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Federal Reserve Bank of Chicago

**What are the financial systemic implications of
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Maggie Sklar

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What are the financial systemic implications of access and non-access to Federal Reserve deposit accounts for central counterparties?

by Maggie Sklar, senior policy advisor and director of international engagement, Financial Markets Group*

Abstract: In this working paper, I examine the interconnections between designated derivatives central counterparties (CCPs) with Federal Reserve deposit accounts and non-designated CCPs and the potential financial stability implications. This working paper notes the interconnections between the non-designated and designated derivatives CCPs through their clearing members and the commercial custodial banks they utilize to hold and transfer collateral. The paper then identifies additional potential contagion risks and financial stability risks, including liquidity risk, market risk, concentration risk, and loss of confidence more broadly. Although there are a number of research articles addressing these topics with respect to designated CCPs or OTC derivatives, this working paper includes the perspective looking at U.S. futures CCPs and non-designated CCPs.

* I thank my colleague, John Spence, policy analyst, Financial Markets Group, for his assistance.

CCPs and financial stability

CCPs have a critical role in the stability of the financial system and broader economy,¹ and central clearing is a key pillar of reforms created after the 2008 financial crisis. In the United States, there is a statutory and regulatory mandate to clear derivatives, including all exchange traded futures and options contracts; and as amended by the 2010 Dodd–Frank Act, to also clear certain standardized over-the-counter (OTC) derivatives known as swaps. CCPs guarantee financial contracts among their clearing members and require their clearing members to post collateral so the CCP can fulfill this guarantee. In doing so, the CCP provides a foundation for centralized risk management.²

The Dodd–Frank Act provides that the Federal Reserve System can permit CCPs that have been designated as systemically important by the Financial Stability Oversight Council (FSOC³) to deposit money directly with a Federal Reserve Bank and to receive interest on the account balances. This working paper does not address the Dodd–Frank Act provision that also allows for the Federal Reserve to lend to designated CCPs, and therefore does not address the concerns of such lending, i.e., moral hazard or the risk of potential taxpayer bailouts.⁴

In applying that designation for CCPs, the FSOC considers a variety of factors, including the aggregate value of the CCP’s cleared transactions, the market’s aggregate exposure to that CCP, the relationship it has with other financial institutions, and the potential impact on the market of its failure. In determining whether a CCP is systemically important, the FSOC looks at, among other things, “whether possible disruptions [to the functioning of a CCP] are potentially severe, not necessarily in the sense that they themselves trigger damage to the U.S. economy, but

¹ “A financial system is considered stable when financial institutions—banks, savings and loans, and other financial product and service providers—and financial markets are able to provide households, communities, and businesses with the resources, services, and products they need to invest, grow, and participate in a well-functioning economy.” Board of Governors, “FAQ: What is Financial Stability,” available online, <https://www.federalreserve.gov/faqs/what-is-financial-stability.htm#:~:text=The%20Federal%20Reserve%20works%20to%20identify%20threats%20to,and%20also%20conducts%20research%20on%20financial%20stability%20issues>.

² For more on how derivatives CCPs function, see Richard Heckinger, Ivana Ruffini, Robert S. Steigerwald, and Kirstin Wells, 2013–15, *Understanding Derivatives: Markets and Infrastructure*, Chicago: Federal Reserve Bank of Chicago, Financial Markets Group, available online, <https://www.chicagofed.org/publications/understanding-derivatives/index>, and Robert T. Cox and Robert S. Steigerwald, 2018, “A CCP is a CCP is a CCP,” *Journal of Financial Market Infrastructures*, Vol. 6, No. 4, June, pp. 1–18, available online, <https://doi.org/10.21314/JFMI.2018.085>.

³ The FSOC was established by the Dodd–Frank Act. It is chaired by the Secretary of the Treasury and consists of ten voting members, including the heads of the banking agencies and other federal financial regulatory agencies, and an independent insurance expert; and five non-voting members.

⁴ See, e.g., Colleen M. Baker, 2010, “Regulating the invisible: The case of over-the-counter derivatives,” *Notre Dame Law Review*, Vol. 85, No. 4, pp. 1287–1378, available online, <http://ndlawreview.org/publications/archives/volume-85/issue-4/>.

because such disruptions might reduce the ability of financial institutions or markets to perform their normal intermediation functions.”⁵

The Federal Reserve has deposit accounts with each of the designated CCPs.⁶ The Federal Reserve rulemaking implementing deposit accounts for designated CCPs notes that these accounts do not grant these entities “broad ‘bank-like’ privileges or make[] it easier for those entities to receive support,” such as potential taxpayer bail-outs; they are intended for a “narrow purpose”—to “provide a safer and more transparent option for [designated CCPs] to collect and hold the financial assets, such as margins, they require to cover their credit and liquidity risks.”⁷

