



CCP Liquidity Risk Management and Related Failure Management Issues

REMARKS BY

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As Darrell Duffie has explained, I have been invited here today to lead a discussion of central counterparty (CCP) liquidity risk management and related failure management issues. I accepted the invitation because I believe that these are very important and timely issues that until recently have not received the attention they deserve. Most discussions of CCP risk management understandably focus on the management of counterparty credit risk. For example, a year ago the special invited discussion at this conference focused on the design of auctions to minimize the cost to a CCP of replacing contracts that a CCP would terminate in the event of counterparty defaults. However, as I shall explain, in addition to ensuring that it can cover losses from counterparty defaults, a CCP must also ensure that it can meet its payment obligations on time, notwithstanding counterparty defaults.

Recognizing how important it is that CCPs and other financial market infrastructures manage liquidity risks effectively, the CPSS-IOSCO Principles for Financial Market Infrastructures (CPSS-IOSCO principles) set out some rather demanding requirements for liquidity risk management, and as CCPs strive to meet those requirements, they are receiving increasing attention. I will go out on a limb and predict that liquidity issues will get their fair share of attention from today's last panel on International Standards and CCP Financial Resources.

Today I will present, interpret, explain and discuss the CPSS-IOSCO liquidity requirements. Having spent most of my career at the Fed, I am accustomed to beginning my remarks with a disclaimer. Here I should note that my interpreta-

tions may well differ from those of market regulators and central banks, to say nothing of those of CCPs and their participants. Indeed, it seems pretty clear that across countries, and even within the United States, public policymakers are interpreting the liquidity requirements differently.

In the course of my remarks I will raise several broader public policy issues, including CCP access to central bank services and central bank liquidity. I will also address the implications for systemic risk of the inconvenient truth that access to CCP services around the world is intermediated to a large extent by a relatively small and perhaps shrinking number of global banks.

LIQUIDITY RISK AND SYSTEMIC RISK IN CCP CLEARING

The CPSS-IOSCO principles define liquidity risk as the risk that a counterparty will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future. The discussion of liquidity risk in the principles notes that liquidity problems have the potential to create systemic problems, particularly if they occur when markets are closed or illiquid or when asset prices are changing rapidly, or if they create concerns about solvency.

A CCP makes payments for a variety of purposes, including for physical deliveries of financial assets, commodities, and currencies. And its ability to complete payments on time could be jeopardized by a variety of events, including failure of a settlement bank. But the central concern with respect to CCP liquidity risk is that a failure of one or more clearing members to meet varia-

tion margin calls on time could cause the CCP itself to be unable to meet its own payment obligations as and when expected. Such a failure could jeopardize the ability of its nondefaulting clearing members to meet their payment obligations when expected and thus is a potential vector for financial contagion. Most alarmingly, failure of a CCP to meet its payment obligations when due could undermine confidence in the CCP's safety, soundness, and reliability. This in turn could significantly impair the liquidity of the financial markets to which it provides clearing services, thereby increasing market risk and counterparty credit risk to all participants in those markets. As a practical matter, many financial markets offer anonymous trading, which is workable only if the market is served by a CCP whose creditworthiness is taken for granted by market participants. If confidence in a CCP is shattered and, as is often the case, no other CCP serves the market, the market would cease functioning.

CPSS-IOSCO REQUIREMENTS RELATING TO CCP LIQUIDITY RISK MANAGEMENT

Because market regulators and central banks are acutely aware that a liquidity shortfall at a CCP or other FMI has the potential to create systemic problems, the CPSS-IOSCO principles include some demanding requirements with respect to liquidity risk management, which are embodied in Principle 7. Principle 7 states that an FMI should maintain sufficient liquid resources in all relevant currencies to affect same-day and, where appropriate, intraday and multi-day settlement of payment obligations with a high degree of confidence under a wide range of stress scenarios. Those scenarios should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions. This requirement is often referred to as the Cover 1 requirement. Furthermore, in the discussion of Principle 7 CPSS-IOSCO states that a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider meeting a Cover 2 requirement. That is, such a CCP

should consider maintaining sufficient liquid resources to cover the simultaneous default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP.

