory authorities to deal with, and a reduction in the administrative burden.

20. ESMA is a logical candidate for a role as central supervisor of CCPs, although this requires a significant increase in staff resources. ESMA already plays a central role under EMIR in promoting supervisory consistency, participating in colleges, drafting technical standards, acting as access point for third-country CCPs, and supervisor of trade repositories. ESMA would bring the financial market regulator perspective to the supervision of CCPs based on EMIR. A prerequisite for further centralization is the availability of sufficient competent resources. The proposed number of 49 additional staff resources for 17 CCPs and a range of tier 1 and 2 CCPs seems somewhat on the low side, given the high number of CCPs to be supervised and overall risk management responsibilities.[9] Additional resources should be recruited from NCAs to ensure appropriate knowledge and expertise. Responsibilities of ESMA as CCP supervisor should be clearly defined in relation to the responsibilities of resolution authorities. Box 2 provides an overview of the current status of the proposal for a recovery and resolution regulation for CCPs.

21. A stronger role for the ECB, with a focus on financial stability, would be desirable. Currently, the relevant EU CBIs, some of which as representatives of the Eurosystem, have one vote in EMIR supervisory colleges. This vote needs to be shared, where relevant, with the SSM as supervisor of clearing members and the role of central bank as overseer of the CCP. This vote does not give the ECB sufficient powers to ensure the proper execution of its current mandate, which relates in the case of the ECB to price stability, monetary policy, payment systems, and if needed, liquidity provision. Even more, the ECB's mandate should be broadened to cover general financial stability responsibilities. The ECB as CBI for the euro area would bring a financial stability perspective to the supervision of CCPs, focusing on systemwide risks, in addition to ESMA's perspective as financial market regulator. A stronger role for the CBI entails a strong say in authorization and supervision decisions for CCPs, and the right to receive all information it deems necessary for the execution of its responsibilities.

22. Extension of the ECB Statute is welcome to provide a legal basis for the ECB's role in CCP supervision, as outlined in the Commission's June 2017 proposal; however, overlap and inconsistencies with EMIR should be avoided. In June 2017, the ECB proposed an extension of its responsibilities beyond payment systems towards CCPs, through amending article 22 of the Statute of the ESCB and the ECB. The revised Article 22 would allow the ECB and national central banks to provide facilities, and the ECB to make regulations, 'to ensure efficient and sound clearing and payment systems, and clearing systems for financial instruments, within the EU and with other

[9] The daily supervision of 1 CCP would require 1-4 full time staff, dependent on the size, interconnectedness, substitutability and complexity of the CCP. In addition, staff resources are needed to analyze CCPs' risk management models, conduct thematic analysis and conduct peer reviews.

countries.' To avoid overlap and inconsistencies, potential ECB regulations for CCPs should be consistent with EMIR, and limited to areas that are in the ECB's mandate.

Box 2. Status of Recovery and Resolution Planning for EU CCPs

In November 2016, the Commission adopted a proposal for a Regulation on recovery and resolution planning for CCPs, with the aim to ensure that CCPs' critical functions are preserved while maintaining financial stability and helping to avoid the costs associated with the restructuring and the resolution of failing CCPs from falling on taxpayers. The proposal includes, among others, that:

- National resolution authorities (NRAs) are designated in each Member State. These could be national central banks, ministries or the existing supervisory authorities.

- NCAs are given the tools and powers to intervene in a CCP that is infringing or likely to infringe its prudential requirements and at a sufficiently early stage to address developing problems in a CCP's financial situation;

- NRAs have harmonized resolution tools and powers to take action when a CCP failure cannot be avoided. The proposed Regulation does not mandate which tools and powers to use in different scenarios but leaves the choice of the most appropriate tool in each situation to the resolution authority; however, where practicable, the NRA should act in line with the agreed resolution plan. Tools are: sell all or part of the failing CCP to another entity; create a bridge CCP; position and loss allocation tools; and bail-in tools.

In January 2018, the European Parliament agreed on a final compromise text. The Council of the EU is also expected to issue its suggestions.

Source: European Commission.

23. **Cooperation within the Eurosystem has been strengthened since the previous FSAP.** A dedicated committee structure, including FMI experts of the ECB and other Eurosystem central banks, facilitates the development of a joint Eurosystem opinion on issues related to authorization and supervision that request a vote within EMIR colleges. An escalation procedure with potential involvement of the Governing Council strengthens the procedures to come to a common position.

24. **Finally, the mission considers that further centralization of supervision of the two international CSDs is important, for example, under the SSM, as recommended in previous FSAPs.** Euroclear Bank and Clearstream Banking S.A. are currently supervised by the Belgian and Luxembourg authorities respectively, with a limited involvement of ESMA, the ECB and the SSM. With the adoption of the CSD Regulation information sharing and cooperation among authorities in the EU has significantly strengthened, however, the CSD Regulation does not require ESMA or the ECB to promote consistent supervisory practices. Given the high systemic importance of the ICSDs, and similar as for CCPs, further centralization of the supervision of the two ICSDs would be desirable to ensure that cross-border risks are appropriately addressed, regulatory capture is limited, and a level playing field is promoted. For example, ESMA could fulfil the role of financial regulator, the ECB could bring the financial stability perspective as overseer, levering its experience in overseeing, among others, Target2, T2S and Euro1, and the SSM could bring the banking regulator perspective.

A good option to start would be to recognize ICSDs as significant institutions under the SSM, as this does not require changes to the legal framework. The SSM has made important strides towards the development of a dedicated supervisory approach for FMIs with a banking license. Further capacity building within the SSM is needed to take on the proposed central supervisory role.

