An effective recovery and resolution regime for CCPs

December 2014

1. Summary

The European Association of CCP Clearing Houses (EACH) represents the interests of 20 central counterparties (CCPs) in Europe. Since 1992, EACH has worked with regulators and stakeholders on European and global initiatives to reduce risk and to enhance the safety, stability and efficiency of financial markets.

EACH supports the efforts at the global and European level to establish robust recovery and resolution regimes for CCPs. This paper represents an updated version of the EACH paper published in July 2014[1]. It takes into account some of the issues raised in recent public debates as well as the publication of the CPMI-IOSCO and FSB reports on recovery and resolution of CCPs[2]. The views and principles included in this paper are summarised below:

- EACH welcomes the recently published reports by **CPMI-IOSCO and FSB** on recovery and resolution of CCPs.
- A recovery and resolution regime should focus on the **continuity of the CCPs' critical services without having recourse to public funds**.
- CCPs should be subject to a recovery and resolution regime **specific to their operations** and should not be under the same regime as other Financial Markets Infrastructures (FMIs) such as Central Securities Depositories (CSDs).
- A CCP should have in place an **adequate incentives framework** to support an orderly default management, recovery and resolution processes.
- A recovery regime should focus on the tools that CCPs can draw from **above and beyond those required by EMIR**[3].
- **Several stakeholders will have a role** in a CCP's recovery process: the CCP's shareholders, the clearing members, their clients, and the authorities. Their role and obligations must be agreed ex-ante, transparent and their contractual liabilities must be capped.
- CCPs should retain **flexibility in designing recovery tools** to take into account market developments, innovation and the variety of products and markets served.
- CCPs should have **flexibility in the manner they implement recovery tools** in order to be able to manage different default situations.
- In principle CCPs should enter **recovery** once all the pre-funded resources in the default waterfall have been depleted. CCPs should only be put in **resolution** once the CCP's recovery process is exhausted or it is deemed by the regulators to be insufficient.
- The resolution of a CCP should be led by the **resolution authority** of the jurisdiction where the CCP is established. However, there will need to be coordination with authorities in other jurisdictions where the CCP provides clearing services, as envisaged by the FSB.
- Legislators and regulators must ensure a **consistent application** of the recovery and resolution framework **at an international level**, given CCPs may operate in many jurisdictions and clear products which are traded globally.

[1] http://www.eachccp.eu/SiteAssets/EACH%20paper%20-%20CCP%20Recovery%20and%20Resolution%20-%20Jul14.pdf
[2] CPMI-IOSCO report (October 2014) http://www.bis.org/cpmi/publ/d121.pdf
FSB report (October 2014) http://www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf
[3] EMIR (July 2012) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0648&from=EN

2. Why are CCPs important for the stability of the financial system?

CCPs are financial market infrastructures that reduce and manage the counterparty risks in financial markets by becoming the buyer to every seller and the seller to every buyer of an original trade. They prevent the build-up of a network of exposures between market participants and aim to ensure that if one counterparty to the trade fails the others are protected by a prescribed default management procedure, allowing the market to continue to operate. Therefore, CCPs are by design crisis management infrastructures which cover current and potential future exposure between counterparties during the life of a trade. They perform this function through robust risk management tools, such as multilateral nettings, ex-ante collateralisation of market positions and a pre-agreed set of legal and operational rules in case of counterparty default.

OTC derivatives played a role in the financial crisis that erupted in 2008. As the European Commission stated, 'OTC derivatives in general and credit derivatives in particular carry systemic implications for the financial market. (…) their crucial role in virtually all the segments of the OTC derivative market (in the case of Lehman and Bear Stearns) had a negative spill-over effect for the entire OTC market'. The European Commission stressed the opacity of the market and the lack of adequate risk management[4].

As a result of the crisis, on 25th September 2009, the G20 Leaders agreed on a set of measures to improve the functioning of the OTC derivatives markets by increasing its transparency and risk management and protection against market abuse. The measures agreed were:

- **Trading** of all standardised OTC derivative contracts on exchanges or electronic trading platforms.
- **Clearing** of all standardised OTC derivative contracts through CCPs.
- **Reporting** of all standardised OTC derivative contracts to trade repositories.
- Adoption of higher **capital requirements** for non-centrally cleared contracts.

