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The clearing of euro OTC derivatives post Brexit: Why a uniform regulation and supervision of CCPs is essential for European financial stability

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No. 592

Volker Brühl

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The clearing of euro OTC derivatives post Brexit – why a uniform regulation and supervision of CCPs is essential for European financial stability

Volker Brühl

June 4, 2018

Abstract:

With a notional amount outstanding of more than USD 500 trillion, the market for OTC derivatives is of vital importance for global financial stability. A growing proportion of these contracts are cleared via central counterparties (CCPs), which means that CCPs are gaining in importance as critical financial market infrastructures. At the same time, there is growing concern that a new "too big to fail" problem could arise, as the CCP industry is highly concentrated due to economies of scale. From a European perspective, it should be noted that the clearing of euro-denominated OTC derivatives mainly takes place in London, hence outside the EU in the foreseeable future. For some time there has been a controversial discussion as to whether this can remain the case post Brexit.

CCPs, which clear a significant proportion of euro OTC derivatives and are systemically relevant from an EU perspective, should be subject to direct supervision by EU authorities and should be established in the EU. This would represent an important building block for a future Capital Markets Union in Europe, as regulatory or supervisory arbitrage in favour of systemically important third-country CCPs could be prevented. In addition, if a systemically relevant CCP handling a considerable portion of the euro OTC derivatives business were to run into serious difficulties, this may impact ECB monetary policy. This applies both to demand for central bank money and to the transmission of monetary policy measures, which can be significantly impaired, particularly in the event that the repo market or payment systems are disrupted. It is therefore essential for the ECB to be closely involved in the supervision of CCPs. Against this background, the draft amendment of EMIR (European Market Infrastructure Regulation) presented on 13 June 2017 is a step in the right direction. In addition, there is an urgent need to introduce a recovery and resolution mechanism for CCPs in the EU to complement the existing single resolution mechanism (SRM) for banks in the eurozone. Only then can the diverse interdependencies between banks and CCPs be adequately taken into account in the recovery and resolution programmes required in a financial crisis.

JEL Classification: G20, G21

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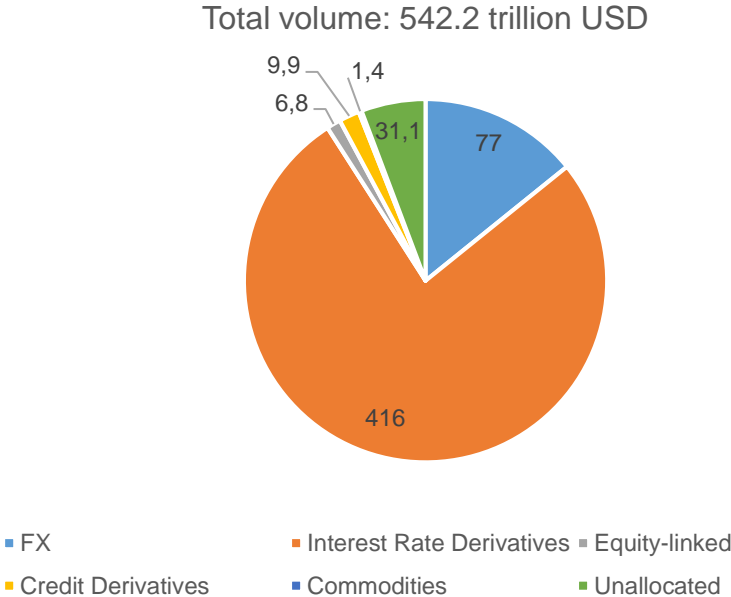
Volker Brühl¹

1. Introduction

With a notional amount outstanding of more than USD 500 trillion, the market for OTC derivatives is of vital importance for global financial stability (Figure 1). Based on the experiences of the financial crisis, it was decided at the G20 summit in Pittsburgh in 2009 that OTC derivatives transactions in particular should be cleared predominantly via so-called central counterparties (CCPs) in the future. In contrast to bilateral OTC contracts, CCPs enter between the original counterparties to a financial transaction, replacing the original transaction between these two counterparties with two transactions between the CCP and the respective counterparties. The CCPs bear the settlement risk of the respective transactions, so that in the event of default by one counterparty, the risk of non-settlement does not directly impact the other counterparties. This means that chain reactions with consequential failures and, in extreme cases, systemic risks cannot arise.

Moreover, clearing via CCPs enables offsetting (netting) of opposing transactions, the combination of transactions with a similar risk profile (compression) and the consideration of correlation effects, for example between contracts with different currencies or between exchange-traded derivatives (ETDs) and OTC derivatives (cross margining). These factors help to ensure a risk-based calculation of the collateral to be provided (margin) as well as the highest possible level of margin and capital efficiency for the clearing members.

Figure 1: The global OTC derivatives market (in trillion USD as at 30/6/2017)



Source: Own chart based on BIS (2017)

The market for central OTC derivatives clearing in Europe is currently highly concentrated. Interest rate derivatives make up the largest part with a share of approximately 75%. Of these,

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approximately 30% are interest rate derivatives denominated in euros, of which approximately 97% are cleared via LCH Clearnet (LCH) in London. Eurex currently has a market share of approximately 1% in clearing OTC interest rate derivatives in euros; US-based CME Group has approximately 2%. The importance of other clearing houses is negligible.² The fact that the majority of euro OTC derivatives are cleared outside the eurozone has been the subject of controversial debate for some time, as a systemically important CCP such as LCH Clearnet could endanger European financial stability due to credit and liquidity risks, and could also have an impact on ECB monetary policy.