C. Brexit

25. Brexit will impact CCPs and their members. Post-Brexit, the United Kingdom will become a third-country for EMIR purposes, meaning that, unless a general equivalence decision were issued in respect of the U.K. regulatory regime, U.K.-based CCPs would need to apply for recognition from ESMA in order to continue to provide services to EU counterparties.[10] EU banks would no longer be permitted to maintain positions in U.K. CCPs that are no longer authorized or recognized under EU regulations. They would need to maintain higher capital buffers or, in the case of mandatory OTC derivatives clearing, would not be able to fulfil their clearing obligation under EMIR in CCPs established in the United Kingdom as long as those CCPs are not recognized by ESMA under EMIR.[11] Existing interoperability arrangements between U.K. and EU CCPs may have to be halted until the relevant U.K. CCPs have been recognized under EMIR, disturbing current clearing arrangements and increasing market inefficiencies.

26. To manage transitional challenges, it is recommended that U.K. CCPs are recognized at the day of Brexit, under the condition that the United Kingdom is fully equivalent at the point of exit. As current EMIR provisions are worded, the Commission cannot grant equivalence until the United Kingdom is a third-country, so there is a risk that U.K. CCPs are not recognized on the date of Brexit. Alternatively, U.K. CCPs could be allowed to continue providing clearing services to EU banks during a transition period until the Commission has determined that the United Kingdom's clearing regime can be considered equivalent.[12]

D. Third-Country CCP Supervision

27. The concentration of risk in CCPs in London, that are systemically important for the euro area, has raised concerns in light of Brexit. The ECB estimates that the large majority of euro-denominated derivatives clearing, originating from euro area banks, takes place on LCH Ltd, a U.K.-based CCP.[13] Figure 1 illustrates LCH Ltd's dominance in the clearing of interest rate derivatives in various currencies, with the euro being the most actively cleared currency after the dollar. The

[10] ICE Clear Europe, LCH Ltd, and LME Clear have been authorized under EMIR.

[11] https://ec.europa.eu/info/sites/info/files/180208-notice-withdrawal-uk-post-trade-services_en.pdf.

[12] The announcement on March 19, 2018, on an agreement between the U.K. and EU on a 21-month Brexit transition period, is welcome in that regard.

[13] Clearing by EU members on LCH Ltd amounts to more than €500 billion on average per day. The notional amount outstanding on LCH Ltd is €83 trillion for euro-denominated interest rate derivatives, whereas the notional amount outstanding at the U.S. Chicago Mercantile Exchange is EUR 1.8 trillion for euro-denominated interest-rate derivatives (European Commission, Proposal for a Regulation of the European Parliament and of the Council Amending EMIR, June 2017).

functioning of LCH Ltd is therefore of critical importance to the euro area financial system, as euro area banks could, in extreme circumstances, be confronted with losses following the failure of LCH Ltd, for example, cash calls to cover any losses that the CCP may face following the default of one of its members. Any non-default losses could also propagate to euro area banks. Often mentioned is also the risk of pro-cyclicality of margin calls. When asset prices drop collateral coverage of a CCP's exposure may become insufficient and the CCP will call for additional margin, while most probably increasing collateral haircuts. This pro-cyclical nature of margins and haircuts can result in an abrupt increase of collateral requirements imposed on clearing members in times of sudden market volatility and may put strains on banks' liquidity position.[14]

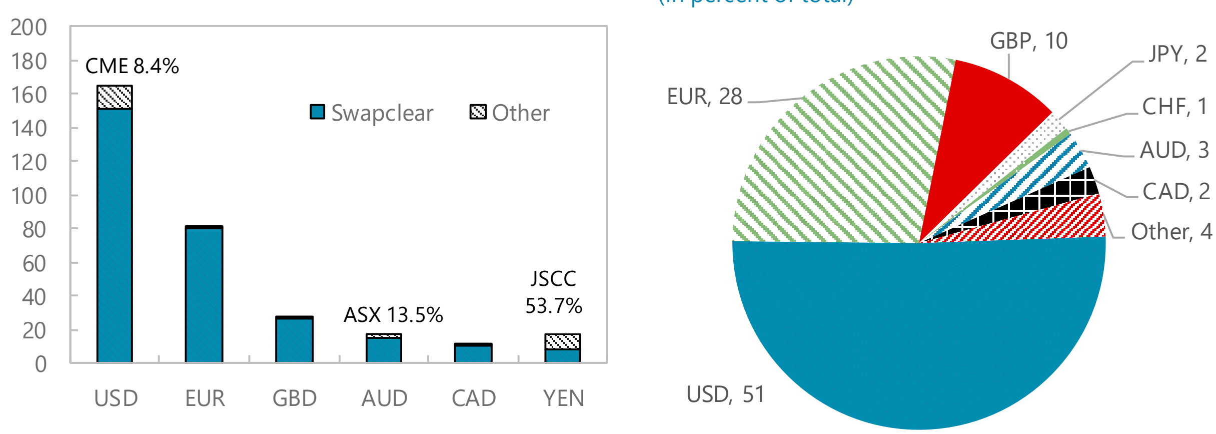
Figure 1. Clearing Location for Interest Rate Derivatives by Currency

LCH is the dominant CCP for most interest rate derivatives…

Interest Rate Derivatives Cleared 2017
(in trillions of US dollars)

… with the dollar being the most actively cleared currency, followed by the euro.

LCH IRS Volumes, Jan 1 - Dec 5, 2017
(in percent of total)



Sources: Clarus FT, and LCH Ltd.

28. The EU's concerns are addressed in the Commission's proposal for recognition of third-country CCPs. The new proposals envisage ESMA to categorize third-country CCPs into (i) CCPs that are not systemically important, which will continue to be subject to the current arrangements for third-country equivalence decisions (tier 1); (ii) CCPs which are deemed to be systemically important for financial stability of the EU, which would need to meet special conditions, such as compliance with EMIR, and accepting policies put in place by EU central banks (tier 2); and (iii) a subset of tier 2 CCPs, which are of 'specifically substantial systemic significance' for the EU financial system. ESMA has the power to recommend to the Commission, based on specific criteria, that these CCPs should not be recognized in the EU. On that basis, the Commission may adopt an implementing act declaring that the CCP may only provide services in the EU if it is authorized in the

[14] The dependency of LCH Ltd on the EU is less evident. LCH calculated that EU banks are responsible for 14 percent of LCH Ltd interest rate derivatives' volumes of which 7 percent in euro-denominated interest swaps, see London Stock Exchange Group response to the European Commission proposal for a regulation amending EMIR.