Designation by the FSOC makes the CCP subject to the Dodd–Frank framework, which includes risk-management standards promulgated by the CCP’s primary regulator and takes into consideration relevant international standards and existing prudential requirements, “with the objectives of promoting robust risk management and safety and soundness” of the designated entity, “and supporting the stability of the broader financial system.”⁸

CCPs that clear futures, options on futures, or swaps are supervised in the United States by the U.S. Commodity Futures Trading Commission (CFTC).⁹ Those CCPs that are designated by FSOC are considered systemically important derivatives clearing organizations (SIDCOs) by the CFTC. The SIDCOs are subject to the heightened regulations and standards enacted to implement the international regulatory expectations set forth in 2012 in the CPMI-IOSCO Principles for Financial Market Infrastructures (PFMI).¹⁰ These include heightened regulations and standards for financial resources, risk management, and default rules and procedures. SIDCOs are also subject to review and examinations in coordination with staff from the Board of Governors of the Federal Reserve (Board of Governors).

⁵ FSOC, Authority to Designate Financial Market Utilities as Systemically Important, 78 FR 44763, at 44766 (July 27, 2011), available online, <https://www.treasury.gov/initiatives/fsoc/rulemaking/Documents/Final%20Rule%20on%20Authority%20to%20Designate%20Financial%20Market%20Utilities%20as%20Systemically%20Important.pdf>.

⁶ See the FSOC designation list, available online, https://www.federalreserve.gov/paymentsystems/designated_fmu_about.htm. Although no additional CCP has been designated since the original list in 2012, it is possible that additional CCPs could still be designated by FSOC.

⁷ See Board of Governors of the Federal Reserve System, Financial Market Utilities, 78 FR 76977 (Dec. 20, 2013), available online, <https://www.govinfo.gov/content/pkg/FR-2013-12-20/html/2013-29711.htm> (FMU Deposit Rule).

⁸ See FMU Deposit Rule, 78 FR at 76974.

⁹ There are four foreign CCPs and nine U.S. CCPs registered with the CFTC (that are not exempt or not dormant). The CFTC’s rules for CCPs can be found in 17 CFR Part 39.

¹⁰ The CFTC’s SIDCO regime at 17 CFR Subpart C was implemented to enhance its CCP regulations to be consistent with the PFMI. The U.S. Securities and Exchange Commission (SEC) does not have a parallel SIDCO regime; all of its regulated CCPs are designated by FSOC. The SIDCO CCPs are CME, which primarily clears futures but also options on futures and interest rate swaps; and ICE Clear Credit, which clears credit default swaps. The OCC also clears derivatives that fall under CFTC regulation, but as it primarily clears options on equity products, it is not a SIDCO as the SEC is the primary regulator.

The only U.S. futures CCP that is designated by FSOC and is a SIDCO is the largest futures CCP, CME. There are three U.S.-based derivatives CCPs (ICE Clear U.S., MGEX, and Nodal) that are not designated by FSOC but have elected to comply with the CFTC's heightened regulatory regime for SIDCOs.¹¹ These three non-designated derivatives CCPs clear futures and options on futures products, such as energy contracts, including nearly half of all North American monthly power futures, and agricultural contracts, including staples such as cotton, sugar, wheat, and cocoa. In addition, they also clear new or innovative products. However, these non-designated CCPs are not eligible to apply for Federal Reserve deposit accounts.

For the purposes of this working paper, since the non-designated CCPs are primarily futures CCPs, the CCPs being compared are U.S.-based derivatives CCPs that are required to or elect to comply with the SIDCO rules and primarily clear futures. There may be similar reasoning with respect to CCPs that primarily clear swaps or similar considerations that would apply to foreign-based U.S.-registered derivatives CCPs, however, this working paper does not address them.