The debate on the future clearing of euro OTC derivatives has been gaining momentum for several months, especially since the draft amendment of the EMIR regulation ("EMIR 2") was presented last year. Among other things, this would permit a relocation of euro OTC derivatives clearing for EU-based companies, as the draft provides for the option of only recognising systemically relevant CCPs from a European perspective if they are authorised and established in the EU.³

Proponents of maintaining the status quo advertise the benefits of high market liquidity, which would be reduced by a fragmentation into an EU-based onshore market and a UK-based offshore market. There is great variation in the estimates of the cost advantages for clearing market participants associated with an integrated, cross-currency liquidity pool and the costs of relocating the euro OTC derivatives clearing of EU-based companies. They range from USD 100 billion⁴ to approximately USD 3.2 billion⁵ over a period of 5 years. They also maintain that comparable regulation and cooperative supervision with the ECB could prevent the emergence of regulatory or supervisory arbitrage. According to this viewpoint, regulation and supervision of the relevant CCPs in the UK, which the EU will regard as third-country CCPs after Brexit, will remain unproblematic after Brexit due to the intended equivalence of the relevant provisions. This reasoning is based on a further development of the closely coordinated supervision between the Bank of England and the ECB, which has existed since 2015.⁶

The following explains why the proposed amendment to the EMIR regulation and the associated possibility of relocating euro OTC derivatives clearing could make an important contribution to financial stability and be a key milestone on the road to a European Capital Markets Union.

2. Regulation and supervision of CCPs in the EU

The growing volume of clearing via CCPs is increasing their importance for global financial stability, making stronger regulation and supervision of systemically relevant CCPs advisable. In the European Union, EMIR (European Market Infrastructure Regulation) in conjunction with the supplementary legal acts forms the corresponding regulatory basis for CCPs.⁷ EMIR regulates,

² See EU COM, COMMISSION STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for a Regulation of the European Parliament and of the Council 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 authorisation of CCPs and the requirements for the recognition of third-country CCPs, Strasbourg, 13/6/2017.

³ See European Commission: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL 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 authorisation of CCPs and requirements for the recognition of third-country CCPs, Strasbourg, 13.6.2017.

⁴ See London Stock Exchange, European Commission's 13 June 2017 proposal regarding third-country CCPs, 20 July 2017

⁵ See Brühl, V., "Clearing of euro OTC derivatives post Brexit - an analysis of the present cost estimates", CFS Working Paper Series No. 588, Centre for Financial Studies 2017.

⁶ See ECB and BoE (2015), European Central Bank and Bank of England announce measures to enhance financial stability in relation to centrally cleared markets in the EU, Press Release 29 March 2015.

⁷ Directive (EU) N. 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repository (OJ L 201, 27/2/2012, p. 1-59). On 21 January 2017 the amended Regulatory Technical

among other things, the criteria for transactions subject to the central clearing obligation, the admission requirements for CCPs and the composition of supervisory colleges. Key areas of regulation for CCPs also include risk management methodologies and processes as well as requirements for an adequate equity base and the type, scope and valuation of collateral to cover the risk of CCPs. EMIR also prescribes the establishment of a default fund with the corresponding default management processes and a liability cascade according to the "waterfall principle", which regulates the order in which collateral and liability commitments are utilised. These are largely based on the recommendations of the CPSS (Committee on Payment and Settlement Systems) and the IOSCO (International Organization of Securities Commissions) for the secure and efficient execution of critical financial market processes.⁸ In addition, the amended Markets in Financial Instruments Directive (MiFID II) and the related Markets in Financial Instruments Regulation (MiFIR) also influence the business activities of CCPs, as these regulations govern the provision of investment services for a large number of financial instruments in regulated trading venues. This includes, for example, the clearing obligation for derivatives traded on regulated markets. Overall, the transparency requirements have been significantly expanded in order to strengthen the stability and integrity of the financial market infrastructure.⁹

Like payment transaction systems, central securities depositories, securities settlement systems and trade repositories, CCPs are critical infrastructures for ensuring financial stability, as disruptions to the clearing business, for example due to the default of several clearing members or an interruption of clearing processes, can lead to losses and/or liquidity shortages for clearing members. In view of the diverse interdependencies between CCPs and the clearing members, a supervisory architecture was chosen that provides for the establishment of colleges. For each CCP a corresponding college is set up, comprising the competent national supervisory authority, ESMA (European Securities and Markets Authority), representatives of the national central banks and, where appropriate, other supervisory authorities. The operational supervision activities are largely based on the recommendations drawn up by the Committee of European Securities Regulators in 2009.¹⁰

ESMA conducts model validations and stress tests as part of its supervisory activities. These stress tests are designed to determine whether and to what extent, in the event of extreme but plausible market distortions, the financial resources available to the CCP in question are sufficient to cover any losses or liquidity shortages that may arise. The various scenarios are structured in such a way that different scenarios for market distortions in different asset classes ("market stress scenarios") are combined with the number of simultaneously defaulting clearing members ("member default scenarios").¹¹ The "Cover 2" principle is applied, which means that in the event of a simultaneous default of the two clearing members with the highest risk positions, the CCP in question must be able to bear any resulting losses and/or liquidity shortages. The stress tests also differentiate between cases where the defaulting clearing members of each CCP default simultaneously in all other CCPs (cross default), which can lead to a high number of defaulting clearing members, and cases where, for example, the largest clearing members across all CCPs in Europe (at group level) are assumed to default simultaneously in all CCPs. ESMA's last stress test was carried out in 2017 and showed that, in almost all specified stress scenarios, potential losses could be absorbed by the available collateral, default fund contributions, the CCP's own resources ("skin in the game") or, if applicable, possible further contributions. As for liquidity, the stress could be absorbed by the CCP's own liquid funds combined with external financing sources

Standards (RTS) and Implementing Technical Standards (ITS) for EMIR were published. They came into force on 1 November 2017.