EU, which means that the CCP should relocate to the EU in order to provide services to EU financial institutions.

29. The strengthening of the EU's third-country approach through the distinction between tier 1 and tier 2 CCPs would help address current vulnerabilities. Currently, EU authorities do not apply any direct oversight over third-country CCPs. Since the adoption of the current approach in 2012, ESMA has encountered difficulties in accessing information from third-country CCPs, which provides EU authorities with insufficient comfort about the potential implications of the functioning of these third-country CCPs for EU stability.[15] Under the new proposal ESMA will have direct supervisory powers over tier 2 CCPs, such as requesting information, conducting investigations and on-site inspections and taking supervisory measures, fines and penalty payments.[16] The proposed approach will reduce the risk that changes in the risk management of third-country CCPs go undetected, with potential negative consequences for EU markets.

30. Compared to other jurisdictions, the EU is one of the few with close to full deference to the home authorities of a third-country CCP, so a realignment with other countries' approaches is reasonable. Differences in approaches to deference among jurisdictions can be understood on a spectrum.[17] At one end of the spectrum, the host jurisdiction may grant full deference to all relevant aspects of the home jurisdiction's regime including its day-to-day supervision. At the other end of the spectrum, the host jurisdiction may grant no deference, requiring direct compliance with its rules and conducting its own comprehensive supervision of a third-country CCP. In between, there is a range of deference arrangements in which host jurisdictions may grant partial deference with respect to a full or limited set of requirements using a range of direct supervisory oversight practices. Comparisons of deference approaches indicate that the EU currently has a close to full deference approach.[18] Most host authorities, however, are in the middle of the spectrum and retain some form of supervisory authority over the third-country CCP, such as requiring entities to register, be licensed or apply for an exemption, even if deference can be granted for a wide range of oversight responsibilities and requirements. For example, Australian

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[15] European Commission, Proposal for a Regulation of the European Parliament and of the Council, 2017/0136, June 2017.

[16] Current recognition of a third-country CCP requires an implementing act of the Commission determining that the legal and supervisory regime in the third-country in which the CCP is established is equivalent to EMIR, includes equivalent systems for AML/CFT requirements, and that the CCP is subject to effective on-going supervision and enforcement. Subsequently, ESMA recognizes the non-EU CCP and concludes an Memorandum of Understanding with the relevant third-country supervisory authorities covering supervisory and information sharing arrangements. Once recognized, the CCP is required only to comply with the rules of its home jurisdiction.

[17] From Report of the OTC Derivatives Regulators Group (ODRG) to G20 Leaders on Cross-Border Implementation Issues, November 2015.

[18] See FSB, Jurisdictions' ability to defer to each other's OTC derivatives market regulatory regimes, September 2014; descriptions of deference frameworks for individual countries are available at http://www.fsb.org/2014/09/c_140918/?page_moved=1.

authorities may require a foreign CCP that is systemically important to Australia, to have an Australian presence and fulfil certain additional reporting requirements directly to them.[19] The U.S. Commodity and Futures Trading Commission (CFTC) can issue a no action letter for certain requirements, but may keep direct reporting duties for other requirements.[20] For example, EU CCPs that are also registered as designated clearing organizations in the United States may comply with certain CFTC requirements through compliance with corresponding requirements under EMIR; the CFTC keeps it supervisory responsibilities for other requirements.[21]

31. However, the potential forced relocation of a globally systemically important CCP to the EU should be viewed with great hesitation as it is expected to negatively impact EU markets. The option outlined in the current Commission's proposal to request CCPs of 'specifically substantial systemic significance' to relocate to the EU is expected to come at significant cost. Relocation is expected to lead to market fragmentation, resulting in potential higher trading costs, reduced market liquidity, and increased margin requirements due to losses in netting efficiencies. In addition, there would be transition cost related to closing and reopening affected transactions. It may turn out that especially EU banks will face these negative implications, as their share in the volume of euro-denominated clearing is a relatively small part of total volume. Different reports come with different estimates of the size of the additional margin cost, varying from €7–10 billion by the European Commission[22] to $77 billion by the Clarus Financial Technology Group[23], depending on the extent to which offsets among cross currency and cross product are taken into account.

32. A relocation policy also goes against the grain of greater globalization of markets. The OTC derivatives market is a global market, with international dealers trading a broad range of currencies. Any relocation policy fragments markets and creates local pools of liquidity and risk management systems, which is less efficient, and in some cases less safe, than an international liquidity pool. Such fragmentation brings disadvantages to market participants worldwide, their clients, and ultimately global welfare. Furthermore, a relocation policy may create a precedent for other jurisdictions to request relocation of local currency denominated clearing.

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[19] See Council of Financial Regulators, Ensuring Appropriate Influence for Australian Regulators over Cross-border Clearing and Settlement Facilities, July 2012; and Application of the Regulatory Influence Framework for Cross-border Central Counterparties, March 2014.

[20] CFTC Guidance, 78 FR 45292 (July 26, 2013) (available at: http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2013-17958a.pdf) (final guidance);

[21] http://www.cftc.gov/PressRoom/PressReleases/pr7342-16.

[22] European Commission, 2017, Commission Staff Working Document, Impact Assessment of the Proposal for a Regulation amending Regulation (EU) No 1095/2010 establishing a European Supervisory Authority (European Securities and Markets Authority) and amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorization of CCPs and the requirements for the recognition of third country CCPs, 13 June 2017, SWD (2017) 236 final.