The Cover 1 requirement is an essential element of efforts by public policymakers to ensure that even the very largest financial institutions can fail without putting the financial system at risk and, therefore, that creditors and counterparties do not perceive such large institutions to be too big to fail. Requiring the most systemically important CCPs to meet a Cover 2 standard can be seen as necessary because history (including the recent financial crisis) shows that financial distress at a large financial institution seldom is an idiosyncratic event; the failure of one large institution tends to undermine confidence in other large financial institutions, and a loss of confidence quickly imperils such firms. Although many large financial institutions have greatly increased their capital and liquidity buffers since the crisis, which undoubtedly has reduced the likelihood of contagion, policymakers have concluded that the potential for contagion is still sufficiently great that major CCPs should have liquidity resources to cope with multiple failures.

Another (and perhaps more controversial) respect in which Principle 7 is (or at least can be construed to be) quite demanding is its definition of the kinds of qualified liquid resources that a CCP must maintain for purposes of meeting the minimum requirement. The definition includes cash at the central bank of issue and at credit-worthy commercial banks and various kinds of committed bank facilities. It also includes routine access to central bank credit in jurisdictions where a CCP has such access, but only if the CCP has collateral that meets the central bank's requirements for extending credit.

Where confusion and controversy sets in is that qualifying liquid resources also include, in the exact words of the principles, "highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible conditions." Some, but by no means all, authorities

interpret this as saying that a CCP's holdings of marketable collateral (for example, sovereign debt held in a CCP's default fund) count as liquid resources only if the CCP has arranged committed lines of credit whose terms are so strict as to ensure that the CCP can convert its marketable securities into cash quickly enough to avoid any delays in meeting its payment obligations. Although other interpretations are certainly possible, I believe that this conservative interpretation is the appropriate interpretation, at least when the CCP has committed to make same-day or even intraday payments at precise times. Even in normal market conditions, the sale or pledging of even the most liquid of securities usually does not make cash instantaneously available to the seller. Furthermore, CCPs often conduct settlements very early or very late in the day, when financial markets often are quite illiquid in the best of times. Finally, the default of one or more of a CCP's very largest participants could well substantially impair the liquidity of even what ordinarily are the most liquid markets.

That said, I think that policymakers should be concerned about forcing CCPs to rely heavily on committed bank lines to meet the requirements of Principle 7. For one thing, arranging committed lines on the scale required by Principle 7 may be extremely costly to CCPs (and thus ultimately to users of CCP clearing services), especially for CCPs that are subject to the Cover 2 requirement or that clear foreign exchange contracts or that clear instruments denominated in multiple currencies. At the same time that tougher liquidity requirements for CCPs have been greatly enlarging the demand for committed lines, the supply of such lines seems to be shrinking and, as a result, the cost has been rising appreciably.

The shrinking supply seems to reflect several developments. First, increased concentration within the banking industry has shrunk the number of banks offering such lines, notwithstanding the success some CCPs have had in convincing some new banks to step forward. Second, I think there is a growing appreciation by banks that the state of the world in which a CCP would draw on

the line is a state of the world in which liquidity pressures on banks would be intense. While in principle banks could look to borrowing from their central banks to alleviate the pressure, I think many banks fear the stigma associated with use of central bank liquidity, a stigma that may be increasing because provision of central bank liquidity has of late been too often mischaracterized as a bailout of the bank. Finally, some bank regulatory requirements applicable to committed lines of credit (for example, the Basel III leverage ratio) overstate the credit risk of commitments to provide liquidity to CCPs because they do not take into account the fact that any draws by CCPs on those commitments typically would be fully secured by marketable collateral.