⁸ CPSS-IOSCO, Principles for Financial Market Infrastructures, April 2012 (the PFMI).

⁹ An overview, for example, is provided by Gomber, P., Nassauer, F., Reorganisation of the financial markets in Europe through MiFID II/MiFIR, *Zeitschrift für Bankrecht und Bankwirtschaft*, Volume 26, Issue 4 2014.

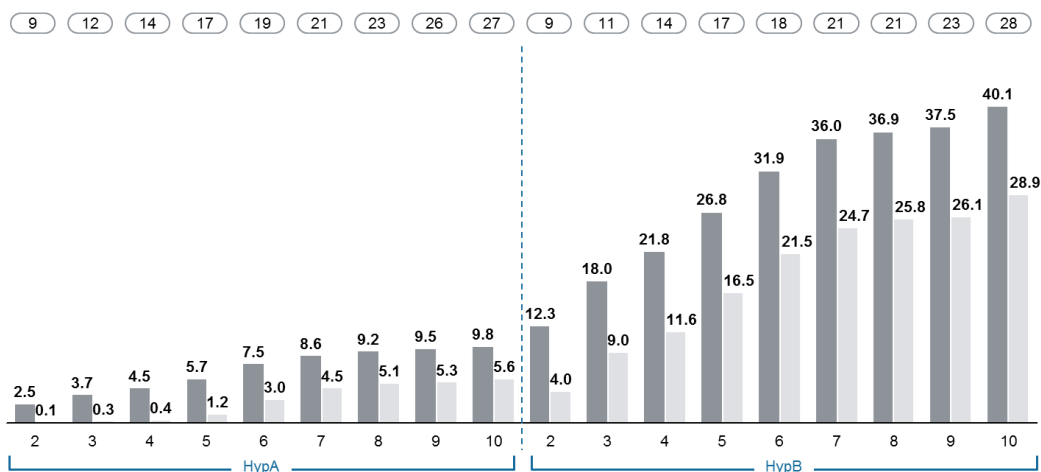
¹⁰ See ESCB/CESR, Recommendations for securities settlement systems and recommendations for central counterparties in the European Union, Paris 2009

¹¹ The scenarios for the market distortions differentiate approximately 550 risk factors for six different asset classes.

(including repo transactions with the central bank). Concentration risks related to the number of clearing members per CCP and possible interconnection risks, e.g. due to joint clearing members, were also included in the simulations.¹²

Although the results of the ESMA stress tests may initially have a reassuring effect and may well be regarded as a success for EMIR, it cannot be ruled out that in extreme cases - and this is what a global financial crisis is all about - CCPs could run into trouble serious enough to threaten their very existence. In extreme scenarios, numerous clearing members could face financial difficulties, with the result that the existing "Cover 2" scenarios or the "inverse stress tests", in which the number of defaulting clearing members is gradually increased, could come up short.¹³ In the penultimate stress test, ESMA itself analysed additional scenarios on the basis of a different methodology. In the most extreme cases, in which the margin requirements were scaled (HypA and HypB scenarios in Figure 2) and the CCP-specific number of defaulting clearing members could reach up to 10, loss risks of up to approximately EUR 40 billion were incurred. These were classified by ESMA as theoretically possible yet not plausible due to the large number of simultaneously defaulting clearing members.¹⁴

Figure 2: Cumulative loss potential in extreme stress situations depending on the number of defaulting clearing members (in EUR billion)



Source: ESMA 2016

3. Implications of Brexit for the regulation and supervision of systemically relevant CCPs

It should be noted that the growing volume of clearing via CCPs is accompanied by a high degree of concentration in the CCP industry, which is likely to increase further due to economies of scale in infrastructure-reliant business models. This trend may also foster a higher risk concentration among individual CCPs. In fact, the existing CCP landscape in the EU already shows a high degree of concentration in individual asset classes. For example, a significant portion of the euro OTC derivatives clearing market is concentrated with LCH Clearnet. This poses a particular challenge for European financial stability, as from the perspective of the EU in general and the eurozone in particular, a highly systemically important CCP will be located outside the EU in the near future.

In view of the upcoming Brexit, there is a question over whether it matters, for cases of preventive supervision or a necessary recovery or resolution of a CCP, whether the CCP in question with a

¹² See ESMA, EU-wide Stress Test 2017, Paris 2018.

¹³ For instance, LCH Clearnet currently has over 100 clearing members in the interest rates derivatives segment.

¹⁴ See ESMA, EU-wide Stress test 2015, Paris 2016, for a detailed description of the stress scenarios.

high share of euro OTC derivatives clearing is located in the EU and therefore subject to direct supervision by European authorities, or whether it is supervised by a third country authority. The answer to this question depends specifically on which constellation better prevents regulatory and supervisory arbitrage and enables any necessary recovery or resolution processes in the EU to be carried out more efficiently and effectively, along with a consideration of how the financial distress of a major CCP could impact ECB monetary policy.

