

ARTICLE

CREDIT DEFAULT SWAPS, CLEARINGHOUSES, AND SYSTEMIC RISK: WHY CENTRALIZED COUNTERPARTIES MUST HAVE ACCESS TO CENTRAL BANK LIQUIDITY

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Credit default swaps (“CDSs”) were widely blamed as a primary cause of the recent financial crisis; CDSs fomented panic as the price of credit protection spiked and contributed to the Federal Reserve’s decision to bail out American International Group. To reduce the likelihood that credit derivatives will lead to future financial distress, the Dodd-Frank Wall Street Reform and Consumer Protection Act mandates that many CDSs be traded through a centralized counterparty, a clearinghouse that acts as a seller to every buyer and a buyer to every seller. Proponents of central clearing argue that this reform minimizes risks to the financial system by reducing interconnections and dispersing losses. While the systemic benefits of central clearing are manifest, the downsides are less obvious: clearinghouses concentrate risk and pose enormous threats to financial stability should they fail. Ignoring such drawbacks, several members of Congress involved in Dodd-Frank negotiations, disturbed by the Federal Reserve’s unprecedented market interventions, sought to revoke the central bank’s authority to lend to clearinghouses. This Article argues that these imprudent efforts, though ultimately unsuccessful, could have prevented the Federal Reserve from staving off a catastrophic clearinghouse collapse. This Article asserts that clearinghouse access to central bank credit is crucial, particularly when central clearing of volatile CDSs is required.

“What is notable about the reform debate . . . is that there has been remarkably little public discussion among politicians—or even among regulators—about how to guarantee that any future clearinghouse will indeed be strong enough to withstand any future shocks.”¹

I. INTRODUCTION

On October 19, 1987, financial Armageddon nearly struck. The stock market plunge of 508 points on Black Monday is seared into market observ-

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¹ Gillian Tett, *The Clearing House Rules*, FIN. TIMES, Nov. 5, 2009, available at <http://www.ft.com/cms/s/0/5874e922-cald-11de-a5b5-00144feabdc0.html>.

ers' memories;² what is less well-remembered is the ensuing credit crisis that threatened to destroy two of the United States' largest clearinghouses. More than a dozen clearing members of the Chicago Mercantile Exchange ("CME") fell out of compliance with capital requirements, and half a dozen more faced margin calls that exceeded their capital.³ The largest clearing member of the Options Clearing Corporation ("OCC"), First Options of Chicago, appeared unlikely to satisfy margin calls, potentially threatening all of the traders on the OCC-affiliated Chicago Board Options Exchange ("CBOE").⁴ Both CME and CBOE temporarily halted trading, lest the financial condition of the markets—and their clearinghouses—deteriorate further.⁵

In response to the credit squeeze, the Federal Reserve stepped in to ensure that clearing members could meet their obligations to the clearinghouses. The Federal Reserve provided liquidity to commercial banks in New York and Chicago to facilitate loans to CME clearing members.⁶ Meanwhile, the Federal Reserve lent directly to the parent company of First Options, enabling the OCC to continue operations.⁷ With the solvency of both clearinghouses assured, the exchanges reopened, the markets stabilized, and the U.S. returned to business as usual.⁸ Hong Kong was less lucky; its central bank did not immediately act to protect the country's main clearinghouse, and on October 26, the guarantee fund associated with Hong Kong's clearinghouse collapsed, plunging the region deeper into crisis.⁹

² See, e.g., Eileen Glanton, *Ten Years After the Crash, Traders Breathe a Little Easier*, ASSOCIATED PRESS NEWSWIRES, Oct. 17, 1997, available at Factiva, Doc. No. aprs000020011005dtai0jzz3 ("The traders who work on the floor of the New York Stock Exchange will never forget October 19, 1987.").

³ NICHOLAS F. BRADY, REPORT OF THE PRESIDENTIAL TASK FORCE ON MARKET MECHANISMS, at VI-73 (1988). One CME clearing member faced a \$22.6 million margin call, yet held only \$8.6 million in net capital. *Id.*

⁴ Alan Murray, *Fed's New Chairman Wins a Lot of Praise on Handling the Crash*, WALL ST. J., Nov. 25, 1987, available at Factiva, Doc. No. j00000002001118djb00s3j (citing an unnamed Federal Reserve official who said that CBOE "would have shut down" if First Options had been unable to meet its margin calls).

⁵ Mark Carlson, *A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response* 11 (Fed. Reserve Bd. Divs. of Research & Statistics & Monetary Affairs, Fin. & Econ. Discussion Series, Working Paper No. 2007-13, 2006), available at <http://www.federalreserve.gov/Pubs/Feds/2007/200713/200713pap.pdf>.

⁶ *Id.* at 13 ("To help make the extensions of credit and transfers of funds proceed smoothly, the Federal Reserve Banks of Chicago and New York reportedly let commercial banks in both districts know that the Federal Reserve would help provide liquidity for the loans. Due in part to the efforts of the Federal Reserve, on Oct. 20—the day following the crash—the settlement banks extended the necessary credit, and the accounts for CME clearinghouse members were fully funded by market opening.").