More troubling than the increasing cost of committed lines is the fact that the providers of the credit lines are often the CCP's own clearing members or their affiliates. Such arrangements meet the primary objective of ensuring that a CCP meets its payment obligations on time and thereby avoid the risk of a loss of market confidence in the CCP. But they do not avoid, and may in fact exacerbate, liquidity pressures on those clearing members, many of which are themselves systemically important financial institutions, in an environment in which they are likely to be under severe liquidity pressure. If that is the outcome, it may be better, as one CCP has proposed, to forego reliance on lines of credit and instead modify a CCP's rules to make clear that, in the event of participant defaults, liquidity pressures created by the defaults would be allocated to its clearing members. For example, clearing members could be required to substitute cash for any marketable securities they had contributed to the CCP's guaranty fund or to accept marketable securities in lieu of cash variation margin payments from the CCP.

Far better, I believe that central banks that have not already done so should consider granting CCPs access to central bank accounts to help ensure that the liquidity demands and liquidity risks in CCP clearing are not a source of systemic risk. As noted earlier, cash at the central bank of issue is clearly recognized as a qualify-

ing liquidity resource for CCPs. However, CCPs do not have access to central bank accounts in all jurisdictions. For example, CCPs currently do not have access to accounts at the Federal Reserve. However, in February the Federal Reserve Board, acting under authority provided by the Dodd-Frank Act, authorized the Reserve Banks to provide access to accounts (and to pay interest on account balances) to CCPs and other financial market infrastructures that have been designated as systemically important by the Financial Stability Oversight Council. Those CCPs could take advantage of this opportunity by requiring some or all of required margins and clearing fund contributions to be met with cash rather than with marketable securities. Placing the balances with the Fed would eliminate the investment risk otherwise associated with the investment of cash and, if the Fed pays market rates of interest on the balances, a CCP could pass that interest on to its participants and minimize the opportunity costs to their members that might otherwise result from substituting cash for marketable interest-bearing securities. Perhaps more important, once cash is invested it is no longer cash; to obtain cash, the CCP must liquidate the investment, which, as already discussed, generally cannot be effected without delay. Cash held at the central bank of issue presumably could be drawn on instantaneously to meet the CCP's liquidity needs.

Although some jurisdictions outside the United States grant CCPs routine access to central bank credit, the provision of interest-bearing central bank accounts may obviate any need for access to central bank credit. That is fortunate because in the current U.S. political environment raising the issue of routine CCP access to central bank credit would be tantamount to grabbing hold of the third rail, and CCPs themselves are understandably reluctant to raise the issue. In any event, a CCP cannot count access to central bank credit as a liquidity resource unless it holds collateral that meets a central bank's eligibility criteria. If a CCP lacks access to interest-bearing accounts at a central bank and holds marketable securities to meet its liquidity needs, I think an argument can be made that the provision of central bank liquidity collateralized by

those securities and extended on terms (rates and haircuts) that would be unattractive at any time other than during a severe market disruption might be preferable from a systemic perspective to reliance on bank lines for CCP liquidity. Lending on such stringent terms would significantly mitigate the moral hazard that might otherwise be created by access and obviate central bank borrowing by the providers of the bank lines, which may in fact have routine access to central bank credit on more favorable terms than the CCP is likely to receive. But I suspect that argument is unlikely to be a winning one, because some will inaccurately and unfairly characterize the provision of central bank liquidity as a "bailout" of the CCP.

RELATED FAILURE MANAGEMENT ISSUES

This discussion of CCP liquidity risk management has raised some broader issues about the implications of CCP clearing for systemic risk. In particular, it is important to remember that the Group of Twenty has called for CCP clearing of all standardized derivatives contracts primarily because it sees CCP clearing as a means of reducing the interconnectedness of global banks, which is perceived to be a major source of systemic risk. Indeed, counterparty risks on bilateral OTC derivatives contracts between global banks have been and still are a very important source of interconnectedness and a major obstacle to the orderly resolution of those banks. And CCP clearing has the potential to significantly reduce the interconnectedness between global banks. But I would argue that the extent to which CCP clearing achieves this objective depends importantly on the roles that global banks play in CCP clearing. A relatively small number of global banks are the most significant clearing members of many of the world's most important CCPs and many of those CCPs plan to contain the effects of participant defaults by allocating a significant share of the resulting losses and liquidity pressures to their nondefaulting clearing members. Any assessment of the extent to which interconnectedness and systemic risk is reduced by CCP clearing cannot ignore the impact of such allocations on the banks (and on other market participants).