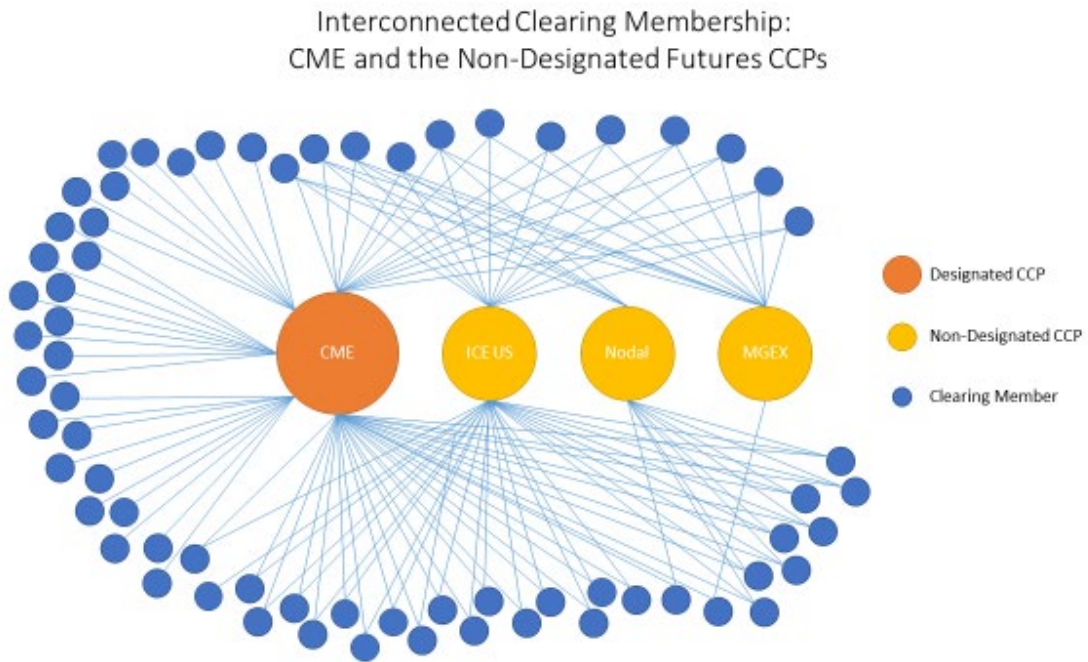
Relationships between derivatives CCPs, clearing members, and banks

Non-designated CCPs, like designated CCPs, share relationships with systematically important financial institutions and others that are part of the derivatives clearing and settlement structure. Figure 1 illustrates that over 97% of clearing members at ICE Clear U.S., Nodal, and MGEX are clearing members at CME.¹² Among those shared members are many of the global systemically important banks (GSIBs). Of the eight U.S. GSIBs, six maintain clearing memberships at non-designated futures CCPs. All six maintain memberships at CME and ICE Clear U.S., five maintain memberships at Nodal, and two do so at MGEX (see figure 2). As a result, the non-designated CCPs not only serve many of the same clearing members as the designated CCPs, they also serve many of the largest and most important clearing members in the U.S. financial system.

¹¹ A CCP can elect to become subject to the heightened SIDCO regime by following the procedures in 17 CFR 39.31 and adhering to the heightened regulations in 17 CFR Subpart C. CCPs that are not designated or do not elect to be subject to the SIDCO regime are regulated under Part 39. The designated and elected SIDCO CCPs are considered to be qualified CCPs (QCCPs) established by the 2012 Basel CCP capital requirements, which created financial incentives for bank clearing members to clear derivatives with CCPs where the supervisory authority has adopted rules or regulations that are consistent with the PFMI.

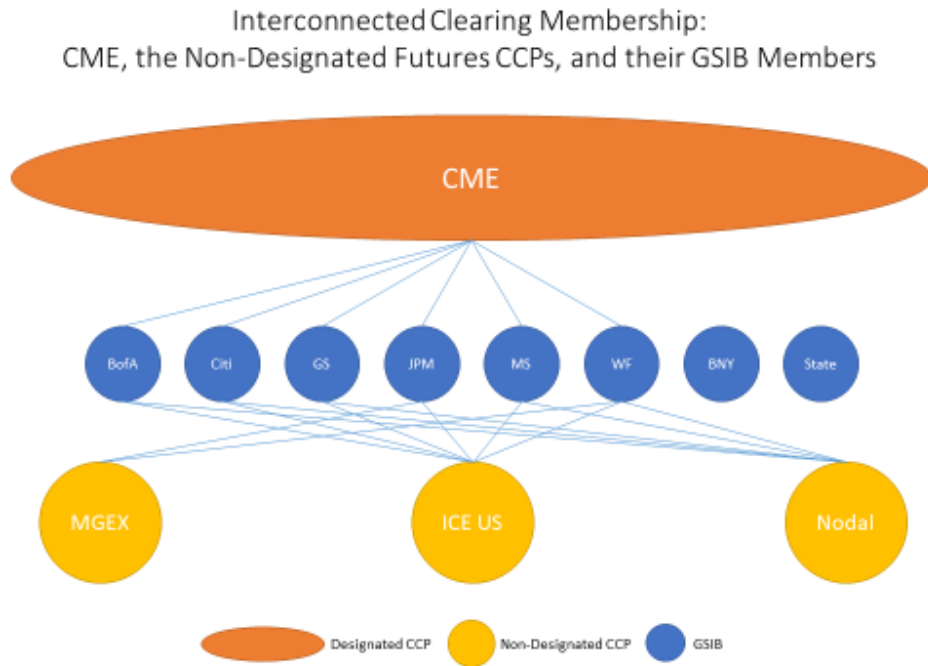
¹² All of Nodal's and MGEX's clearing members are also clearing members to CME. All of ICE Clear U.S.'s clearing members are as well except for one. Thirty-eight of CME's 66 clearing members belong to at least one of the non-designated futures CCPs. Twenty of CME's clearing members belong to multiple CCPs.