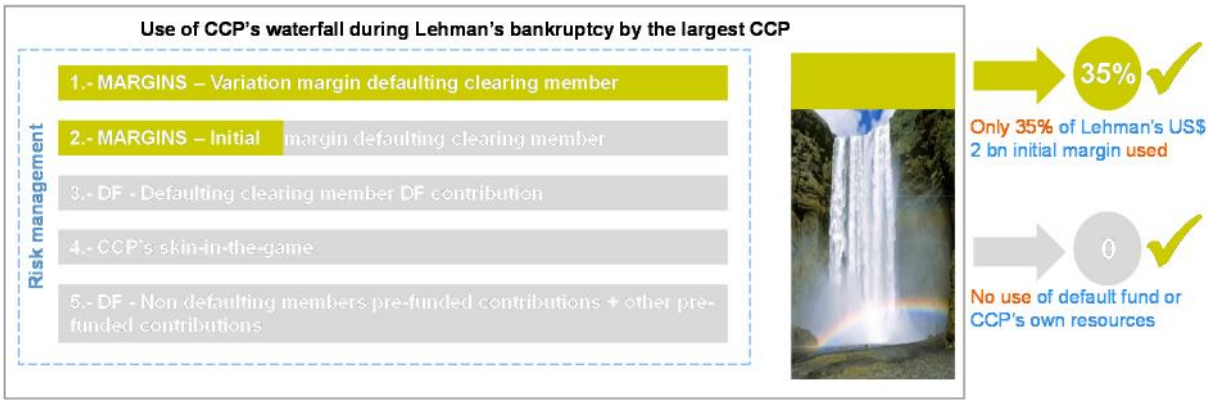
We support the work by the FSB and its relevant members to regularly assess the implementation of the G20 commitment and whether it is sufficient.

[4] 'Ensuring efficient, safe and sound derivatives markets', European Commission staff working paper, COM(2009) 332 final

Box 1 – The Lehman Brothers example

The bankruptcy of Lehman Brothers, a bank very active in OTC derivatives, demonstrated the **ability of CCPs to successfully manage a default** and prevent contagion between market participants. As illustrated below (figure 1), the CCP to which Lehman Brothers had its largest exposure **only used 35% of Lehman Brothers' US$ 2bn initial margin** when managing its default. The CCP did not need to use Lehman Brothers' default fund contribution, the mutualised default fund and the CCP's own capital.

Figure 1 – The Lehman Brothers example



3. Why are CCPs resilient institutions?

The importance of global standards and regulation

The **CPMI-IOSCO Principles for Financial Market Infrastructures (PFMIs)**[5] set global standards for CCPs. In addition, all CCPs established in Europe must comply with stringent requirements set out in the **EMIR regulation**. This regulation sets minimum standards regarding the governance arrangements of CCPs, the way they conduct business (e.g. transparency), the capital they must hold and their risk management framework.

The requirements in EMIR go beyond the international CPMI-IOSCO PFMIs in some respects. This is the case of the minimum confidence level required to establish initial margins to cover potential future exposures resulting from market movements between the default of the member and the liquidation of that member's positions. CCPs must apply a 99.5% confidence level for OTC derivatives and 99% for other instruments. This is aimed at ensuring that CCPs collect sufficient margins to cover potential future exposures. It should be noted that a lack of harmonised risk standards in major trading domiciles (at the commencement of extreme recovery type stresses) presents the potential for flight risk from less to more advantageous domiciles. Removing the potential for such a stampede via coordination of regulatory standards should be a priority.

[5] CPMI IOSCO report (April 2012) https://www.bis.org/cpmi/publ/d101a.pdf

CCPs: Risk management infrastructures based on a system of incentives

CCPs are by design a risk management and mutualisation system. The CCP's waterfall, and within it the clearing fund, is designed to not only provide a substantial buffer of collateral to cover counterparty credit risk, but also to ensure that the participants in the system have **incentives and disincentives which support an orderly default management**.

The first defence in the default waterfall is the initial margin that each member posts to the CCP to cover its individual exposure. Such collateral should be calculated to a high confidence level that is sufficient to limit the risk that each member may bring into the CCP. EACH believes that **EMIR adequately sets high minimum standards for initial margin**. Notwithstanding this, the mutualisation in the default fund creates market discipline for non-defaulting members as they are incentivised to support the CCP in its re-balancing.