4. The need for a further development of EMIR

Deepening the integration of European financial markets has been part of the European Union's economic policy agenda for many years. Some key elements of the European Banking Union (EBU) have already been largely implemented: the Single Supervisory Mechanism (SSM)¹⁵ and the Single Resolution Mechanism (SRM)¹⁶. A concept for the European Deposit Insurance Scheme (EDIS) is still pending. These building blocks rest on the foundation of a uniform regulatory framework (Single Rule Book).¹⁷ Since 2015, efforts to supplement the banking union with a Capital Markets Union (CMU) have been stepped up. The primary objectives of such a Capital Markets Union are to improve the cross-border conditions for raising capital, particularly for small and medium-sized enterprises (SMEs) and start-ups. Action plans have been adopted for various segments such as covered bonds, cross-border securities transactions, loans, securitisations and venture capital.¹⁸

Financial market infrastructures form the infrastructural backbone of the financial markets. They include payment systems, central counterparties (CCPs), trade repositories (TRs) and central securities depositories (CSDs). They provide the necessary basis for fast, secure and cost-effective processing of a high volume of financial transactions. A further deepening of financial market integration with a view to a European Capital Markets Union must therefore include the uniform regulation and supervision of CCPs. This involves monitoring interoperability and risk management systems, particularly with regard to credit and liquidity risks, which are critical for the operation of CCPs. The present draft amendment of EMIR takes this into account by significantly strengthening the role of central banks in supervisory processes.

Under the existing EMIR, CCPs in the EU are currently supervised by colleges, which may include national supervisory authorities, the European Securities and Market Authority (ESMA) and other authorities. They are coordinated by the competent authority of the EU Member State where the CCP is established. This can lead to divergent supervisory practices for CCPs in the EU, e.g. in authorisation or model validation procedures. This was identified by ESMA as a critical issue in its peer review. Given LCH Clearnet's dominant market position as a future third-country CCP, this aspect is particularly important.¹⁹ In order to prevent different criteria from being applied to the approval of performance-critical risk models of CCPs, particularly for calculating margin requirements or calibrating default funds, a uniform framework for regulation and supervision of CCPs is essential. Cooperative supervisory models cannot replace uniform supervision on such crucial issues. This is because third-country CCPs have incentives to optimise the capital efficiency of clearing members, potentially at the expense of CCPs in the EU. In an oligopolistic

¹⁵ COUNCIL REGULATION (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions.

¹⁶ REGULATION (EU) No 806/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010.

¹⁷ EU COM Updated version of first memo published on 15/04/2014 - Banking Union: restoring financial stability in the Eurozone Brussels, 24 November 2015.

¹⁸ EU COM Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions, Action Plan for the creation of a Capital Markets Union, Brussels, 30/9/2015.

¹⁹ See ESMA, Peer Review under EMIR Art. 21, Supervisory activities on CCPs' Margin and Collateral requirements, Paris 2016.

market structure - which undoubtedly exists in the European CCP market - there is a risk of ruinous margin competition, which can be better countered with uniform regulation and supervision.²⁰

Against this background, on 13 June 2017 the European Commission presented a corresponding draft amendment to the regulation concerned ("EMIR 2"), aimed at preventing regulatory and supervisory arbitrage. Greater convergence and consistency in the supervision of CCPs can make an important contribution to maintaining a level playing field for all European CCPs and avoiding new hidden risks in the domain of critical financial market infrastructures. In accordance with the amendment, the authorisation requirements for third country CCPs will be more clearly differentiated in terms of their systemic relevance. In particular, the Commission's proposal provides for ESMA, in agreement with the EU central banks concerned, to determine that, due to their size, complexity and systemic relevance, even full application of the EMIR to these third-country CCPs would not be sufficient to adequately mitigate the risks to European financial stability. In this case, ESMA may, in consultation with the relevant EU central banks, advise the Commission to only recognise the CCP in question, if it is established in a Member State. The third-country CCPs of systemic relevance from a European perspective would then be subject to direct supervision by the competent European authorities.

To reflect the growing importance of CCPs in general and third-country CCPs in particular for global and European financial stability, the EMIR 2 draft provides for significantly strengthening the role of European authorities, especially of the ECB but also of ESMA. The revised EMIR aims to ensure that the future role of central banks in CCP supervision is strengthened in areas where the mandates of central banks and supervisory authorities overlap. This applies in particular to areas such as interoperability and liquidity risk control. It cannot be ruled out that the imbalance of a systemically important CCP may directly or indirectly influence the monetary policy of the responsible central banks.

5. Single recovery and resolution mechanism for CCPs in the EU

In light of the growing importance of CCPs for the global financial market architecture, it must be ensured that CCPs do not develop into new entities that would be classified as "too big to fail" in the event of another crisis. For this reason, the Financial Stability Board (FSB), in collaboration with the Basel Committee on Banking Supervision (BCBS), the Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO), has drawn up a joint work plan with the aim of developing guidelines to improve the resilience of CCPs and their capacity for recovery and resolution. The guidelines will also cover the appropriate strategies, instruments and measures to be adopted in a case of CCP resolution. The objective is to ensure that such resolution processes do not lead to bail-outs.²¹

There is already a single resolution mechanism for the banking sector. The EU Bank Recovery and Resolution Directive (BRRD) harmonises the instruments for restructuring or resolving credit institutions in the EU and therefore applies to all 28 EU Member States. Furthermore, the Single Resolution Mechanism (SRM) for banks was introduced.²² The BRRD stipulates that if a bank fails, its owners and creditors must normally bear the losses first (bail-in), and a Single Bank Resolution Fund financed by the entire banking industry will only come into play afterwards. The funds of the resolution fund can only be accessed after at least 8% of the liabilities have been