Figure 1:



Sources: CME, ICE Clear U.S., Nodal Clear, MGEX, and Chicago Fed staff analysis.

Figure 2:

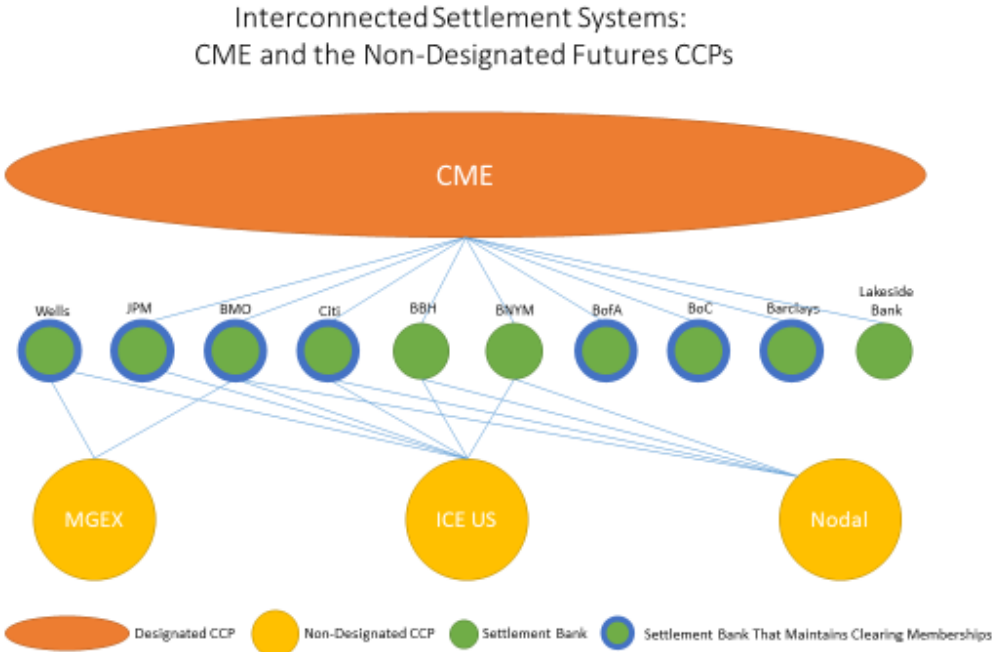


Sources: CME, ICE Clear U.S., Nodal Clear, MGEX, and Chicago Fed staff analysis.

Figure 3 illustrates the interconnections between the designated and non-designated CCPs and their settlement banks. Settlement banks (also known as custodial banks) are commercial banks that CCPs and their clearing members use to deposit and withdraw initial margin and pay and receive variation margin in their accounts. All clearing members are required to establish a relationship with at least one of the CCP’s settlement banks. A CCP revalues futures contracts and settles with its members at least once a day or in some cases also intra-day.

The commercial banks that the non-designated futures CCPs use as settlement banks are essentially the same banks that the systemically important futures CCPs use as settlement banks. For instance, with one exception, every settlement bank at ICE Clear U.S., Nodal, and MGEX is a settlement bank at CME, a designated CCP, as shown in figure 3.

Figure 3:



Sources: CME, ICE Clear U.S., Nodal Clear, MGEX, and Chicago Fed staff analysis.

Many of these settlement banks are also clearing members of both the non-designated and designated futures CCPs.¹³

In addition to the use of commercial banks as settlement banks, CCPs may also rely on commercial banks that are dealers in the reverse repurchase agreement (repo) market to store

¹³ The one settlement bank at the non-designated futures CCPs that is not a settlement bank at CME is a clearing member at CME. All of the settlement banks that maintain clearing memberships are members of CME, and all except BMO and BOCI maintain membership at non-designated futures CCPs as well.

cash collateral from their clearing members. In a reverse repo transaction, the CCP would engage in a bilateral or tri-party arrangement where it would receive securities in exchange for the cash it is holding and then return the securities and receive cash back the next day at the current market interest rate. Primary dealers and tri-party dealers include some of the designated and non-designated CCPs' clearing members, settlement banks, or their affiliates.

Accordingly, the non-designated derivatives CCPs share network connections with designated CCPs because they share overlapping relationships with settlement and commercial banks and clearing members.