One of the reasons why CCPs have been so stable even during extreme market moves is this incentive/disincentive structure, and **it is critical that the recovery and resolution framework does not diminish but rather increase the market discipline** that central risk management creates.

We applaud the CPMI-IOSCO report for highlighting this as a characteristic of recovery tools, and stress that recovery tools should be carefully judged on the basis of their support for an orderly default management process so as to avoid triggering recovery or resolution.

Box 2 - CCPs' 'skin in the game'

An incentive to strong risk management

EMIR requires CCPs to hold '**skin in the game'**[1]**.** A 'CCP operator' is an independent risk manager for its clearing members and it organises a risk mitigation procedure and the corresponding capital to absorb losses. The vast majority of this capital is pledged by the CCP's members as margin ('defaulter pays approach') and default fund ('non-defaulters pay' or 'mutualisation' approach). The CCP operator has the primary responsibility of setting margin levels and default fund requirements and strikes the balance between defaulter pays and mutualisation approaches. This **balance must ensure that prudent capital and default management process incentives are set in a manner that enhances risk management and the integrity** of the cleared market.

Given the central risk management role of the CCP, **it has been best practice for the CCP operator to contribute some of its own capital to the waterfall before mutualisation**. This creates direct '**skin in the game**' for the CCP operator as an institution in the event that a member default cannot be covered by 'defaulter pays' funds only, but must be mutualised. Skin in the game is intended to incentivise the CCP operator to ensure it sets the margins at an appropriate level and designs a robust default management process.

Calibration

It is important that skin in the game is calibrated appropriately. **EMIR enshrined the best practice of CCP waterfalls** as a sequence of defaulter pays, CCP skin in the game, and mutualisation across the non-defaulters. EMIR includes minimum standards for all three components and the skin in the game was set as a relative portion (25%) of the capital requirement of the CCP operator. The capital requirements themselves must also conform to regulation on the CCP's risk profile. This provides a direct relation of the CCP's loss, prior to any mutualisation, in proportion to the size of the CCP.

Skin in the game should not be relative to other dynamic parameters, such as the size of the default fund, as it has been suggested by some market participants. A CCP's contribution should reflect the risk they bring to the market and the accepted philosophy that risk takers must support their exposures, as opposed to subsidising that of clearing members.

Skin in the game is a component of the default waterfall which aims **to align the interests of the CCP with those of its stakeholders**. With their own funds at risk immediately after the defaulter's are exhausted, CCPs have an obvious incentive to ensure margin and other risk management requirements are conservative.

It is important that the incentives of the CCPs' participants and stakeholders are aligned. CCPs align these interests through the participation of clearing members and clients in their Risk Committee, which advises the Board of the CCP on its risk management.

The organisational, conduct of business and prudential requirements to which CCPs are subject under EMIR can be summarised as follows:

Organisational requirements	
Senior management and Board	Rules on adequate experience, composition and roles
Risk Committee (inc. CMs and clients of CMs)	Rules on composition, mandate, governance and confidentiality
Transparency measures:	Rules on record keeping, shareholders, information to be sent to competent authorities
Conflicts of interests	Rules to avoid conflicts of interests through organisational and administrative arrangements
Business continuity	Rules to ensure business continuity through an adequate business continuity policy and disaster recovery plan

Conduct of business rules	
Participation requirements for CMs	Rules to define admission criteria for clearing members to ensure adequate risk management
Transparency	Rules to ensure transparency of prices and fees associated with the services provided by the CCP
Segregation and portability	Rules to ensure protection of the assets and positions of clearing members and its clients

Prudential requirements	
Exposure management	Rules to ensure adequate assessment of liquidity and credit exposure to each clearing member
Margin requirements	Rules to limit credit exposure to each clearing member
Default fund	
Dedicated CCP's resources (skin in the game)	
Liquidity risk controls	Rules to ensure continuous access to adequate liquidity to perform its services and activities
Default waterfall	Rules to ensure the orderly management of the default of a clearing member
Collateral requirements	Rules to cover its initial and future exposure to its clearing members
Investment policy	Rules to ensure prudent investment by CCPs capable of being liquidated rapidly with minimal adverse price effect
Default procedures	Rules to follow when a clearing member does not comply with the participation requirements of the CCP
Review of models, stress testing and back-testing	Rules to ensure adequate risk management

CCPs' compliance with the EMIR requirements described above will be enhanced through compliance with the upcoming **CPMI-IOSCO global transparency standards**. These

standards should assist authorities, current and prospective participants of CCPs and the public in general to better understand the risks associated with a CCP and the risk controls applied by them.