[23] Clarus Financial Technology Group, 2016, "Moving Euro Clearing Out of the UK: The $77bn Problem?"

33. Instead of relocation, a global deference and cooperation framework, is the preferred way forward. Deference has been identified by the G20 leaders as a tool that authorities may use to help make reforms across jurisdictions interact better and facilitate meeting the reform objectives.[24] A global deference framework is characterized by strong cooperation and information sharing among authorities, application of comparable rules (e.g., based on the PFMI) and safeguards to ensure that the home authority is carrying out its responsibilities appropriately and that host authorities can have sufficient comfort that their regulatory requirements are met.[25] The withdrawal of the license of a foreign CCP, or a relocation requirement, should be the last resort option, and only in extreme circumstances (PFMI, Responsibility E). An example of such a circumstance would be if the authority concerned had been unable to secure changes to the FMI's risk controls which it regarded as necessary given the FMI's systemic importance in its jurisdiction.

34. Risks related to the procyclicality of margins, with potential bank-sovereign feedback loops, have been addressed through EMIR and further analysis of potential macroprudential measures is deemed useful. CCPs are linked to the sovereign debt market, typically holding a vast pool of government securities as collateral in the same currency as the transactions that it clears. CCPs' risk management rules stipulate that sovereign stress requires an increase in collateral haircuts and additional margin calls in order to ensure that the CCPs' potential credit exposures are still fully collateralized. This risk management mechanism, however, could add to market stress as it hurts bank liquidity, as seen during the euro debt crisis in 2011.[26] The adoption of EMIR in 2012, and related RTS, provides for measures that EU CCPs should take to manage procyclicality risks of margin calls. ESMA is currently refining its guidelines for supervisory convergence on rules that prevent excessive procyclicality. Further analysis by the ESRB on procyclicality of margins and haircuts may point to the usefulness of potential macroprudential measures, such as floors and countercyclical buffers.

35. The shift of euro-denominated repo clearing to the euro area will provide some relief to concerns about oversight of this critical market (see text figure). LCH's RepoClear segment in London currently clears substantial amounts of cash bond and repo trades for euro area countries, i.e. Austria, Belgium, Germany, Ireland, Finland, Netherlands, Portugal, Slovakia, Slovenia, and Spain. LCH S.A. in Paris also clears cash bond and repo trades for euro area countries, i.e. Belgium, France,

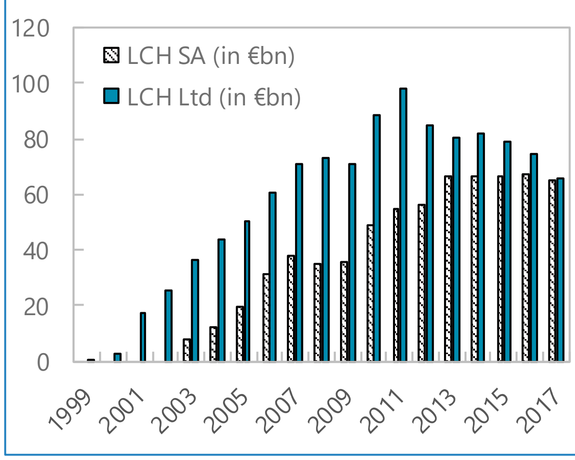
[24] G20 Leaders' Action Plan, September 2013, St. Petersburg, paragraph 71, https://www.g20.org/en/g20/timeline.

[25] From Report of the OTC Derivatives Regulators Group (ODRG) to G20 Leaders on Cross-Border Implementation Issues, November 2015.

[26] In November 2011, LCH Clearnet SA raised its requirements against positions in Italian government securities substantially (500 basis points on 7–10-year maturities) following the widening of spreads between Italian government paper and European benchmark securities that reached 550 basis points. The increase in margins was followed by a further widening of the BTP-Bund spread and liquidity strains for CCP participants (see also the IMF Technical Note on FMIs for the Italy FSAP in 2013).

Germany, Italy, and Spain. LCH Group is now reforming its infrastructure to allow all euro-denominated bonds and repos to be cleared in Paris. LCH's initiative is expected to be a stimulus to move the large majority of euro repos to Paris, as it allows market participants to benefit from netting efficiencies in the settlement of cash (in Target2), and securities (in T2S). This will bring euro-denominated repo clearing in the realm of the euro area, providing EU authorities with direct supervisory powers and ensuring the Eurosystem has access to information. This is important given the criticality of the repo market for monetary policy implementation.

Cleared Repo Volumes



MANAGEMENT OF SYSTEM-WIDE RISKS

36. Identification and management of cross-border and system-wide risks at a euro area and EU level is important to address potential threats to the broader financial system. Although risks are identified and managed by CCPs, CSDs, and the NCAs, there may be overarching risks spilling over the supervisory perimeter. The section starts with an overview of the stage of euro area and EU measures taken to strengthen FMI's cyber resilience. It then discusses analysis of interdependencies between CCPs, ICSDs, and financial institutions. The section concludes with recommendations regarding central bank services and liquidity provision for CCPs.

A. Cyber Resilience of FMIs[27]

37. European authorities have recognized the importance of cyber resilient FMIs and have undertaken various important initiatives in this area. In March 2017, the ECB's Governing Council approved the Euro system's cyber resilience strategy to support implementation of the CPMI-IOSCO guidance for FMIs. The strategy provides tools for regulators to enhance cyber resilience of FMIs and centers on three pillars: (i) a framework for FMIs to ensure they enhance their level of cyber resilience; (ii) structures and mechanisms to enhance and mature the collective cyber resilience capability of the Eurosystem financial sector, through cross-border/ cross-authority collaboration, information sharing and exercises; and (iii) a strategic dialogue between the industry and regulators to catalyze joint initiatives and develop effective solutions. As part of the first pillar, the Eurosystem is currently advancing the assessment of CCPs' and CSDs' cyber resilience capabilities through a cyber questionnaire[28] and has developed Cyber Resilience Oversight Expectations (CROE), which provide detailed steps to operationalize the guidance. Also, a European Red Team Testing Framework (TIBER-EU) has been developed, targeting the people, processes and technologies of an

[27] This section benefited from input from Dale Gray.