⁷ See Ben S. Bernanke, *Clearing and Settlement During the Crash*, 3 REV. OF FIN. STUD. 133, 148 n.1 (1990).

⁸ See Carlson, *supra* note 5, at 11 (noting that there was a "sustained rise" in financial markets during the afternoon of Tuesday, October 20 "as corporations announced stock buyback programs to support demand for their stocks").

⁹ See Bob Hills et al., *Central Counterparty Clearing Houses and Financial Stability*, FIN. STABILITY REV., June 1999, at 122, 129-30; see also Cheah Cheng Hye & Christopher Hunt, *Hong Kong Bails Out Futures Market but Stock Prices Plunge on Reopening*, WALL ST. J.,

Clearinghouses, or centralized counterparties (“CCPs”), operate, in many ways, as the central nervous system of financial markets. CCPs connect buyers and sellers of financial contracts, receiving and distributing contractually bound payments. When they function well, CCPs help their members manage counterparty risks. When they malfunction, however, clearinghouses pose an enormous danger to the financial system.

The dire consequences of CCP failure are particularly notable in light of new legislation mandating the clearing of many derivative instruments, including credit default swaps (“CDSs”).¹⁰ Various market observers have argued that the central clearing of CDSs will improve transparency and facilitate risk-sharing, thereby reducing the chances for a large CDS purveyor like American International Group (“AIG”) to once again rattle financial markets.¹¹ CDSs, however, are subject to unique dangers that are likely to pose risk management challenges for clearinghouses. Thus, the centralized clearing of CDSs could increase the possibility of a devastating clearinghouse collapse, as was narrowly avoided in 1987.

This Article explores the market for CDSs, the potential for concentrating risk in clearinghouses, and the resulting implications for regulatory policy. In particular, this Article argues that, as a result of the systemic importance of clearinghouses and the increased risks associated with clearing CDSs, CCPs must be allowed access to emergency credit from central banks. Part II examines the CDS market, identifies the major risks associated with credit derivatives, and discusses the role CDSs played in the financial crisis of 2008 and 2009. Part III focuses on the structure and benefits of clearinghouses. Part IV identifies important drawbacks to central clearing—namely, the concentration of systemic risk, the instantiation of the “too big to fail” problem, and the creation of moral hazard. Part IV also points out the peculiarities of CDSs that heighten concerns about central clearing of credit derivative instruments. Part V argues that, to safeguard CCPs, clearinghouses in the U.S. must have access to credit from the Federal Reserve. Part VI analyzes how—despite some legislators’ efforts to prohibit the Federal Reserve from lending to CCPs—the Dodd-Frank Wall Street Reform and Consumer Protection Act largely preserves the status quo, permitting emergency lending to clearinghouses under limited circumstances.¹²

Oct. 26, 1987, available at Factiva, Doc. No. j000000020011118djaq00plg (noting that Hong Kong waited until the weekend after the Monday, October 19th stock market crash to bail out the Hong Kong Futures Guarantee Corporation with a \$256 million loan; the fund had “only 15 million dollars in capital and 7.5 million dollars in reserves”).

¹⁰ See *infra* Part III.C.

¹¹ See, e.g., Stephen G. Cecchetti et al., *Central Counterparties for Over-the-Counter Derivatives*, BIS Q. REV., Sept. 2009, at 45, 52.

¹² Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S.C.).

II. THE CDS MARKET, COUNTERPARTY RISK, AND SYSTEMIC RISK

Alternately extolled as “useful means for investors to signal their view of an entity’s business prospects”¹³ and criticized for being “financial weapons of mass destruction,”¹⁴ CDSs elicit divergent views among market commentators. At their best, CDSs facilitate useful transference of risk and accurate signaling of creditworthiness; at their worst, CDSs may leave participating financial institutions caught in a fragile web of interconnecting liabilities. Part II begins by describing the fundamentals of CDS contracts and the structure of the credit derivatives market. This Part then discusses major risks posed by CDSs and concludes by analyzing their role in the recent market crisis.

A. *What are CDSs?*

In simple terms, a credit default swap is a promise by one party to pay another party in the event that a third party defaults on its debt.¹⁵ More specifically, a CDS contract obligates a protection buyer to make periodic premium payments to a protection seller, who in turn must pay the buyer if one or more underlying reference entities experiences a credit event.¹⁶ Credit events triggering payment on CDSs typically include default and bankruptcy by the reference entity, but CDSs may also protect against debt restructuring or credit rating downgrade.¹⁷

By way of example, consider three entities: Party A, Party B, and Party Z. Suppose A owns \$10 million of Z’s bonds but no longer wishes to be exposed to the risk that Z may default. A may approach B to enter into a CDS contract that would shift the risk of Z’s default from A to B. If the parties consummate a deal, B, the protection seller, would agree to pay A, the protection buyer, up to \$10 million in the event of default by Z, the reference entity. In exchange, A would pay B a premium, either in an initial lump sum or through periodic payments over the life of the contract. The greater the perceived likelihood of Z’s default, the higher the premium B will demand from A. This arrangement is diagrammed in FIGURE 1.

