DEUTSCHE BUNDESBANK EUROSYSTEM

EUROPEAN CENTRAL BANK EUROSYSTEM

FEDERAL RESERVE BANK OF CHICAGO SEVENTH DISTRICT

Third Annual Joint Conference of the Deutsche Bundesbank, European Central Bank and Federal Reserve Bank of Chicago on CCP Risk Management

Summary of proceedings

Introduction

On **3 March 2021** the European Central Bank (ECB) hosted the third annual joint conference of the Deutsche Bundesbank, the ECB and the Federal Reserve Bank of Chicago on CCP Risk Management. The virtual event, which was by invitation only and held under the Chatham House Rule, brought together over 300 participants from industry, regulatory bodies, central banks and academia. The programme can be found here.

Fabio Panetta, Member of the Executive Board of the ECB, opened the conference with a welcome address entitled "Central clearing and the changing landscape". His remarks were followed by three panel debates, as summarised below.

1 Panel 1: Lessons being learned from the coronavirus (COVID-19) crisis

The panel started off by remarking that the coronavirus crisis had put the global financial system through its first real stress since the over-the-counter (OTC) derivatives reforms brought in by the G20 ten years ago. Those reforms were designed to avoid counterparty credit risk – and perceptions of that risk – when stress occurred, both by ensuring the proper collateralisation (or margin) for derivative exposures as such exposures changed and by securing transparency and assurance about the robustness of that protection. It was commented that the global financial system had functioned smoothly from February 2020, when the coronavirus crisis began to affect derivatives markets, to the present day; margins had gone up but there had been no defaults, counterparty credit risk had not emerged, and CCPs had operated with no disruptions. Against this background, the panellists concurred that, at a very high level, the G20 reforms had worked and served to manage risk, even if they might have amplified stress in general and liquidity stress in particular. They also agreed that this crisis was an opportunity to make consistent global to the clearing ecosystem.

Regarding the performance of risk models during the coronavirus crisis, it was remarked that the impact of increased trading volumes would have to be separated from the impact of risk models and a distinction would have to be drawn between variation margin (VM) and initial margin (IM), in terms of both their purpose and their impact. It was stated that VM should simply reflect mark-to-market profit and losses between market participants and that a VM call may put the liquidity of those who have to pay it under stress but, at the system level, it redistributed liquidity without draining it. Nonetheless, there may be room for reducing the stress posed by the way CCPs calculate, collect and parcel VM in practice. The panellists considered the behaviour of IM during the coronavirus crisis harder to evaluate. After highlighting that the purpose of IM was primarily to protect the members of a clearing house – as the latter neutralised risks through the default fund if IM was insufficient to cover default – the panellists agreed that IM should increase when volatility rises. However, they also acknowledged that IM was driven by model choices that differed greatly between CCPs, services and jurisdictions. They noted that, since there was no international standard that could help judge what change in IM was necessary or what was unnecessarily procyclical during the coronavirus crisis, a view had to be formed by a relative comparison, making sure that like was compared with like and also looking at how measures designed to dampen procyclicality had worked in practice.

The panel shared the view that the market events observed in 2020 were tail events that most margin models were not programmed to expect, and possibly rightly so, given that margin models were meant to cover 99% or more of a possible risk scenario. In this vein, the panel (1) argued that the margin breaches – which CCPs registered when IM was not large enough to cover mark-to-market exposures in some positions – were not indications of model failures (yet those breaches may convey helpful information for recalibrating margin models); (2) advocated for lookback periods in the data used to predict IM to incorporate relevant market dislocations, and for the margin period of risk to more rigorously fit the actual contract risk, instead of depending on whether the contract is centrally cleared or traded on exchange or OTC; and (3) suggested adopting robust margin floors to guard against extreme jumps in IM and carrying out a review of unscheduled intraday IM call practices while recognising that intraday margin calls remain essential for the resilience of CCPs during times of high market stress.