[28] A similar survey of payment systems and TARGET2-securities was conducted in 2017.

FMI, and test the FMI's protection, detection and response capabilities without warning. As part of the third pillar, the Euro Cyber Resilience Board for pan-European Financial Infrastructures was established by the ECB, with participation of the ECB, NCBs, major FMIs, and critical service providers, such as SWIFT. The Commission, the European Union Agency for Network & Information Security, the EBA, ESMA, Europol, and the ECB Information System and Banking Supervision functions are invited as observers.

38. Further implementation of the plans is the next step. Timely and adequate execution of the cyber resilience strategy is critical for EU's financial stability. Findings on cyber risk defenses of FMIs, following the survey, assessment against the CROE, and Red Team testing, would need to be translated into FMI specific action plans to solve any gaps, for example, as part of its supervisory plan.

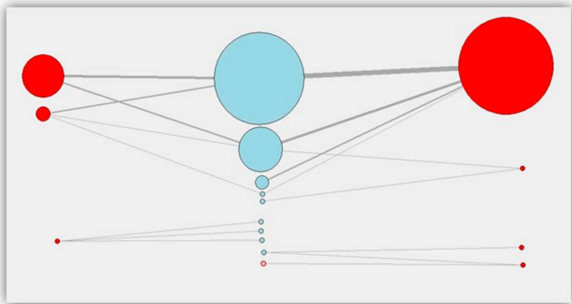
B. FMI-Bank Interdependencies

39. ESMA and the ECB have started to analyze interdependencies between FMIs, their members, and financial markets; further analysis is recommended. ESMA's stress test provides a rich analysis of CCPs' resilience against credit and liquidity shocks. It also contains an analysis of interconnections among CCPs and banks, in the latter's capacity as clearing member, custodian and liquidity provider. Figure 2 illustrates the dependencies of CCPs on custodians for cash exposures, with the largest bubbles being €40 billion for cash in all currencies, and €22 billion of U.S. dollar cash. This means that EU CCPs jointly may face significant credit and liquidity pressures if one of these large custodians would be unable to fulfil its role. For cash and securities exposures together (not shown in Figure 2), the largest bubbles are €130 billion and €43 billion respectively. The ECB has also conducted a qualitative interconnectedness analysis of FMIs in the EU and their links with banks as service providers, and has started researching interdependencies with help of trade repository data. Follow up analysis is needed to obtain a more complete picture of the size of the interconnections for all types of FMIs, in order to be able to identify, measure and manage risks related to these interconnections and interdependencies.

40. In particular, the dependencies of CCPs and ICSDs jointly on non-euro custodians and liquidity providers is expected to provide additional insights. There are dependencies on a number of commercial banks providing liquidity services. In times of crisis, CCPs and ICSDs may all seek liquidity support from the same entities. It is unclear whether these liquidity needs can be addressed during such crisis events. ESMA's recent stress tests of CCPs also shows a large dependency of CCPs on only a few institutions that provide custody services for dollar and sterling collateral, including ICSDs. Follow up research could analyze where the ICSDs on their turn keep these dollar and sterling collateral. The expectation is that they may be dependent on the same non-euro area commercial banks as CCPs, which might point out how CCPs and ICSDs jointly are exposed to these banks. Findings could call for measures to more actively mitigate these risks, for example, through an increase in the number of contracted banks, or, where possible, the establishment of direct links with local CSDs and central banks. Although the dependencies on custodians are mainly operational in nature (cash exposures are mitigated through diversification and overnight repo's; securities are subject to asset protection regimes) the concentration of risks in only a few commercial banks may cause disruptions with implications for the EU's financial stability.

Figure 2. Networks of CCPs and Custodians

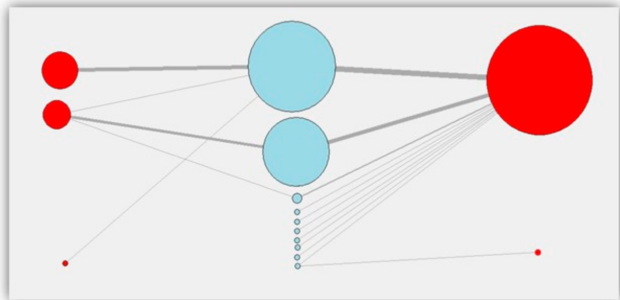
Network of CCPs and top 10 custodians for cash only, in all currencies



Red: CCPs; Blue: Custodians

Largest Bubble is EUR 40 billion

Network of CCPs and custodians for cash only, in USD



Red: CCPs; Blue: Custodians

Largest Bubble is EUR 22 billion

Source: ESMA Report, EU-wide CCP Stress Test 2017.

C. Access to Central Bank Facilities

41. CCPs may open accounts in Target2. Opening accounts is subject to the harmonized conditions of the TARGET2 Guideline. Based on this, NCBs and also the ECB (in particular for clearing and settlement organizations outside of the EEA) may open the TARGET2 account, furthermore may grant access to intraday credit.