4. What are the objectives of a Recovery and Resolution Framework?

Although CCPs have performed extremely well during the recent financial crisis, EACH welcomes the efforts by public authorities to put a **recovery and resolution regime in place that focuses on the provision of the CCPs' critical services** in times of utmost stress without having recourse to public funds. The core objective of CCP recovery and resolution planning is to ensure that control and an orderly decision making process based on facts and effective action is taken if a market crisis requires it.

It is important to note that the recovery and resolution framework envisaged in the international guidance would be applied to a very extreme scenario, far worse than that experienced at the height of the financial crisis in 2008.

Given that CCPs may operate cross-border and clear products which are traded globally, **public authorities must ensure a consistent application of the recovery and resolution framework at an international level** in order for it to be efficient for financial stability. Since CCPs undertake distinct economic functions related to counterparty credit risk management and operate in a different manner than banks as well as other FMIs such as Central Securities Depositories (CSDs), it is essential that CCPs are subject to a recovery and resolution regime appropriate to their activities.

5. How do Recovery and Resolution interact?

Recovery

The trigger for entry into recovery will depend on the cause of the losses (i.e. clearing member default or other causes) as the Figure 2 below shows.

In the event of a credit loss occurring from one or several member defaults, **CCPs should implement their Default Management Process (DMP) before entering into recovery or resolution**. During the DMP, CCPs use the pre-funded resources in their default waterfall (the defaulting member's initial margins and default fund contribution, a dedicated proportion of the CCP's own capital ('skin in the game'), and the balance of the mutualised default fund to cover any losses incurred when liquidating or transferring the defaulter's positions. The process of liquidation and transfer of positions can occur in different way as explained in Box 3.

In principle, CCPs should enter recovery once all the pre-funded resources in the default waterfall have been depleted without the default having been fully resolved (i.e. CCP has not regained a matched book), but not before[6]. CCPs will need to define the specific triggers in their recovery plans. CCPs will typically have a range of recovery tools available, including the power to call for further funds from clearing members, known as assessment powers, as well as further means of allocating losses which may continue to arise from the defaulter's portfolio. CCPs will have arrangements in place for temporary or permanent service closure once such limits are reached.

Box 3 – What happens in a CCP following a member default

A member default is the only situation that leaves a CCP with an unbalanced book.

The CCP follows a procedure to rebalance the matched book which consists of the following: **macro-hedging** the affected portfolios (trading into the positions) or organising **auctions** for clearing members. In either case, but especially for the latter, a CCP will enter a limited number of trades which roughly match the unbalanced exposure, so as to hedge itself.

Should a CCP be unable to re-establish a matched book through macro-hedging or auctions, the open trades can causes profits and losses to the CCP. Tools to ultimately **enforce a matched book** are thus part of the default management, recovery and resolution.

Once the default management is completed, the **CCP is rebalanced**, and all the non-defaulting members' initial margin and remaining positions are intact.

[6] In some non-EU jurisdictions, some more flexible arrangements may be in place.