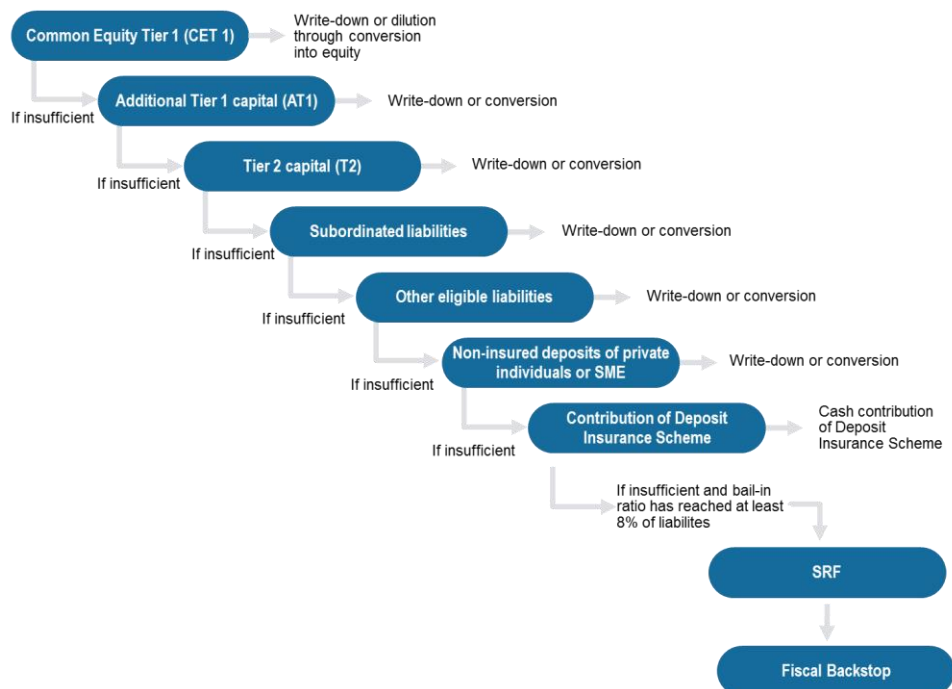
²⁰ See Krahenen, J., Pelizzon, L., Predatory Margins and the Regulation and Supervision of Central Counterparty Clearing Houses (CCPs), SAFE, White Paper No. 41, Frankfurt 2016.

²¹ See FSB, Essential Aspects of CCP Resolution Planning – Discussion Note, 16/8/2016.

²² Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms (BRRD) and REGULATION (EU) No 806/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 (SRM).

written off or converted into regulatory capital. To ensure that a sufficient volume of bail-in-eligible liabilities is available, the EU's Single Resolution Board (SRB) sets a bank-specific MREL ratio ("minimum requirements for own funds and eligible liabilities"). The MREL ratio is the ratio of own funds and bail-in-eligible liabilities to the total liabilities and own funds of the institution in question.

Figure 3: Liability cascade in the SRM



Source: Expanded diagram based on Deutsche Bundesbank (2014)

Figure 3 gives an overview of the liability cascade. As a last resort ("fiscal backstop"), state institutions can still be financially involved in the recovery or resolution of an institution within the framework of the SRM. A resolution as an alternative to traditional insolvency proceedings is only permissible if it is in the public interest. A prime case in point is when a potential insolvency would pose risks to the stability of the European financial system. This is generally to be expected with large, systemically relevant institutions that are highly integrated with other financial institutions. The resolution procedure therefore supplements the insolvency procedure rather than replacing it. The principle of "no creditor worse off" applies, i.e. no creditor may be disadvantaged through resolution proceedings compared to an insolvency.²³

Once the conditions for resolution have been met and a resolution procedure has been initiated, the resolution authority may draw upon a number of "resolution tools" to achieve the stated objectives. These resolution tools are listed in Article 37 (3) BRRD:

- Sale of business
- Bridge institution
- Asset separation
- Bail-in

If a bank's shareholders, creditors and large depositors do not have sufficient funds to properly resolve a bank in distress, the Single Resolution Fund (SRF) can step in under the guidance of the SRB. The funding target for the SRF is 1% of the protected deposits to be achieved by

²³ See Deutsche Bundesbank (2014), The new European rules for restructuring and resolving banks, Monthly Report of June 2014.

31/12/2023.²⁴ The obligation to contribute covers all banks established in the SRM states, irrespective of whether they fall under the direct supervision of the ECB or a national authority in the context of the Single Supervisory Mechanism.

Although a common fiscal backstop mechanism has not yet been developed, direct bank recapitalisation through the European Stability Mechanism (ESM) has been possible since 2014.²⁵ There is also the possibility of indirect recapitalisation through lending to the state, whereby funds from the ESM are only granted upon strict conditions. It is important to emphasise the strict subsidiarity of direct bank recapitalisation. This option cannot be exercised until a bail-in has taken place and the measures of the Member State concerned, possibly with the assistance of the ESM, for example in the form of a loan for (indirect) bank recapitalisation, have proven insufficient.