Regarding margin procyclicality, the panel remarked that during times of general liquidity stress, it was to be expected that margin calls would add to pressure on liquidity – the so-called “dash for cash” – and the fact that margin calls moved in the same direction of the cycle was not a bug in the system but a necessary feature of the system. They noted that, when asset prices changed rapidly and materially, the cost of collateral to cover those exposures (margin) went up. Then, concerning the margin calls observed in 2020, the questions to ask were whether they were unnecessarily procyclical, whether the measures designed to dampen procyclicality actually worked, and whether policy changes were necessary to improve the resilience of the financial system under liquidity stress.

The panel agreed that IM was intended to guard against procyclical impacts while covering counterparty risk. Some panellists shared the view that anti-procyclicality measures needed to be addressed so as to avoid liquidity stresses across the market. Panellists expressed contrasting views on CCPs' approaches to margin models: advocating for more conservative margin models to smooth out margin volatility, some complained that some IM more than doubled during the coronavirus crisis and jumped to unexpected levels not commensurate with risks, especially in the OTC forex derivatives space. Other panellists, remarking that changes in IM had been more muted in Europe than the United States thanks to the anti-procyclicality measures in place, recommended consistent application of anti-procyclicality measures across clearing houses worldwide, thereby moving away from the current principles-based approach. The firm belief was expressed that in 2020, the margin needs of the clearing ecosystem had aggravated the liquidity strains in the overall market due to the absence of effective anti-procyclicality measures. However, some panellists opposed the pursuit of such highly prescriptive, one-size-fits-all anti-procyclicality measures in light of the differences between CCPs, cleared products, solvency rules and local market specificities, highlighting that the 2017 regulatory guidance principles-based approach had already included recommendations on good ways to balance risk sensitivity and procyclicality. These panellists noted that in 2020, some CCPs that aligned IM with the 2017 recommendations had only increased IM by 30-40%.

Regarding the management of liquidity risk, it was mentioned that in early 2020, the reassessment of global economic prospects spurred by the spread of COVID-19 had provoked a sharp repricing of assets, which in turn had given rise to pronounced liquidity stress, particularly for non-bank intermediation. This had necessitated large-scale central bank interventions to prevent the tightening of financial conditions and restore calm to markets. The panel agreed that impaired market liquidity was a big issue during the coronavirus crisis and shared the view that CCPs relied on the liquidity resilience of their clearing members (CM) who functioned as immediate liquidity shock absorbers for their clients as well. It was noted that CMs were typically required to pay intraday margin calls within an hour but generally allow their clients to pay them back on a T+1 basis. As a result, CMs had to hold large liquidity buffers to meet margin calls.

It was argued that the G20 reforms had partly turned counterparty credit risk into other forms of risk: operational risk, legal risk, market risk and liquidity risk. Unexpected margin calls – be they IM or VM – resulting from market movements unforeseeable by risk models, generally required market participants to sell assets to raise cash, which under stressed market conditions had an iterative impact because it increased downwards pressure in certain asset classes. Arguing that such risk did not affect pre-reform bilateral markets because VM did not have to be posted in cash at that time, some panellists called for CCPs to accept a broader array of collateral and limit its liquidation to counterparty default events. Other panellists pointed out that unscheduled IM calls made it difficult for CMs to forecast their liquidity requirements, adding to stress. Similarly, late-in-the-day margin calls placed particular stress on CMs as they fell outside currency and settlement windows.

It was commented that when markets moved quickly, transparency on the part of CCPs was important in enabling market participants to manage their margin call risk. Accordingly, it needed to be ascertained whether, during the coronavirus crisis, CCP users both had the information they needed to prepare their risk management strategies and were actually able to liquidate their assets to cover margin calls in call funding markets. Some panellists urged for outright regulatory reform aimed at increasing CCPs' transparency, the say of CMs on CCP risk and margin modelling, as well as CCPs' governance structures for decision-making, given that CMs backstop clearing risks. While agreeing that more transparency and better communication between CCPs and CMs would be highly beneficial, other panellists commented that almost all CCPs already consulted their CMs on their margin models because it was not in the interest of CCPs for CMs to fall into technical default. In the same vein, it was noted that some CCPs scheduled intraday margin calls and generally allowed for margins to be posted in various currencies, leaving the management of the currency risk with the CCP.