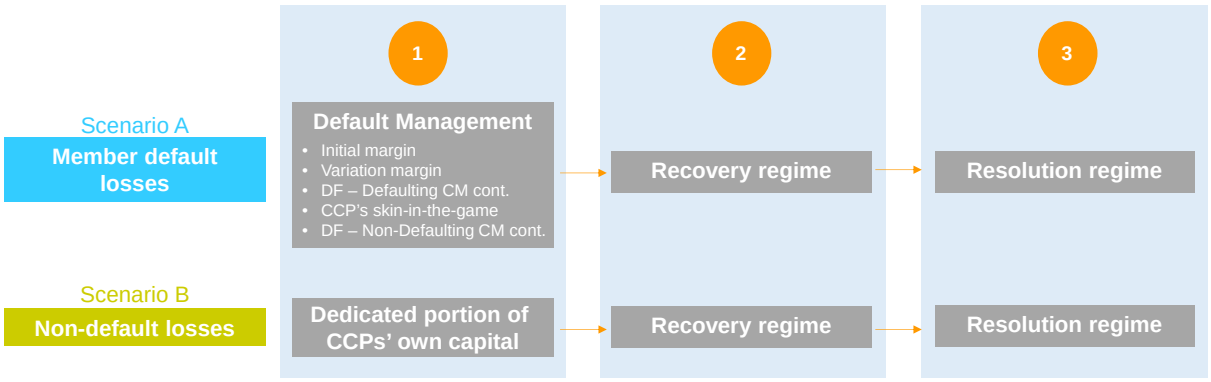
Resolution

EACH believes that a **CCP should only be put in resolution once the CCP's recovery process is exhausted or it is clear that it will be insufficient** to restore the CCP's viability. This is reflected in the FSB's guidelines on resolution which prescribe that resolution is triggered when 'the recovery tools failed to return the FMI to viability, have not been implemented in a timely manner, or relevant authorities determine that recovery measures are not likely to return the FMI to viability'[7].

Resolution authorities should be aware of the ex-ante orderly wind-down approaches of CCPs and only intervene when such approaches would result in a worse outcome for the overall market stability. Resolution authorities should consider the impact of their actions on the market against the certainty from the ex-ante orderly wind-down approaches.

Figure 2 below shows the different stages of the processes of default management, recovery and resolution, triggered to cover losses arising from a clearing member default as well as in the case of losses arising from other sources.

Figure 2 – Stages following member default and non-default losses



[7] http://www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf

6. Recovery

6.1. What are the key principles of an effective recovery framework for CCPs?

It is essential that CCPs retain flexibility in designing recovery tools given that innovation and changes to the market structure may lead to the development of new tools and make other tools obsolete. In addition, different tools could be appropriate depending on the source of the losses and on the type of markets and products cleared; a 'one-size-fits-all approach' is not suitable. As an example, although CCPs usually have credit institutions as clearing members, some CCPs may have non-financial firms (e.g. energy trader, producer, consumer, etc) as clearing members. This is currently the case for some commodities CCPs.

Several stakeholders will have a natural role in a CCP's recovery process. These are the CCP itself, including its stakeholders, its clearing members and their clients, and regulatory authorities. The clients of CCPs are diverse and include banks, investment firms, hedge funds and traditional asset managers as well as non-financial companies hedging financial, energy or raw materials risks.

Although CCPs are responsible for implementing their recovery plans, their supervisory authorities should closely monitor their implementation.

It is important that the recovery tools are transparent, predictable and to the extent possible agreed ex-ante so that the stakeholders of the CCPs, clearing members, and their clients understand how the recovery tools might be applied in advance. It is also important that the tools are designed carefully considering the incentives to retain or not membership in the CCP.

Box 4 - Key principles for an effective Recovery framework

Continuity of critical services - EACH supports the policy objective of recovery plans which is to ensure CCPs continue to provide critical services under extreme stress scenarios

Structure - EACH believes that CCPs should be allowed to implement their recovery plan before resolution authorities intervene, unless there is evidence that the recovery plan is likely to fail or to compromise financial stability.

Transparency - Recovery tools should be agreed ex ante, transparent and predictable for the benefit of stakeholders.

Flexibility - CCPs should retain the flexibility to implement tools that are more appropriate to the products they clear.

Fairness - CCPs should be able to allocate losses in an equitable manner to all participants.

6.2. Analysis of recovery tools to cover credit losses from clearing member defaults

Table 1 below describes a number of **recovery tools** suggested by policy makers to allocate losses that arise from a clearing member default. They are not mutually exclusive and CCPs may use a combination of them. In addition, some of the recovery tools may also be appropriate in a resolution scenario. Table 1 highlights which tools might be appropriate, to address recovery actions based on the driver of the stress. It also specifies whether a specific tool already forms part of a CCP's rulebook ahead of any EU legislation.