This working paper does not quantify or comment on the size of the CCPs, although various measures could be used (e.g., initial margin over a certain period of time, contract volume, number of clearing members, etc.), but rather focuses on other factors relating to financial stability. Irrespective of size, the following factors are sufficient to result in a systemic impact: the relationships and interconnections between these CCPs and other market participants, the potential effect on the market if that CCP failed, and whether disruptions at the CCP might reduce the ability of financial institutions or markets to perform their normal intermediation functions.

CCP access to Federal Reserve deposit accounts

Having Federal Reserve deposit accounts as permitted by the Dodd-Frank Act and FSOC designation helps the designated CCPs to safely manage and mitigate the risks of where to put collateral and reduce custodial risk.¹⁴ These accounts are considered riskless in terms of U.S. dollars, and the Federal Reserve is considered a risk-free counterparty. The designated CCP can use a Federal Reserve deposit account so that the CCP and its clearing members receive the benefit of reduced counterparty credit risk, minimized custody risk, and for an additional sense of safety as their funds are held at a Federal Reserve Bank and not a commercial bank or in unsecured products.¹⁵ In addition, clearing members, particularly non-bank clearing members

¹⁴ See, e.g., Jerome H. Powell, "Central clearing and liquidity," speech by Federal Reserve Governor at the Federal Reserve Bank of Chicago Symposium on Central Clearing, Chicago (June 23, 2017) available online, <https://www.federalreserve.gov/newsevents/speech/powell20170623a.htm> (describing the benefits of CCP access to Federal Reserve deposit accounts for designated CCPs); see also David Marshall, "Liquidity, Settlement Risk, and Systemic Stability," (Sept. 8, 2017), available online, <https://www.chicagofed.org/~media/publications/speeches/2017/090817-marshall-liquidity-settlement-risk-and-systemic-stability-print-pdf.pdf> (noting that with respect to CCPs, the use of the most liquid collateral and eliminating custodial risk could be encouraged by allowing clearing member cash margin to be deposited at a central bank).

¹⁵ There is a potential counterargument that designated CCPs should receive the competitive benefits of having Federal Reserve deposit accounts because they are subject to more stringent regulations, which have additional costs. However, as I mentioned earlier, the non-designated CCPs in this article have elected to comply with the same set of more stringent CFTC regulations as the designated CCPs, and have been recognized as QCCPs. Nonetheless, the main concern here is about interconnections and systemic risk, and competitive disadvantage can itself increase systemic risk by increasing concentration (as I discuss).

without access to Federal Reserve deposit accounts, may add additional cash margin above what is required to the designated CCP to have a safer place to keep their cash than a commercial bank or other permitted options, providing the designated CCP with more of a cushion to absorb market volatility.

The benefits of having a Federal Reserve deposit account come with the costs associated with being a designated CCP and meeting heightened regulatory standards. However, the non-designated CCPs that elect to be treated as SIDCOs are also subject to meeting the same heightened CFTC regulatory standards and incur the additional costs of meeting those standards. The non-designated CCPs that elect to follow the heightened regulations are also examined by the CFTC for compliance, although less frequently. Unlike designated CCPs, non-designated CCPs are not currently subject to additional supervision and review by the Board of Governors (which includes submitting any material rule changes and including staff on examinations).

Custodial and bank risk

The majority of the funds held by the CCP and the settlement bank are not the CCP's funds, rather they are their customers', i.e., clearing members' funds and the funds of their clients. In calm times or times of crisis (whether that be due to external or market events), the concerns for non-designated CCPs not having Federal Reserve deposit accounts may be amplified beyond competitive disadvantages. A designated CCP can limit its risk in relying on commercial banks and the repo market by using a Federal Reserve deposit account to immediately store and retrieve its cash in a risk-free account, thereby also limiting its liquidity risk. Whereas there can be a risk that non-designated CCPs will not be able to draw on their funds or get the cash back from a commercial bank when needed, despite contractual obligations to do so, if the bank is in distress or if the bank fails.

Although the CCPs' settlement banks and repo dealer banks are generally viewed as very healthy—as demonstrated through stress tests, for example—no commercial institution can provide an absolute guarantee. If a commercial bank fails, the non-designated CCP can only recover funds from the Federal Deposit Insurance Corporation up to the coverage limit, which is significantly lower than the non-designated CCP's typical bank balances and would not be enough to cover losses to clearing members. In addition, the cash in the CCP's guaranty fund, containing the pre-funded contributions from its non-defaulting clearing members, could be lost as well if it was held at the same commercial bank.

Given the interconnections noted above, a clearing member loss or default at a non-designated CCP could potentially reverberate across the financial system. It could have effects on a non-designated CCP's clearing member's other payment responsibilities, including payments to the designated CCPs. Even without a complete failure at a commercial bank, lack of timely access could cause the non-designated CCP and its members to experience liquidity issues. If the commercial bank suffers an operational failure or cybersecurity breach and is unable to

promptly meet its contractual arrangements with the non-designated CCP, the non-designated CCP and its clearing members would not be able to timely access or receive back their funds from the bank. Further, this issue and potential liquidity risk may be felt even more acutely by the need to promptly receive back in the morning the cash from commercial banks that serve as repo dealers.