Looking ahead, the panellists mentioned concerns about cyber risk spreading in the current remote-working environment, about working-from-home fatigue setting in and about the risk that some unexpected bad news would extend the crisis indefinitely or precipitate it back to the depths of early 2020.

2 Panel 2: Climate change risk in financial markets

The **second session** of the conference included a fireside chat and a panel debate, both of which grappled with climate change risk in financial markets.

The fireside chat centred on the US Commodity Futures Trading Commission's recent report on climate change. While discussing the lessons learned from the report, the speakers highlighted the encouraging degree of consensus on climate change that the report revealed. Written and endorsed by a group of 30 stakeholders from a diverse range of firms and industries, the report made 53 recommendations and in doing so demonstrated a significant amount of agreement across the economy. Additionally, the speakers noted that much had changed since the report's publication on 9 September 2020. Among other factors, continued extreme weather like the freezing conditions in Texas and increased private sector engagement had the potential to invigorate the dialogue around, and momentum behind, the report's recommendations for climate action.

Of those 53 recommendations, the fireside chat focused on the report's call for a nationwide price on carbon emissions. The participants argued that pricing carbon was not something markets could handle on their own but rather necessitated government intervention. Specifically, they argued that governments needed to realign incentives according to science and economics so that firms would begin to account for their impact on the environment. As far as the speakers were concerned, whether that realignment of incentives took the form of a carbon tax or a cap-and-trade system was irrelevant. Moving quickly, they argued, was more important than choosing the perfect mechanism. With that in mind, they noted some

encouraging signs in the United States and internationally. It was noted that in the United States, regulators under the new administration were making positive steps and appointing new staff to dedicated climate roles. The participants increasingly expect new ideas and new implementations to come out of US regulatory agencies. On the international front, they noted that Europe had already made great progress and China was taking steps in the right direction. Above all else, they argued that the perfect could not be the enemy of the good for the public sector. To make progress on a globally harmonised realignment of incentives, governments needed to start taking action now, with the flexibility to change later as they continued to learn more.

Shifting away from the public sector, the speakers then turned their attention to possible next steps in the private sector. In particular, they focused on the need for useful firm-level climate data – a topic that would come up repeatedly later in the panel discussion. Actionable data, they said, would not only allow investors and asset owners to allocate capital towards firms more prepared for climate change, but it would also help forecast physical risks and transition risks. Since climate change had no historical precedent in modern markets, they noted, the issue of forecasting it was notoriously difficult, and better data could prove essential. To obtain better data, the speakers again called for government action. Any useful firm-level data would allow for comparison and aggregation across multiple firms, so the speakers argued for government guidance on a standardised approach, resulting in "decision-useful" firm disclosures. With that, the fireside chat came to a close, and the speakers concluded by reiterating their calls for international cooperation and quick action.

The panel debate focused on three narrower climate-related issues: (1) the challenges that regulators face, (2) the role of clearing members and clearing houses, and (3) the potential of voluntary carbon markets.

To start, the panel opened with a discussion of the challenges facing regulators. In particular, the panellists highlighted three major challenges. First, as the fireside chat participants mentioned, the unprecedented nature of climate change risk meant that regulators and market participants had no helpful historical data for modelling and assessing future risks. Second, the panellists again echoed the fireside chat and cited the lack of standardised, firm-level data as a major impediment for regulators trying to assess firm and industry preparedness for climate change. Third, the panellists noted that it was difficult to translate scientific expertise on climate change into understandable, actionable items for regulators and market participants. In conclusion, the panellists argued that international cooperation would be key for regulators to overcome the challenges and that improved firm-level data was the next key area of progress.