In addition, mainly for losses of a smaller scale and in consultation with their competent authority as need be, some CCPs may decide to use other **ad-hoc tools** such as voluntary member commitments, asset sales, private/public loans or insurance contracts. Initial margins of non-defaulting members are protected under EMIR and should not be used either in the course of a default management process, or during recovery.

Some European CCPs have interoperability arrangements with other CCPs[8]. This allows two counterparties to a trade to clear at their respective CCPs which are linked and exchange margins to cover the exposure of one another. However, to avoid contagion risk, the two CCPs do not share default funds with each other. The recovery tools below would continue to work where such arrangements are in place, provided that the interoperating CCPs do not participate in the assessments and loss distribution of another CCP.

Table 1 - Analysis of recovery tools to cover credit losses from clearing member defaults

Type of tool	In place at some CCPs	Adequate for	Characteristics
1.- Assessment power Additional contributions from participants	Yes	Any product	Size of contribution is relative to the participant's contribution to the pre-funded default fund. Contributions are not pre-funded but members could chose to set aside capital on their books for this contingency. Typically callable immediately from clearing members in cash in a liquid currency.
2.- Variation Margin (VM) haircutting / Profit Cropping Reduction in the net VM gains / profits due to the non-defaulting members	Yes	OTC derivatives Listed Futures & Options	The defaulter's VM losses/losses are distributed to all clearing members and clients with net VM gains/profits and not to all clearing members Different types of contracts are subject to varying methods of haircutting/cropping e.g. mark to market, contingent, profit and loss flows. VM haircutting or profit cropping may be effected differently by different CCPs. Unless capped, the retroactive cumulative sum of clearing participants' VM gains/profits since a participant's default will always be sufficient to cover the defaulter's mark-to-market losses in the same period. How haircuts are applied to customers may vary per CCP and depends on the contractual

[8] The references to interoperable CCPs in this document refer to equity and bonds CCPs, in line with the scope of the related provisions included in EMIR.

			arrangements between the clearing members and the customers.
3.- Loss distribution Sharing the defaulter's VM losses across the non-defaulting clearing members	Yes	Any product	Under loss distribution, the defaulter's VM losses may be distributed across all clearing members, usually in proportion to the risk they pose (i.e. by default fund contribution, or initial margin), and not just those clearing members with positive VM, such as for VM haircutting and profit cropping.
4.- Allocation of positions The CCP closes member positions in a specific asset class/market segment at prices it can make	No	Any product	If the CCP has positions with uncovered losses, it terminates these positions towards the members that has made a gain. This should be done pro-rata, effectively shrinking a members' exposure to the asset class/market segment of the market where there is a loss that the CCP cannot cover with its resources.
5.- Temporary closure of one particular clearing service The CCP legally closes all contracts early, at price X. On some later day, all the contracts are mandatorily re-opened, except those of the defaulted clearing member, at price Y	Yes	Any product	Any safeguards such as the maximum loss that can be allocated to clearing members through this method should be pre-determined. Challenges around determining the re-open price.
6.- Permanent closure of one particular clearing service All positions in the particular clearing service are terminated irrevocably at a price chosen by the CCP	Yes	Any product	Allows members to stop supporting a particular clearing service that may have become undesirable because of the nature of the crisis. Other 'healthy' clearing services can continue.

6.3. Recovery tools to cover Operational or Treasury losses

CCPs could incur operational or treasury losses. However, the magnitude of these losses would generally be much smaller than those related to a member default. Operational losses could be caused by cybercrime, legal claim, employee fraud, etc. Since EMIR however prevents CCPs from depositing more than 5% of their financial resources in cash with commercial banks, and central banks do not accept overnight investments from CCPs, CCPs have to invest the majority of cash collected as margins and default fund contributions. Although EMIR sets prudent investment standards, in an extreme scenario, such as government or repo counterparty default, this could lead to treasury losses.

Under EMIR, CCPs are required to hold sufficient capital to conduct an orderly wind down as required by the Principles for Financial Market Infrastructures (PFMIs)[9]. They are also required to hold capital for credit, counterparty, market, operational, legal and business risks. European CCPs must maintain sufficient capital for the absorption of operational losses and losses from their investment portfolio.

[9] CPMI IOSCO report (April 2012) https://www.bis.org/cpmi/publ/d101a.pdf

In the case of interoperable CCPs, in order to avoid any potential contagion effect, a CCP should not be required to cover the non-default losses of the CCP with which it has an interoperability arrangement.