Managing risks through adequate and timely initial margin payments and timely variation margin transfers relies on “time-critical liquidity” which is “at the heart of CCP risk management.”¹⁶ Thus, even absent a more extreme scenario such as a commercial bank failure, the negative impact from the non-designated CCP on its clearing members, which it shares with designated futures CCPs and other designated CCPs, may also impact their ability to meet their other payment obligations. CFTC staff have interpreted the PFMI’s requirement that a CCP effectively manage its liquidity risk to require a SIDCO (or DCO that has elected to be a SIDCO) to use a central bank account and services, such as the Federal Reserve’s, when it has the ability to do so.¹⁷ Although the staff interpretation does not state its reasoning, presumably it is based on the safety and security of a Federal Reserve deposit account, as well as the ease and ability of accessing funds.

Market risk

The PFMI, and the U.S. regulations that implement the PFMI, require U.S. CCPs to hold and invest their clearing members’ collateral in safe and liquid assets.¹⁸ Since non-designated CCPs do not have access to Federal Reserve deposit accounts, they must rely entirely on commercial banks and other products in the market that are permitted by regulation to hold and invest collateral. This could include depositing clearing member cash at commercial banks. However, in practice and in order to manage commercial bank risks, non-designated CCPs heavily rely on placing clearing member cash in the repo market. That is because the repo market generally reduces risk in practical terms because it is collateralized. That makes it considered as a safer alternative to the only other alternatives of keeping cash in an unsecured commercial bank account, or other limited options that may be less liquid or considered riskier. It is also important for non-designated CCPs that primarily accept cash as collateral, or have clearing members that prefer or need to send cash as collateral, and need somewhere to hold the cash overnight. Although designated CCPs may also commercial banks and repo, they can make the

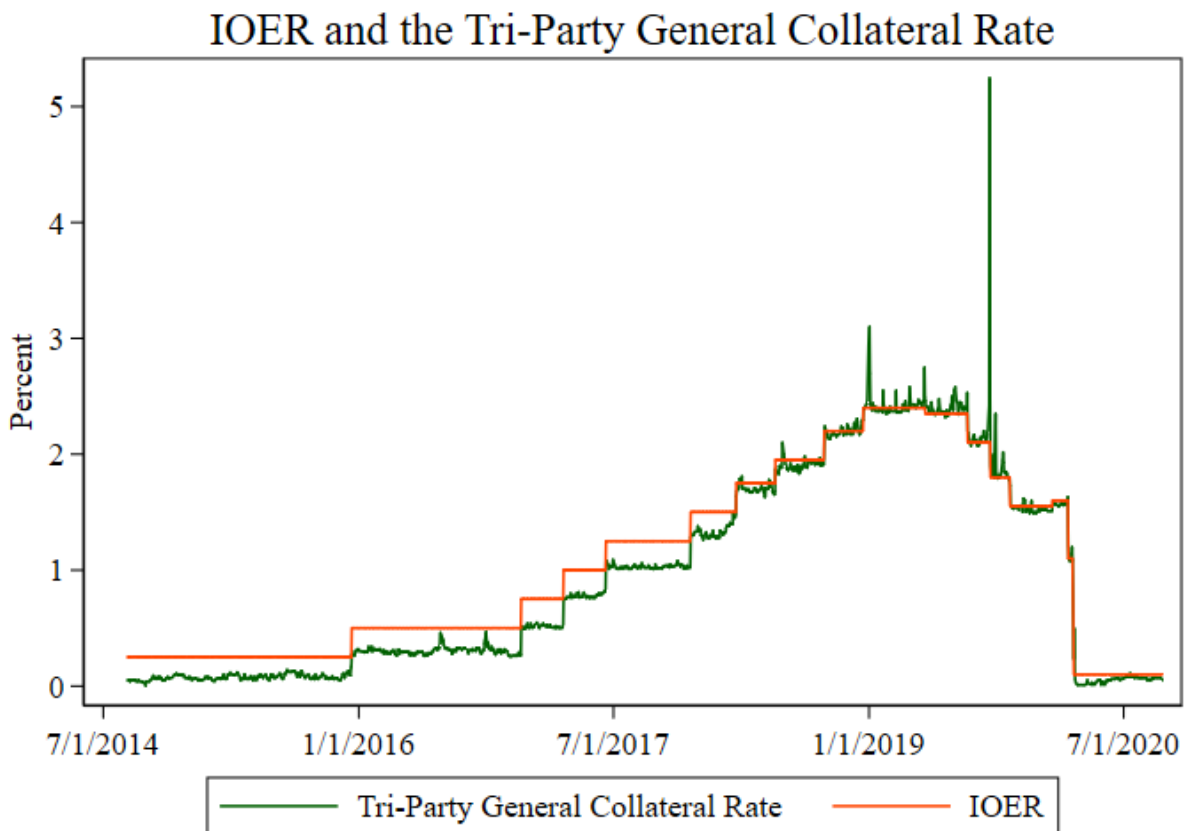
¹⁶ David Marshall, “Liquidity, Settlement Risk, and Systemic Stability,” (Sept. 8, 2017), available online, <https://www.chicagofed.org/~media/publications/speeches/2017/090817-marshall-liquidity-settlement-risk-and-systemic-stability-print-pdf.pdf>.