While the BRRD and the SRM have introduced instruments and processes for the European banking sector, there is currently only a draft for a single recovery and resolution mechanism for CCPs.²⁶ Yet binding regulation, especially of the resolution procedures for CCPs, is necessary in view of the potential risks associated with a disorderly insolvency of a systemically important CCP. In normal insolvency proceedings, where creditor protection takes precedence, the maintenance of system-critical functions is not guaranteed. Furthermore, due to the manifold interdependencies with the SRM and BRRD, such regulation would be indispensable in case of a financial crisis as it would allow for a holistic approach that takes into account the effects of recovery and resolution measures on other systemically relevant financial market participants. The issue of a European framework for the recovery and resolution of CCPs is also becoming more important in view of the forthcoming Brexit as a large proportion of euro OTC derivatives is currently cleared in London.

The European draft is based on the general recommendations of the Financial Stability Board for the effective recovery or resolution of financial institutions, the supplementary guidance for financial market infrastructures²⁷ and the corresponding CPMI-IOSCO guidelines.²⁸ They are supposed to assign clear objectives, tasks and competencies for supervision, recovery and resolution to the competent authorities. These guidelines stipulate that recovery and resolution plans should be drawn up for all systemically relevant financial institutions. The plans should be comprehensive, effective and transparent and should in case of CCPs show the implications for clearing members and, where appropriate, other financial market participants. They should ensure that, anticipating possible crisis scenarios, a swiftly implementable restructuring plan leads to a financial stabilisation of the respective institution, so that the risk of contagion for the global financial system is circumvented without recourse to public funds. In addition, the processes and instruments required for recovery or resolution should ensure that critical functions are maintained in the crisis to prevent systemic risks, while at the same time structuring private-sector liability in such a way that moral hazard behaviour ultimately leading to a bail-out with public funds can be avoided. This applies in particular to the financing of companies during the resolution process. Such recovery plans must be drawn up by the respective financial market infrastructures and examined for their viability by the competent supervisory authorities.

A credible recovery plan should include statements on possible measures to restore adequate liquidity and capital. This includes strategic options such as the sale of individual business units. Company-specific and sectoral stress scenarios must be taken into account. If recovery does not

²⁴ See Single Resolution Board, The Single Resolution Fund, Brussels 2017.

²⁵ See ESM, ESM - Direct bank recapitalisation instrument adopted, press release, Strasbourg, 8 December 2014.

²⁶ Proposal for a Regulation OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a framework for the reorganisation and resolution of central counterparties and amending Regulations (EU) No 1095/2010, (EU) No 648/2012 and (EU) 2015/2365, Brussels 28/11/2016.

²⁷ See Financial Stability Board, Key Attributes of Effective Resolution Regimes for Financial Institutions, 15 October 2014 incl. I-Annex 4: Essential Elements of Recovery and Resolution Plans and II-Annex 1: Resolution of Financial Market Infrastructures (FMIs) and FMI Participants.

²⁸ See CPMI-IOSCO, Recovery of Financial Market Infrastructures, October 2014 (the Recovery Report) Revised July 2017.

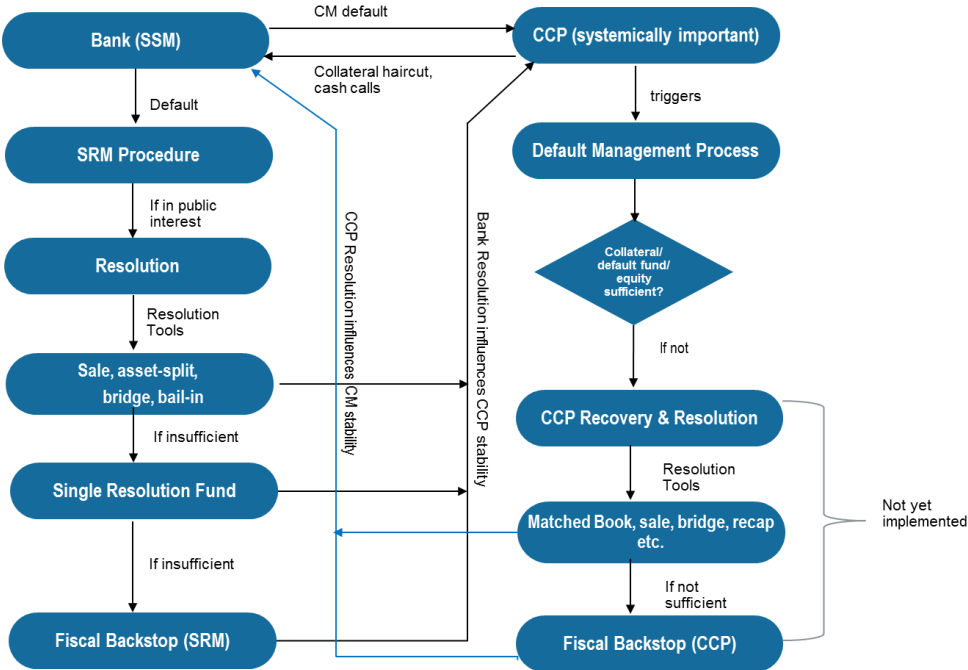
appear possible or economically viable, the CCP concerned may be resolved. The resolution of an institution must be in the public interest. This is the case when it does not appear possible to maintain critical functions and avoid systemic risks in the course of insolvency proceedings.

6. Interdependencies between CCPs and banks require coordinated supervisory, recovery and resolution processes in the EU

The large banks subject to direct supervision by the ECB are generally also clearing members of all major EU clearing houses. If a significant bank is in severe distress and recovery is not possible, the Single Resolution Mechanism (SRM) in the eurozone will come into effect. An orderly resolution outside of insolvency proceedings presupposes a public interest, which is likely to exist in the case of a default of a systemically relevant institution.