The panel then moved into a discussion of the role that CMs and CCPs play in addressing climate change risk. Similarly to the discussion of regulatory challenges, the panellists contended that collaboration would be instrumental in any progress. Climate change risk, they argued, was too complex for a single private sector institution to grapple with and manage alone, so it was crucial to take a collaborative approach with academics, regulators and clients. In particular, the panellists said

private sector institutions would have to look to academia for research, to governments for guidance, and to clients for an understanding of the clients' pressing needs with respect to climate change risk. Specifically for the clearing space, the panellists argued that CMs and CCPs could tailor the products and services they offer in line with academic, government and client input, and they could set an example with their own climate practices. Echoing the fireside chat and the discussion of regulatory challenges, they concluded by saying that improved firm-level data would be an enormous asset for risk management institutions like CMs and CCPs.

Finally, the discussion turned to voluntary carbon markets and the role they might play in mitigating climate change risks. According to the panellists, a voluntary carbon market would play a crucial complementary role to cap-and-trade or carbon tax systems, because it would give firms the ability to offset any emissions that they were incapable of eliminating. For voluntary carbon markets to live up to that potential, however, they would need to be liquid and function smoothly. To get there, panellists listed several necessary areas for improvement. First, markets as they exist today are over-the-counter, with low liquidity, transparency, standardisation and accountability. To remedy that, the panellists argued that the market needed to develop infrastructure such as exchanges, clearing houses and lending facilities, as well as an exchange-traded core carbon reference contract. Additionally, they said that the market needed to build legitimacy by increasing public confidence in offsets and cleaning up the fraud and bad actors that currently inhabit the space. Finally, panellists advocated a more robust futures market and improved demand signals for sellers, because currently unpredictable demand posed a major challenge to market functioning. With that final call for action, the session on climate change risk in financial markets began to wind down in preparation for the third and final session of the day.

3 Panel 3: A changing clearing landscape

The **third panel** at the conference focused on the structural changes that had occurred in the European clearing landscape since last year's conference, as recounted by the panel chair in his opening statement.

To start with, the panel considered the entry into force in the European Union (EU) of the enhanced supervisory regime known as European Market Infrastructure Regulation (EMIR) 2.2, which sets up a tiered regime for CCPs established in third countries (TC CCPs) and serving EU clearing members /clients. Specifically, they noted that TC CCPs that applied for recognition by the European Securities and Markets Authority (ESMA) but were not systemically important for the EU (designated Tier 1 CCPs) would be monitored by ESMA but remained exclusively subject to their home country regulatory requirements provided that the European Commission formally considered these requirements equivalent to EMIR. TC CCPs that were systemically important for the EU financial system (designated Tier 2 CCPs) were subject to direct EU supervision by ESMA and, if they clear financial

instruments denominated in EU currencies, they were also subject to the requirements set by the EU central banks issuing those currencies.

The second related topic addressed by the panel concerned the end – on 31 December 2020 – of the transition period following the United Kingdom’s departure from the EU. Following Brexit, they noted, UK CCPs had become TC CCPs from the EU regulatory and oversight perspective. It was highlighted that to avoid potential cliff-edge financial stability risks with respect to derivatives clearing, as of 1 January 2021 UK CCPs had been temporarily considered equivalent to EU CCPs by the European Commission and had been temporarily recognised by ESMA. Such temporary equivalence and recognition decisions will expire on 30 June 2022. Panellists highlighted that two TC CCPs – LCH Ltd and ICE Clear Europe – had been designated Tier 2 CCPs and were therefore subject to ESMA’s direct supervision. During this temporary period, ESMA’s CCP Supervisory Committee would, in cooperation with the relevant stakeholders, assess whether some or all of the services provided by the two Tier 2 CCPs were of a systemic nature that was too substantial to be safely provided from outside the EU.

The panel noted that due to the transitional regime put in place, in the short run clearing could continue as it did prior to Brexit, but in the long run the EU would have to determine how to approach substantial systemic risk for the EU financial markets arising from CCPs based outside its jurisdiction. The panel also observed that EU authorities were well aware of the challenges stemming from splitting market liquidity also in view of market fragmentation concerns.