42. There are a number of emergency lending facilities available to support the euro and FX liquidity needs of euro area CCPs, but the configurations are complex. CCPs with banking licenses (Eurex Clearing and LCH S.A.) have the potential to be counterparts under the ECB's standard framework, including access to the ECB's marginal lending facility and the U.S. dollar swap facility. In 2010, the possibility of providing euro area CCPs with access to marginal lending facility at the discretion of the Governing Council was introduced into the TARGET2 Guideline. FX needs from nonbank euro area CCPs may be considered under the NCB ELA arrangements at national risk. Regarding CCPs domiciled outside of the euro area, the ECB/Eurosystem may establish liquidity arrangements in line with the announcement of the international central banks on "*working towards a regime that ensures there are no technical obstacles for the timely provision of emergency liquidity assistance by central banks to solvent and viable CCPs, without pre-committing to the provision of this liquidity*". In accordance with this announcement, a dedicated arrangement was put in place by the ECB and the Bank of England (BoE). The scope of the BoE-ECB standing FX swap arrangement was extended to cover potential emergency liquidity provision in euro to certain U.K. CCPs.[29] Should the

[29] See details of the arrangement here: https://www.ecb.europa.eu/press/pr/date/2015/html/pr150329.en.html.

swap line be activated for the relevant U.K. CCPs, the credit risk of the CCPs would not be borne by the ECB. The ECB would be lending to the BoE.[30]

43. Still, the lack of a fully harmonized policy results in different policies for EU CCPs and potentially an unlevel playing field. Figure 3 shows that practices for cash deposits vary greatly among CCPs, with some CCPs using central bank accounts actively, while others only use commercial bank accounts. The two CCPs with a banking license will receive a different (normally higher) remuneration on the deposit account, part of the ECB's standard framework, than CCPs without banking license that have access to a current account. The different treatment of CCPs in this area is not in line with the spirit of CCPs competing in the single market.

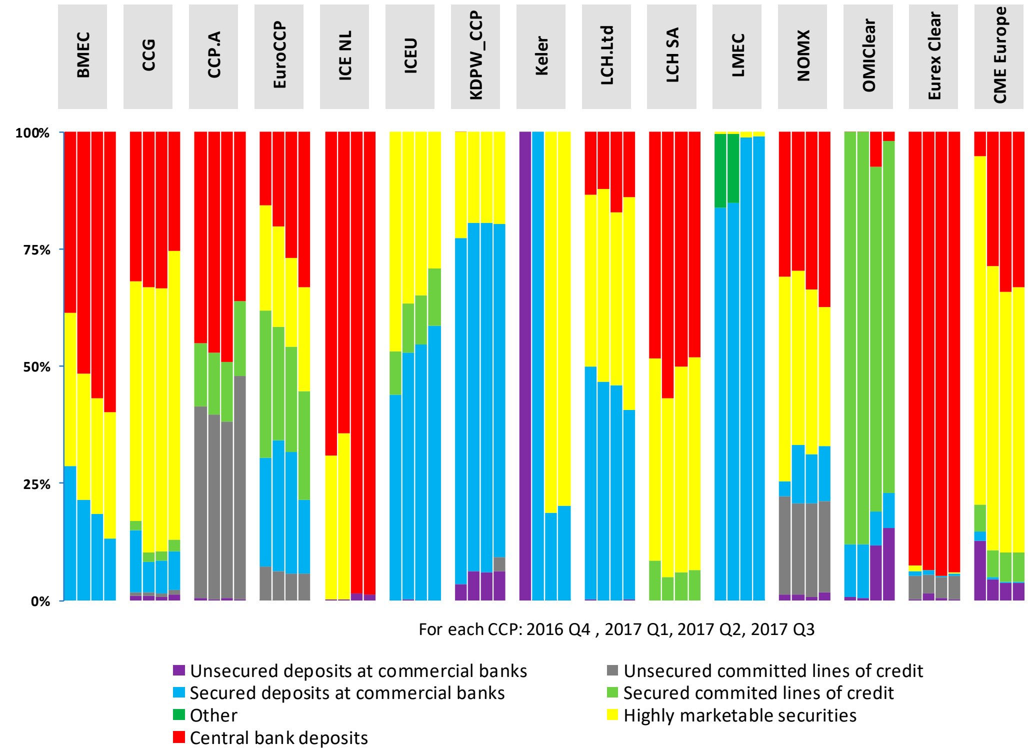
44. Therefore, it is recommended to further harmonize the ECB/Eurosystem's policy for CCPs' access to central bank accounts and liquidity provision across the EU, and within the euro area. Access for all CCPs authorized under EMIR to central bank accounts and liquidity arrangements, under certain conditions, reduces CCPs' dependence on commercial banks and repo markets for liquidity, and thus provides a safety net in times of market strain, which is critical to financial stability. A dedicated, harmonized policy is needed for all CCPs, without distinction between CCPs with and without a banking license, [31] to ensure a level playing field, both for euro and FX liquidity. [32] Third country CCP's needs should also be addressed, i.e. through direct Target2 accounts or other arrangements, to reduce their dependence on commercial banks, if certain requirements are met. The ECB/Eurosystem should take the lead in developing such a policy.

[30] See also the 2018 Euro FSAP Technical Note on Systemic Liquidity.

[31] Banking licenses for CCPs are a legacy from pre-EMIR times, when no harmonized CCP legislation existed in the EU and some countries chose to bring CCPs under the banking regulatory framework. For example, in France it is mandatory for a CCP to have a banking license, in Germany it is an option, and in the Netherlands, it is not possible, given the way the EU Capital Requirements Directive has been transposed into national law.

[32] The 2018 Euro Area FSAP Technical Note on Systemic Liquidity recommends that an assessment should take place as to the potential for CCPs to dis-intermediate the banking system by relying on the ECB's deposit facility for liquidity management purposes, especially in a liquidity stress scenario, and recommends that the ECB/Eurosystem assess the merits of introducing measures, such as ECB deposit facility remuneration limits.

Figure 3. Use of Central Bank Accounts for Deposits by EU CCPs



Source: CCPs' Public Quantitative Disclosures.