6.4. Recovery tools to cover liquidity shortfalls

Liquidity shortfalls represent the risk that the CCP is not able to meet its financial obligations when they fall due, even though it may be able to do so in the future. **EMIR sets high standards for CCPs' liquidity needs: a CCP needs to cover the liquidity need stemming from the default of its two largest clearing members.**

The primary sources of liquidity for a CCP are the cash posted by its members to meet their margin requirements and contribute to the mutualised default fund and the CCP's own resources. Another source of liquidity is represented by the securities which CCPs lend out to borrow cash (Repo transactions); these are securities that the CCP may have purchased or reversed in previously in a cash/securities transaction, and not securities received to cover Initial Margin requirements. Some CCPs also have access to short-term liquidity from central banks[10]. EACH believes that to increase financial stability this access should be extended to all CCPs that meet robust standards and include liquidity in the major currencies cleared by the CCPs;this may necessitate swaps lines between central banks. Finally, CCPs can rely on committed credit lines with third party institutions and can consider requiring participants to post margins and default fund contributions in cash rather than securities.

7. Resolution

7.1. What are the key principles for an effective resolution regime?

Continuity or Wind-down

CCPs should describe the steps they would take if all recovery measures fail, with resolution authorities reserving the right but not the obligation to intervene. **A resolution authority will face the choice of attempting continuity or conducting a wind-down of the CCP**. The former is expected to be the preferred choice, but the latter must always remain a possibility as there is always a limit to the value of a market.

Should a resolution authority intervene once the CCP and market attempts at recovery have failed, it should decide on the best course of action for financial stability. It can enact this for instance by **reapplying or extending any recovery tools and potential additional resolution tools**.

Bank resolution is different to CCP resolution

The resolution regime designed for banks in the Eurozone, which is based on a single resolution authority and a single resolution fund is not adequate for CCPs because there are substantial differences between banks and CCPs. These include their supervisory architecture,

[10] In this context, it is worth noting the decision by the Bank of England to extend access to its Sterling Monetary Framework (SMF) to CCPs operating in UK markets, either authorised under EMIR or recognised by ESMA. (http://www.bankofengland.co.uk/markets/Documents/money/publications/redbook.pdf)

the parties that would be affected by their failure and their lines of defence. Under EMIR, CCPs are supervised by national competent authority assisted by a college of regulators and not by a central supervisory authority. In the case of the failure of a CCP, the jurisdiction in which the CCP is established but also those jurisdictions where its members, linked CSDs and trading venues are established would be affected. The use of **a college of resolution authorities,** across all jurisdictions with a working knowledge of CCPs, would therefore be most appropriate.

CCPs' **mutualisation of losses** is already central to their risk management framework as the default fund is a mechanism for the mutualisation of the losses that arise from the management of a member default. The recovery tools also contain a mutualisation element as the surviving members ensure that the CCP's services are maintained by contributing further resources. A single resolution fund for CCPs would incentivise EU CCPs and their members to be the first to access the fund in a default situation, in order to make the most of the finite resources available. This would be the wrong organising principle to adopt in legislation, as it would lessen the ex-ante focus on supporting the default management and ensuring appropriate funds are available in each CCP's waterfall.

Table 2 - Key differences between a CCP and a bank

Issue	CCPs	Banks
Business objective	Counterparty risk mitigation	Various businesses related to risk taking: fractional reserve banking, investing on own account, investing on the account of its clients, securitisation, provision of loans, maturity transformation etc.
Probability of default	CCP's assume a probability of default of 100% in the margin model without credit assessments.	Banks typically consider counterparty credit risk with probabilities of less than 100%.
Risk management	Conservative risk modelling as demonstrated during the crisis	Risk management models challenged during the crisis
Lines of defence	Capital, Variation Margins, Initial Margins, Intraday Margin Calls, Concentration and other buffer margins, Powers of assessment, CCP skin in the game, Default funds	Capital only
Collateralisation	Exposures fully collateralised	Collateralisation models challenged during the crisis
Economising collateral	Yes, multilateral netting allows less collateral to bet set against risks	No

Derivatives activity	Only standardised derivatives cleared	Enter into both standardised and non-standardised derivatives
Process in case of default	Structured and transparent DMP	Depending on counterparty, typically a case-by-case application of close out netting and individual trading over time.