To be sure, clearing achieves multilateral netting of exposures and thereby reduces counterparty exposures to CCP participants, including banks that act as clearing members. But significant interconnectedness could persist in a world in which derivatives are centrally cleared. Whether this is true depends importantly on several elements of the design and operation of CCPs that can vary greatly from CCP to CCP. As I see it, perhaps the most important reason a CCP can reduce risk is that a CCP has a more complete picture of the aggregate risks posed by participants than do counterparties to uncleared transactions. With a more complete picture of those risks, they can in principle mitigate those risks more effectively. In particular, they can discourage the buildup of large exposures to any single participant, either through higher margin requirements on concentrated positions or by directing a participant to reduce a position that the CCP perceives to pose excessive risk. Second, to the extent that CCP itself (or any entity other than its participants) contributes to the guaranty fund that absorb any losses that are not covered by the margin and other assets of defaulting participants, loss allocations to participants are correspondingly reduced. Finally, as discussed at this conference last year, well-designed default management procedures have the potential to reduce substantially the costs of replacing the contracts that are terminated as a result of defaults by derivatives counterparties.

The CPSS-IOSCO principles address all of these elements of CCP risk management. But they provide CCPs considerable latitude to determine practices that are consistent with the principles. To cite one example, Principle 4 on credit risk requires CCPs that are systemically important in multiple jurisdictions to maintain sufficient financial resources to cover losses that might arise in the same Cover 2 stress scenario that I mentioned earlier when discussing liquidity risk. But there is no requirement that the financial resources include any of the CCP's own funds or, more generally, any capacity for loss absorption other than that provided by its clearing members. To be sure, the discussion of the financial resources requirement in the principles does note that that if margin requirements are

low (and, I would add, if the CCP's financial resources do not include a significant amount of resources other than those provided by its clearing members) the allocation of losses that are not covered by margin requirements creates increased interdependencies among the CCP's clearing members that could be a source of systemic risk.

Existing public disclosures by CCPs do not enable an assessment of the extent to which CCP clearing is reducing interconnectedness among global banks. CPSS-IOSCO have proposed quantitative public disclosure standards for CCPs and the Federal Reserve Bank of New York's Payments Risk Committee has proposed enhanced disclosures to CCP clearing members to enable them to better assess the risks of membership. Implementation of those initiatives would greatly increase the transparency of CCPs. But I don't believe they would permit an assessment of the effects of CCP clearing on counterparty exposures between global banks. Such an assessment requires information on a CCP's credit exposures to individual members, which is proprietary information that neither CCPs nor their clearing members would want to see disclosed. Moreover a complete picture of interconnectedness among global banks in the derivatives markets would require information on their bilateral exposures as well as their exposures through loss-sharing at all of the CCPs in which the banks act as clearing members.

Only regulators can undertake such an assessment and it would require a great deal of cooperation and information sharing among regulators. But I think such an undertaking would be well worth the effort. Because the effects of CCP clearing on interconnectedness between banks depend importantly on the details of the design and operation of CCPs that determine banks' exposures to loss allocations as clearing members, simply assuming that the reduction in interconnectedness is proportional to the increase in the amount of trades cleared is unwarranted. Worse yet, increased clearing of OTC derivatives will undoubtedly reduce direct bilateral credit exposures between banks, but it would be a serious mistake to conclude that interconnect-

edness has been reduced if indirect exposures through CCP loss-sharing arrangements have grown at the same time. Finally, some banks have called for limits on loss allocations to CCP clearing members. From a systemic perspective, this might make sense if it is accompanied by increases in margin requirements or in other CCP financial resources. But if it is not, capping banks' loss allocations from clearing member defaults would increase the risk that the CCP

defaults, which likely would expose the banks and other market participants to far greater losses from closing out their positions with the CCP.

CONCLUSION

That concludes my remarks. I doubt that anyone agrees with all of my conclusions but I am reasonably confident that I will succeed in provoking a lively discussion.