¹⁷ CFTC, Division of Clearing and Risk, “Memorandum: Staff Interpretation Regarding Consistency Between Part 39 and the Principles for Financial Market Infrastructures” (Sept. 18, 2015).

¹⁸ These requirements restrict both what the clearing members post as collateral and the CCP’s usage of collateral. See, e.g., CFTC regulations 17 CFR 1.25, 39.15, and 39.36 and SEC regulations 17 CFR 240-17AD-22(e) (16). Under the CFTC’s and SEC’s regime for CCPs, permitted investments must have “minimal credit, market, and liquidity risks.”

choice depending on risk management decisions or market conditions as to whether to do so and how much.¹⁹

The ongoing Covid-19 crisis and low to negative rates in the repo market provide an example of an external/market risk that particularly affected the non-designated CCPs because of their inability to store cash at the Federal Reserve. Reverse repo rates in recent months were often close to zero or zero, while the interest rate on Federal Reserve accounts has been 10 bps (see Figure 4). The actual repo rate a non-designated CCP effectively obtains (and may pass on) also has to take into account costs and fees associated with transacting with a dealer and engaging in the reverse repo market, which then made the actual reverse repo rates the non-designated CCPs obtain close to zero or even negative. With reverse repo market rates low or zero, it can make the rate (and effective rate) that a non-designated CCPs obtains using reverse repo low to negative, and lower than the interest earned in a Federal Reserve deposit account.



Sources: The Federal Reserve Bank of New York and the Board of Governors of the Federal Reserve System.

¹⁹ See, e.g., Louie Woodall, “CME Stockpiles Cash at Fed,” Risk.net (Mar. 30, 2018) (noting CME “shifted much of its cash” in 2017 from commercial banks, reverse repo, and securities to its Federal Reserve deposit account after it received approval to keep clearing member customer-segregated and customer-cleared swaps dollar cash in the account).

Further, if one used a conservative cost estimate of an average of 10 bps for the costs of fees and transaction costs for non-designated CCPs engaging with dealers in the reverse repo market, other than a few times in 2018, 2019, and this year, non-designated CCPs over the past several years, even before Covid-19, would have obtained lower reverse repo rates than rates obtained by designated CCPs in their Federal Reserve deposit accounts.

This then poses a dilemma for non-designated CCPs as to whether to instead place the clearing member funds into commercial banks, which unlike reverse repo is not collateralized, or other products that may offer higher rates above zero but be less liquid or riskier (which are generally not considered to be best risk-management practices), or continue to rely on the repo market.

Further, the costs of low to negative rates need to be absorbed by the non-designated CCP, its clearing members and/or their clients, or some combination thereof. Passing on negative rates by charging clearing members to hold their collateral overnight puts clearing members, some of which may already be facing financial strain in volatile markets or during a crisis, in a difficult position. Moreover, the guaranty fund could also be in repo as well, which means that a non-designated CCP's clearing members (even those members that are banks that have access to Federal Reserve deposit accounts of their own), are also paying for the storage of their pre-funded resources.

Concentration risk

The disadvantage of not having access to a Federal Reserve deposit account is not just a commercial problem for the non-designated CCPs. Continually absorbing the costs of low interest rates and zero to negative repo rates in order to mitigate commercial bank risk could ultimately be unsustainable for a non-designated CCP. This is particularly the case when compared to designated CCPs, which do not have to raise fees or charge clearing members more to cover the costs of maintaining collateral during times when commercial rates are unfavorable, because they have access to a Federal Reserve deposit account and that account pays the Fed's specified interest rate. Since the cash being deposited in the Federal Reserve deposit account does not offer negative rates, designated CCPs have the optionality to use that account to be less reliant on the repo market as an alternative, particularly during times of stress and when realized rates are low or negative.