Figure 4 demonstrates that the design of a resolution strategy for systemically relevant banks can have a significant impact on the stability of CCPs where the banks concerned are clearing members. Although the regulatory requirements on collateral and default funds ensure a high degree of resilience of CCPs in a normal market environment, situations can arise in a financial crisis where several banks that are clearing members of the same CCP have to be resolved and, in addition, the value of collateral, e.g. for government bonds, decreases as a result of market stress. It should be noted that such scenarios are borderline cases. However, it is the very essence of avoiding or dealing with systemic risks to prepare for low probability but high impact scenarios. Conversely, a CCP running into financial distress may have a substantial impact on the clearing members if they are faced with additional cash calls or if the recovery or resolution of CCPs results in losses for the clearing members. In extreme cases, the recovery or resolution of a CCP may trigger or enforce financial distress and eventually recovery or resolution processes of affected banks.

Figure 4: Interdependencies between clearing members and CCPs in resolution



Source: Own diagram

In a financial crisis, affecting many market participants including CCPs, an effective recovery and resolution strategy has to take into account mutual interconnections between financial institutions.

Therefore, an institutionalised cooperation between supervisory and resolution authorities for banks and CCPs based on a consistent regulatory framework is always superior in terms of preventing or limiting the costs of a crisis. If supervisory or resolution authorities of third countries are involved, conflicts of interest and diverging incentives may lead to recovery and resolution strategies that are driven by national interests rather than the stability of the entire financial system.

Both under the SRM and the proposed regulation on the recovery and resolution of CCPs, state participation in the form of capital backing or a temporary transfer to public ownership could be considered as a last resort, if all other measures have proven insufficient to preserve financial stability. Such state measures, including restructuring the CCP's operations, have to be in line with existing state aid rules and provide for the possibility of recovering the funds deployed from the CCPs in due course.

If a systemically relevant CCP established in a third country without the option of a fiscal backstop has to be resolved, stabilisation measures in the Eurozone may be triggered or enhanced, which could constitute a de facto transfer of risk to the detriment of EU budgets or ECB monetary policy and to the benefit of the third country in which the CCP is established. The avoidance of such false incentives is another argument in favour of an EU-wide uniform basis for the recovery and resolution of CCPs that is compatible with the BRRD and the SRM.

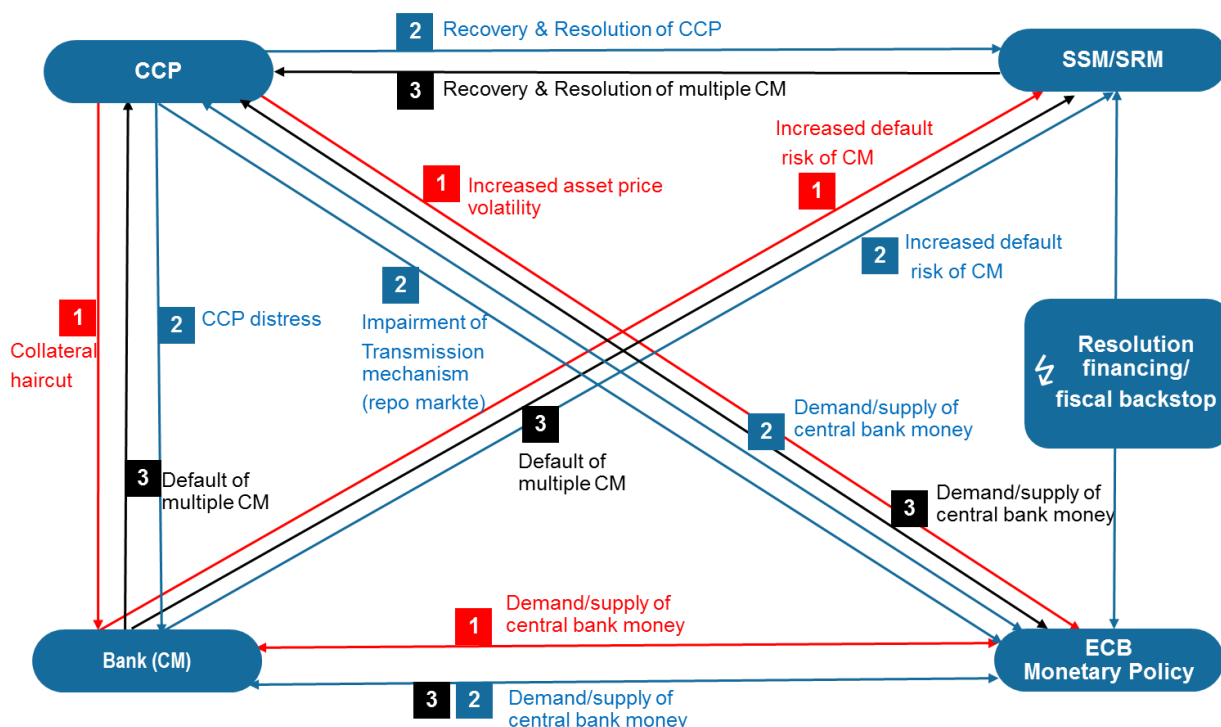
7. CCP-risks and monetary policy

Moreover, systemically important CCPs can influence the ECB's monetary policy through various channels. Figure 5 aims to provide a simplified overview of the complex interactions between a possible default of one or more clearing members, the SRM, the possible resolution of a CCP and ECB monetary policy. For this purpose, three channels are considered, which are differentiated by colour and number in Figure 5.