Appendix I. List of Individual EU Country FSAPs with FMI Component

ICSDs

Country/ area	Scope	Date publication	Link
Belgium	Detailed Assessment of Euroclear Bank and five responsibilities for Euroclear Bank and the ESES CSDs	December 2013	https://www.imf.org/external/pubs/cat/longres.aspx?sk=41068.0
Luxembourg	Detailed Assessment of Clearstream Banking Luxembourg and five responsibilities	August 2017	http://www.imf.org/en/Publications/CR/Issues/2017/08/28/Luxembourg-Financial-Sector-Assessment-Program-Detailed-Assessment-of-Observance-Assessment-45209

CCPs

Country/ area	Scope	Date publication	Link
Germany	Detailed assessment of Eurex Clearing and five responsibilities	June 2016	https://www.imf.org/external/pubs/cat/longres.aspx?sk=44021.0
Italy	Technical Note on five responsibilities and CC&G risk management	December 2013	https://www.imf.org/external/pubs/cat/longres.aspx?sk=41092.0
Netherlands	Technical Note on five responsibilities and EuroCCP risk management	April 2017	http://www.imf.org/en/Publications/CR/Issues/2017/04/13/Kingdom-of-the-Netherlands-Netherlands-Financial-Sector-Assessment-Program-Technical-Note-44817
Sweden	Technical Note on five responsibilities and Nasdaq Clearing risk management	October 2017	http://www.imf.org/en/Publications/CR/Issues/2017/10/05/Sweden-Financial-Sector-Assessment-Program-Technical-Note-Supervision-and-Oversight-of-45304
United Kingdom	Technical Note on five responsibilities and system wide risks	June 2016	https://www.imf.org/external/pubs/cat/longres.aspx?sk=43967.0

Appendix II. Status Implementation of EU FSAP 2013 Recommendations

See: https://www.imf.org/external/pubs/ft/scr/2013/cr1372.pdf.

Recommendations on the regulation, supervision and oversight of FMIs:	
Early passage of the EMIR technical standards is recommended to provide the supervisory authorities, ESMA and the ESCB with all tools to implement the new requirements for CCPs and establish national colleges.	Implemented through the EMIR RTS
Early adoption of the CSD Regulation is recommended to provide national authorities, ESMA and the ESCB with the legal basis for raising the bar for CSDs.	Implemented through adoption of the CSDR in 2014. The CSDs' authorization process started in 2017 and will continue throughout 2018.
The Commission is encouraged to develop legislation for the recovery and resolution of CCPs and CSDs.	Ongoing for CCPs, with a compromise text being voted for in the European Parliament in January 2018. No legislation plans yet for CSDs.
It is of critical importance that regulators from the EU, U.S. and other relevant countries continue bilateral and multilateral coordination to reduce gaps and inconsistencies between legal and regulatory frameworks for OTC derivatives clearing as a matter of urgency.	Partly implemented through equivalence agreement in February 2016.
ESMA resources need to be significantly increased to enable ESMA to adequately accomplish its extended duties.	Implemented. Resources roughly doubled since 2012.
The ESCB overseers should improve their information sharing regarding CCPs and CSDs and aim for the development of a comprehensive macro view on the financial stability of CCPs and CSDs in the EU.	Implemented. Information sharing takes place through the Market Infrastructure and Payment Committee (MIPC), with separate working groups for CCPs and CSDs.
The ESCB should be sufficiently staffed to fulfill coordination and information sharing tasks with regard to CCPs and CSDs and ensure efficiency in the representation of the Eurosystem in supervisory colleges.	Implemented
Recommendations on cooperation between authorities:	
Euroclear Bank and Clearstream Banking Luxembourg should be amongst the first institutions taken into SSM supervision as the current regulatory and supervisory structure is insufficient to ensure financial stability. The SSM supervision should relate to the banking activities while the CSD activities should be supervised by ESMA and national supervisors under the envisaged CSD Regulation.	Partly implemented. The ICSDs are under the SSM as less significant institutions.