When a non-designated CCP passes on the costs of maintaining and storing collateral to its clearing members, the clearing members will have to then choose whether to pass on those costs to their customers. Clearing members could decide based on lower costs of clearing (or if they had fiduciary obligations to obtain better rates for their customers) to try to switch their customers to a designated CCP,²⁰ which could ultimately lead to a non-designated CCP being unable to compete.

²⁰ That is, to the extent that there actually is a substitute exchange/CCP offering and clearing products that could substitute. To the extent there is not, the designated exchange/CCP could try to offer look-alike contracts or

Having fewer CCPs, including fewer non-designated futures CCPs, would not only lead to less choice, but contribute further to the already highly concentrated derivatives clearing market. More CCPs means more trading and clearing choices in the derivatives markets and more choice means more venues for users such as farmers, energy companies, and others that serve the real economy to hedge their risks, and more opportunities for innovation in both products and risk management processes. A number of regulators, international standard setting bodies, and market participants have noted concerns that the CCP market is highly concentrated already and may pose potential risks and implications for systemic stability.²¹

Additionally, increased costs resulting in the loss of more clearing members that cannot afford to continually absorb the costs of low or negative repo rates would also contribute further to an already concentrated clearing member environment. A clearing member could also find it too expensive to cover these additional costs for clearing and exit the futures clearing business for a particular category of users or altogether. In that scenario, depending on the nature of the clearing member's business, it may mean that the customers of the clearing member that rely on the non-designated CCP to hedge their risks and keep their prices stable may not have another option. The number of clearing members, particularly those that are able and willing to take on accounts for smaller customers and real economy participants in the futures markets, such as ranchers and farmers, has dwindled over the years.²² The concentration of the clearing member market poses its own potential risks to CCPs and implications for systemic stability.²³

Loss of confidence more broadly

Further, there may also be reputational effects not just to the non-designated CCP, but to the designated CCPs if a non-designated CCP cannot make prompt or full payments to its customers or declares a customer default. For example, the default of power trader Einar Aas on Nasdaq Clearing in September 2018 did not happen on a U.S. regulated CCP, was not regulated by a U.S. agency, and did not significantly impair U.S. clearing members. Nonetheless, afterwards there was widespread discussion by U.S. and foreign regulators, CCPs, and clearing members about how it was allowed to happen and whether the same event could happen at U.S. CCPs. Indeed,

contracts that may offer lesser or imperfect hedges. If another exchange/CCP chose not to for its own business or risk management purposes, for example, then the customers of the non-designated CCP may not have a way to hedge their specific agricultural and energy needs and risks in the futures market.

²¹ Note that there is at least one argument for concentration; there is a pre-Dodd Frank Act article that argues that for certain swaps, having fewer CCPs provides the benefit of lowering average counterparty risk through netting. See Darrell Duffie and Haoxiang Zhu, "Does a Central Clearing Counterparty Reduce Counterparty Risk?" (2010), available online, <https://web.stanford.edu/~duffie/DuffieZhu.pdf>.

²² As of June 2020, there were 62 futures clearing members registered with the CFTC, down from a peak of 176 clearing members in the mid-2000s.

²³ A number of policymakers and regulators have noted that concentration in a handful of large clearing members can have various adverse consequences, some of which may have systemic risk exposure. See, e.g., Nahomy Alvarez, "Can Broader Access to Direct CCP Clearing Reduce the Concentration of Cleared Derivatives?," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 43, No. 3 (2019), available online, <https://doi.org/10.21033/ep-2019-3>

the default raised questions about the role and safety of CCPs more broadly, beyond any one CCP or regulatory framework.²⁴ A loss of funds, default due to inability to transfer or receive payments, or the need to turn to pre-funded resources at a non-designated U.S. CCP caused by the above mentioned risks could similarly raise concerns about all CCPs, including designated CCPs. Such a loss of confidence could have significant and broader market impacts than just at the non-designated CCP.

Conclusion

In sum, the overlapping relationships and exposure between the non-designated and designated futures CCPs, and clearing members and banks, could have financial stability implications. The risks that non-designated futures CCPs and their members face in not having the safety of the CCP choosing to deposit clearing member cash in a risk-free central bank deposit account are not siloed away.

²⁴ See, e.g., Jack Ewing and Milan Schreur, “How a Lone Norwegian Trader Shook the World’s Financial System,” *New York Times* (May 3, 2019) (“The short, intense crisis Mr. Aas created was a precarious moment for the financial industry. It cast doubt on the safety of institutions like Nasdaq Clearing, which were supposed to prevent another meltdown, not create one. Within the small and dispersed community of regulators and central bankers whose job it is to maintain the infrastructure of global commerce, the incident provoked a debate about contagion that continues to rage.”), available online, <https://www.nytimes.com/2019/05/03/business/central-counterparties-financial-meltdown.html>.