Haircuts on collateral values

If a CCP has to apply increased haircuts on collateral (e.g. government bonds) due to deteriorated market valuations, this can lead to corresponding margin calls from clearing members (see channel 1 in figure 5). In addition, the resulting liquidity outflows can contribute to an increased default risk of clearing members, which in turn may have implications for the supervision of the respective institutions under the SSM. Finally, haircuts can enhance uncertainty among market participants and ultimately increase volatility of the asset classes concerned. This in turn can affect the ECB's monetary policy decisions, if e.g. liquidity in the money markets declines as a result of increased uncertainty.

Figure 5: Interactions between the recovery or resolution of clearing members (banks), CCPs and ECB monetary policy



Source: Own diagram

CCPs in financial distress

If a CCP is in financial distress and the collateral provided for the respective positions together with the default fund are insufficient to cover losses incurred, the clearing members may be obliged to make additional contributions, which may lead to increased demand for central bank money (see channel 2 in figure 5). In addition, there may be greater demand for central bank money from the CCP itself, which has direct access to central bank money based on its banking licence. In the event of the default of one or more clearing members, the CCP concerned must hedge the open market risk positions, break up or prematurely terminate contracts, realise collateral or sell certain positions by auction in order to restore a matched book. The positions concerned are subject to a market risk (replacement costs) and a liquidity risk if these measures have to be taken in illiquid market segments. This is particularly problematic if the defaulting clearing member has a highly concentrated contract portfolio. This can result in longer liquidation periods and additional losses.²⁹ Therefore, some CCPs impose additional initial margin requirements to cover concentration and liquidity risks.³⁰ It cannot be ruled out that the ECB will have to support a systemically important CCP with liquidity if external sources of financing are not available due to stressed market conditions or lack of trust in the viability of the CCP concerned.

Furthermore, the money markets play a crucial role in the transmission of monetary policy measures. The repo markets are a case in point, but so are the OTC markets for interest rate derivatives. A CCP in financial distress may lead to lower liquidity in these market segments, along with higher risk and liquidity premiums, which may affect the transmission of monetary policy measures or require the ECB to compensate for interbank market frictions with central bank

²⁹ See Benos, E., Wood, M., Gurrola-Perez, P., Managing market liquidity risk in central counterparties, Bank of England 2016.

³⁰ According to a study by CPMI-IOSCO, these are around 35% of the initial margin for interest rate derivatives. CPMI-IOSCO, Implementation monitoring of PFMI: Level 3 assessment – Report on the financial risk management and recovery practices of 10 derivatives CCPs, August 2016.

money. Finally, a recovery or resolution of a CCP may destabilise its clearing members, making restructuring measures necessary at clearing member level. On the one hand, this may bring about greater demand for central bank money from clearing members. On the other hand, the recovery or resolution of a CCP may directly require liquidity support from the ECB if other sources of refinancing are unavailable.

Multiple clearing member default

In a financial crisis, default of multiple clearing members can directly affect the stability of a CCP. In addition, any necessary recovery or resolution processes of clearing members may have indirect repercussions on the relevant CCPs (see channel 3 in figure 5). These interdependencies can also lead to increased demand for central bank money. Ultimately, the ECB may have to cover the crisis-induced liquidity requirements in a manner that simultaneously takes into account the reciprocal impacts of refinancing at clearing member level and CCP level.

8. Conclusions

Uniform regulation and supervision of CCPs supports a Capital Markets Union

The draft EMIR 2 regulation presented by the Council and the Parliament provides for the possibility that systemically relevant CCPs will only be allowed to offer their clearing services to companies in the EU that both fully meet the requirements of EMIR and are also established in the EU, making them subject to direct supervision by European authorities. The associated possibility of relocating a substantial portion of euro OTC derivatives clearing would make sense in terms of avoiding systemic risks and would be an important milestone on the road to a Capital Markets Union in Europe.

Interdependencies between CCPs and banks make coordinated supervisory and resolution processes in the EU essential

Uniform, direct supervision of CCPs that are systemically relevant by EU authorities, closely involving the ECB, is essential to avoid regulatory or supervisory arbitrage. This can prevent incentives for third-country CCPs to optimise the capital efficiency of clearing members by designing corresponding risk models, possibly at the expense of CCPs in the EU.

Single recovery and resolution mechanism for CCPs in the EU

In a financial crisis, measures under the Single Resolution Mechanism (SRM) can be expected to affect several clearing members and thus have a significant impact on the CCPs concerned. Conversely, the resolution of a CCP that is not recoverable may impact the restructuring or resolution measures of clearing members. These multiple interdependencies can only be fully taken into account in a crisis if there is a coordinated supervisory and resolution mechanism for CCPs and banks as clearing members. There is therefore an urgent need to introduce a recovery and resolution mechanism for CCPs in the EU.

CCPs-risks and monetary policy

If a systemically relevant CCP that performs a significant portion of euro OTC derivatives clearing runs into financial distress, this may have a significant impact on the demand for central bank money in euros. This applies in spite of the good collateralisation of CCPs, which results in high resilience in normal market phases. Transmission channels may include increased demand for central bank money from the CCP affected, its clearing members or other CCPs. Besides, haircuts on collateral may lead to higher volatility in the asset classes concerned. Finally, monetary policy transmission mechanisms may be significantly impaired, particularly in the event of disruptions to the repo market and/or payment systems. In this respect, CCPs also constitute critical infrastructures for a functioning monetary policy.

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