Panellists agreed that for clearing services, the post-Brexit transition had proceeded smoothly and was not marked by noticeable changes in market behaviour. The panel wondered whether market participants had started adjusting to Brexit long before 31 December 2020, meaning that no dramatic changes were reflected in the data since 1 January 2021. The panel remarked that to date, Brexit’s impact on financial services had taken place mostly in the trading space rather than the clearing space: equities trading had largely moved from the United Kingdom to the EU, while centrally cleared euro-denominated interest rate swaps (IRS) had shifted to a greater extent from the United Kingdom to the United States and a lesser extent to the EU, despite initiatives to build a liquid alternative euro-IRS in the EU. Instead, dollar-IRS trading had mostly remained in the United Kingdom. Clearing volumes had also largely remained in the United Kingdom. There was general agreement across the panel that in the absence of systemic risks, competition between CCPs, and not regulation, should be the driving force for changes in clearing behaviour.

Another strand of the discussion about TC CCPs touched on deference and cross-border cooperation of authorities. It was argued that mutual deference is the way forward to ensure flourishing markets, meet participants’ requirements and avoid fragmentation. However, in interconnected markets there is a need for close and continuous cooperation between authorities, and the panel remarked that the cooperation and coordination arrangements put in place between the EU and US authorities served as a model in this regard. A panellist noted that when it came to risk exposure towards UK CCPs, measured in absolute terms, the exposure of the

United States was larger than that of the EU. However, in terms of risk exposure relative to the size of the financial sector, the EU was significantly more dependent on UK CCPs than the United States. Moreover, the United States had stronger domestic financial infrastructure to fall back on, if needed.

As the conversation moved to US CCPs, the focus of the debate shifted from the impact of Brexit to two other topics on the agenda: CCPs' handling of the coronavirus pandemic; and the interdependencies and interconnection among CCPs, and between CCPs and their clearing members. Panellists emphasised that CCPs were interconnected on two levels. First, CCPs deal directly with other CCPs. They coordinate with each other through CCP12, a global association of CCPs, and in the United States, they even manage risk together through cross-margining arrangements. This spring, for instance, CME (Chicago Mercantile Exchange Inc.) and FICC (Fixed Income Clearing Corporation) – two CCPs with a cross-margining arrangement – worked together to manage a default. Second, CCPs share many of the same clearing members. Today, most market participants trade globally and clear their positions at CCPs across the globe. As a result, a default at one CCP may have implications for many CCPs.

With respect to CCPs' handling of the pandemic, panellists commented that markets ultimately managed risk successfully during the March 2020 turbulence, but they also argued that this might be an area where more research may be warranted to fully understand the whole complexity and implications. One panellist stressed that deleveraging pressure came from intermediaries who were financing intraday calls and who either stopped financing those calls or started charging higher prices. It was added that CCPs evaluated all of their members' positions and liquid capital, and should the need arise, could limit client exposures to the liquid resources they had available. Panellists also commented on remarks made during the first panel's discussions of margin procyclicality.

While discussing both the strengths and weaknesses of CCPs' risk management as highlighted by the pandemic, the panellists also touched upon CCP stress testing. Acknowledging the progress that regulators had already made, the panellists commented that there was still plenty of potential for further enhancements. Specifically, they argued that it would be useful for CCP stress tests to be macroprudential in order to see how the stress scenarios impacted banks and clients. Such stress tests would help answer questions about how CCPs would manage their own liquidity as against their clients' liquidity in emergency situations.

The panel concluded with the US regulatory perspective. Panellists praised the progress that the United States and the EU had made in their equivalence and cooperation negotiations. They stressed that cooperative supervision took constant communication and coordination, and that undue increased market fragmentation would be undesirable, especially in transitioning markets like the G20 OTC market or in markets facing turmoil like last spring. Panellists also remarked that academic research on CCPs was still quite young and complicated by the lack of data, but a rich, robust literature would be enormously helpful to policymakers.

Conclusion

Burkhard Balz, Member of the Executive Board of the Deutsche Bundesbank, closed the conference with remarks on "How to learn from the current crisis and manage future challenges".

© European Central Bank, 2021

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website www.ecb.europa.eu

All rights reserved. Reproduction for educational and non-commercial purposes is permitted provided that the source is acknowledged.

For specific terminology please refer to the ECB glossary (available in English only).