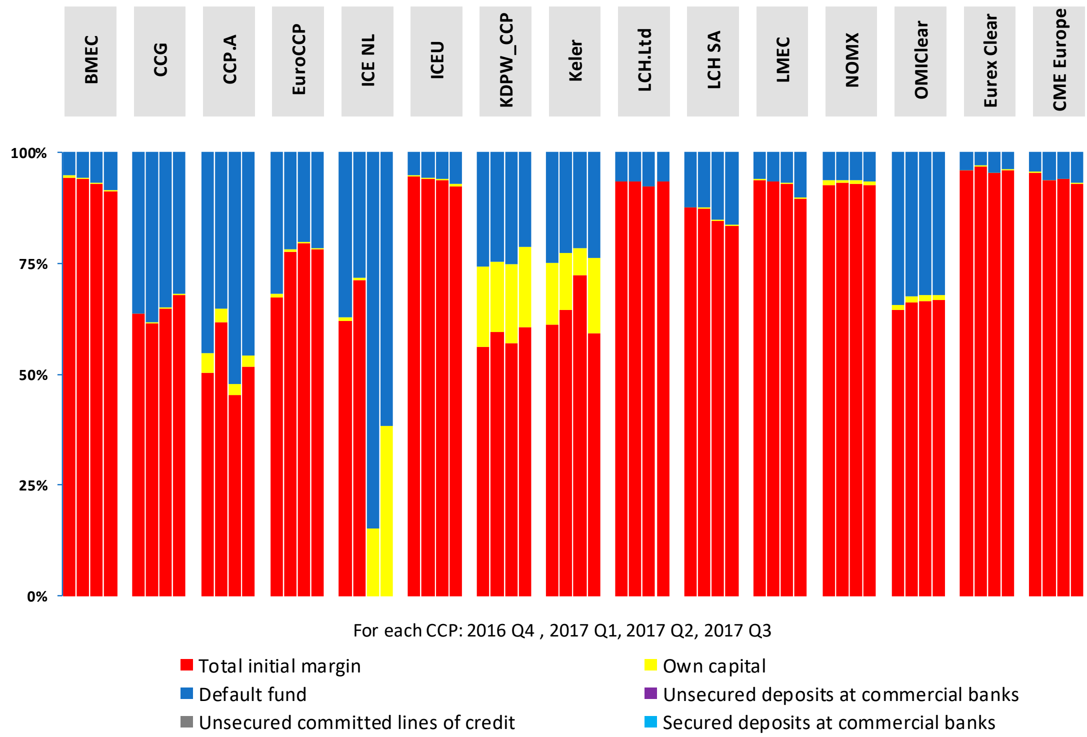
The ECB, ESMA and supervisory authorities should develop a cooperation framework for CSDs that are subject to banking supervision under the SSM as well as supervision under the CSD Regulation.	Nearly implemented. The SSM developed guidance, which is expected to be published H1 2018.
The CSD Regulation should include a requirement for colleges or other comprehensive cooperation frameworks for supervisors of CSDs.	Partly implemented through ESMA Guidelines: these do not cover a requirement for colleges, but the exchange of information between authorities in cases foreseen under the CSD Regulation.
Securities accounts within a CSD, that also provides banking services, should be ring fenced to protect settlement operations in case of a crisis, although additional measures remain needed to ensure continued settlement operations.	Partly implemented through additional requirements for CSDs with a banking license
It is essential that authorities cooperate in the event of a potential major downgrade of one of the member states, to optimize the protection of CCPs and ICSDs in the EU through collateral.	Implemented through the EMIR colleges for CCPs. Not implemented for CSDs.
The Commission should pay particular attention to the drafting of access rights for CCPs and CSDs in the MIFIR and CSD regulation. Access criteria should be non-discriminatory and risk based (excluding business risk), contributing to a level playing field for the offering of CCP and CSD services**.**	Implemented through Markets in Financial Instruments Regulation, the CSD Regulation and additional guidelines.
Recommendations on crisis management procedures:	
Crisis management arrangements between ESMA and the ESCB should be further developed and tested.	Implemented through the EMIR colleges for CCPs. Partly implemented for CSDs.
The SFD notification regime should be reviewed, standardized and enhanced, with the inclusion of all relevant authorities, including the ECB as overseer of TARGET2 and EURO1.	Partly implemented; not implemented at the level of the ECB.

Appendix III. EU CCP Statistics

CCPs	Prefunded financial resources (in million EUR) per end Q3 2017		Asset Class	Average daily value Q3 2017 (in million EUR)
BME Clearing (Spain)	4,330		ETD	8,513
			OTC	3.6
CC&G (Italy)	13,210		ETD	75,811
CCP.A (Austria)	73		ETD	261
Eurex Clearing (Germany)	80,866		Derivatives	415,571
			OTC	5,337
			Securities	6,063
			Repo	181,095
EuroCCP (Netherlands)	1,119		ETD	35,278
			OTC	1,464
ICE NL (Netherlands)	4.9		OTC	na
ICEU (U.K.)	38,337		Derivatives	na
			OTC	8,015
KDPW_CCP (Poland)	297		ETD	390
			OTC	73
Keler (Hungary)	81		ETD	64
			Other	2.7
LCH.Ltd (U.K.)	126,199		ETD	na
			OTC	2,396,065
LCH SA (France)	27,996		ETD	na
			OTC	338,474
LME Clear (U.K.)	7,806		ETD	89,472
NOMX (Sweden)	5,213		ETD	3,036
			OTC	9,251
OMIClear (Portugal)	170		ETD	5.3

Source: CCPs' Public Quantitative Disclosures

Appendix III. Figure 1. Composition of Prefunded Financial Resources EU CCPs



Source: CCPs' Public Quantitative Disclosures.

Appendix IV. EU CSD Statistics

Euro area countries	Value of securities held (end of 2016, EUR million)	Value of transactions 2016 (EUR billion)	Value of transactions as a ratio to GDP
Belgium			
NBB SSS	612,534	8,714	21
Euroclear Belgium	237,006	958	2
Euroclear Bank	12,641,026	445,981	1,054
Germany			
Clearstream Banking AG	7,719,215	46,578	15
Estonia			
ECSD	8,238	3	0
Greece			
BOGS	115,753	3,438	20
Hellenic Exchanges (HELEX)	45,866	33	0
Spain			
Iberclear	2,259,847	54,062	48
Regional SSSs	2,806	4	0
France			
Euroclear France	6,278,449	103,286	46
Italy			
Monte Titoli	3,175,087	66,682	40
Cyprus			
CDCR	8,303	2	0
Latvia			
LCD-DENOS	4,070	5	0
Lithuania			
CSDL	11,036	3	0
Luxembourg			
Clearstream Banking Luxembourg	6,220,119	83,692	1,579
VP Lux	12,697	42	1
LUX CSD	14,975	4	0
Malta			
MSE	14,732	5	0
Netherlands			
Euroclear Netherlands	1,006,512	4,695	7
Austria			
OEKB (WSB SYSTEM)	559,256	199	1

Portugal			
Interbolsa	618,089	172	1
Slovenia			
KDD	28,217	27	1
Slovakia			
CDCP SR	46,813	40	0
Finland			
Euroclear Finland	340,431	583	3
Non-euro area countries			
Bulgaria			
CDA	33,638	0	0
GSD	3,438	11	0
Czech Republic			
SKD	37,164	1,426	8
CDCP	81,505	85	0
Denmark			
VP Securities	1,070,682	6,300	23
Hungary			
KELER	100,852	759	7
Poland			
KDPW S.A.	287,096	12,675	30
SKARBNET4	18,436	106	0
Romania			
SC Depozitarul Central SA	21,040	7	0
SaFIR	28,451	88	1
Sweden			
Euroclear Sweden AB	1,391,842	10,172	22
United Kingdom			
Euroclear U.K. and Ireland	6,787,311	277,190	116