The resolution authority should be the supervisor of the CCP

Furthermore, the resolution of a CCP is most likely to be effective if it is being **led by the resolution authority of the jurisdiction in which the competent authority of the CCP is established**, because the latter will be most familiar with the CCP's operations and will be able to act decisively. However, the lead resolution authority should cooperate closely with the resolution authorities of other jurisdictions that have a legitimate interest in the resolution of a CCP in question. Finally, the efficient resolution of a cross-border CCP will be facilitated if the relevant jurisdictions have taken a consistent approach to CCPs' recovery and resolution regimes.

In the case of resolution of a CCP that belongs to a group, the resolution authority should step-in at the lowest possible level of consolidation. Other FMIs in the group might not be affected.

7.2. Analysis of resolution powers

Table 3 - Analysis of resolution powers

Type of powers	Characteristics
1.- Recovery tools	The resolution authority may decide to use the recovery tools described in Table 1. In practice, a resolution authority can extend, re-use, or modify any of the asset increasing or liability reducing tools as required.
2.- Initial Margin haircutting	Initial margins are not intended to be used to cover losses other than those incurred by the participant who posted them. While using initial margins could help resolve a CCP under some circumstances we recognise that it would undermine the concept of 'bankruptcy remoteness'.
3.- Transfer to third party	It is an effective tool as long as it is possible to obtain new assets or reduce liabilities when applied. It is likely to be easier between CCPs with overlapping membership and products. Such CCPs may be similarly affected by the severe conditions which caused the CCP failure. Even if this were not the case, it may be difficult for a CCP to prepare to accept the transfer of open interest from what is likely to be a broken market. Resolution authorities should be able to effect such transfer without the consent of the failed CCP, but not without the consent of the viable CCP to which the contracts are to be transferred and its regulators.

	Transfer of business from one CCP to another may raise the following challenges: • Complexity in transferring positions and collateral • Amending clearing member's agreement. • The receiving CCP obtaining all the necessary information for performing adequate risk management (e.g, calculate margins) by • Maintaining connectivity with the regulated market/CSD • Potential conflicts of law if the receiving CCP is located in a different jurisdiction
4.- Forced recapitalisation/recapitalisation fund	Forced recapitalisation by shareholders is inconsistent with the principle of 'no creditor worse off' than in insolvency and would lead to shareholders paying to save the CCP participants' positions, Shareholders would, however, be expected to contribute what they can in recovery attempts. Recapitalisation funds which assume control/equity in a CCP also pose a conflict of interest, as the participants of CCPs might not support a default management to acquire the CCP.
5.- Conversion of outstanding debt into equity	Not a relevant tool for CCPs since they do not generally issue debt.
6.-Stay on members' termination rights	A stay on members' termination rights could be counterproductive. The mere threat of such a stay could be sufficient to incentivise termination by clearing members prior to the resolution phase, which would hinder the resolution of the CCP.
7.-Moratorium of payments by CCPs	Generally not desirable. In certain circumstances, however, putting in place such a moratorium, a temporary suspension of the market or "false weekend" may be appropriate. Such moratorium should not be extended to interoperating CCPs to avoid contagion.

8. Interaction between resolution regimes for banks and CCPs

In order to support the successful resolution of banks, a CCP should not put a clearing member in default solely because it is in resolution. However, **it is essential that the CCP retains the power to put a member into default as soon as it fails to meet its obligation towards the CCP (i.e. paying the required margins)**. If the CCP does not retain such power, the instability of that bank is immediately transmitted to the CCP and from there to direct and indirect participants in that CCP. Similarly, it is essential that the resolution authorities of banks do not have the power to bail in derivatives that are cleared and settled through a CCP. Otherwise the effectiveness of the CCP's default management mechanism would be severely damaged and contagion risk, and therefore systemic risk, would be magnified instead of contained.

9. Closing remark

EACH hopes that relevant stakeholders will find this contribution to the ongoing debate on recovery and resolution of CCPs valuable and it will assist the regulatory community in Europe and other jurisdictions as it further develops legislation on the topic.