Market participants use CDSs in a variety of ways, including hedging and speculation. As in the above example, protection buyers sometimes util-

¹³ Christopher Cox, *Swapping Secrecy for Transparency*, N.Y. TIMES, Oct. 19, 2008, at WK12.

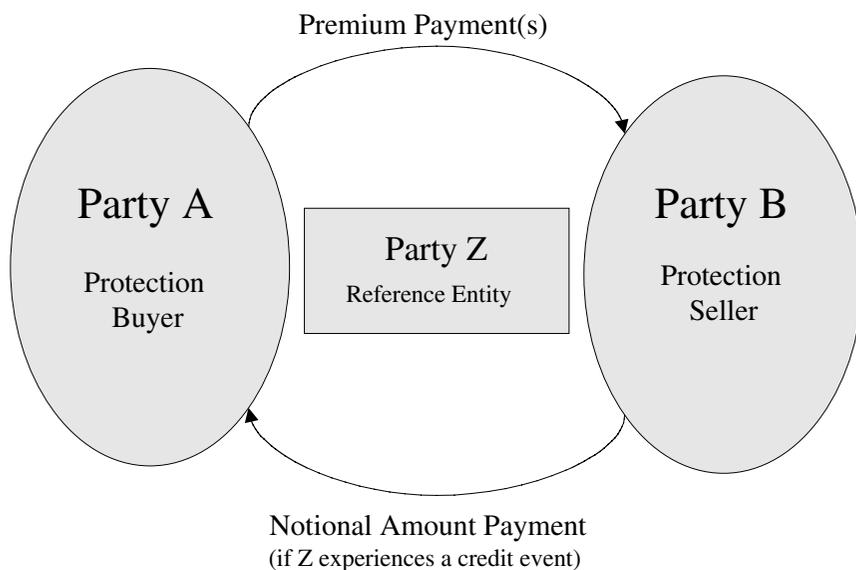
¹⁴ Letter from Warren Buffett, Chief Exec. Officer, Berkshire Hathaway, Inc., to S’holders of Berkshire Hathaway (Feb. 21, 2003), available at <http://www.berkshirehathaway.com/letters/2002pdf.pdf>.

¹⁵ See EDWARD VINCENT MURPHY, CONG. RESEARCH SERV., RS 22932, CREDIT DEFAULT SWAPS: FREQUENTLY ASKED QUESTIONS 1 (2008).

¹⁶ See EUR. CENT. BANK: EUROSISTEM, CREDIT DEFAULT SWAPS AND COUNTERPARTY RISK 9 (Aug. 2009) [hereinafter “EUR. CENT. BANK”], available at <http://www.ecb.int/pub/pdf/other/creditdefaultswapsandcounterpartyrisk2009en.pdf>.

¹⁷ See MURPHY, *supra* note 15, at 2.

FIGURE 1: BILATERAL CDS TRADE



In a typical CDS trade, Party A pays Party B periodic premiums for a promise that Party B will pay Party A the notional amount if Party Z experiences a credit event.

ize CDSs to insure themselves against default or downgrade on bonds the buyer currently owns, thereby hedging existing positions.¹⁸ However, the protection buyer need not own the underlying asset in order to purchase a CDS. In fact, the majority of the market is now comprised of so-called “naked” CDSs that enable protection buyers to bet against the credit quality of assets they do not own.¹⁹ Protection sellers write CDSs because the instruments offer higher returns on equity than if the sellers purchased the underlying credit assets.²⁰

¹⁸ See, e.g., EUR. CENT. BANK, *supra* note 16, at 10 (“CDSs can be used to hedge the credit risk of on-balance sheet assets (e.g. corporate bonds or asset-backed securities) by acquiring CDS protection on them. Such protection provides capital relief and insures the acquirer of protection against credit losses.”).

¹⁹ Eric Dinallo, former Superintendent of Insurance for New York State, estimates that nearly 80% of CDSs are “naked.” Dawn Kopecki & Shannon D. Harrington, *Banning “Naked” Default Swaps May Raise Corporate Funding Costs*, BLOOMBERG (July 24, 2009), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a0W1VTiv9q2A>.

²⁰ See, e.g., EUR. CENT. BANK, *supra* note 16, at 11.

B. The CDS Market

Since its inception in the late 1990s, the CDS market has experienced dramatic growth.²¹ The CDS market roughly doubled in size each year between 2002 and 2007, reaching a peak of \$62 trillion in 2007.²² Despite significant contraction after the 2008 financial crisis, the CDS market is still valued at \$30 trillion, more than double the entire United States stock market capitalization.²³ The \$30 trillion figure represents the notional amount of CDSs outstanding and does not take into account potentially offsetting positions held by the largest CDS dealers. Netting out offsetting positions, the CDS market is valued at roughly \$1.8 trillion.²⁴

Credit default swaps have traditionally been traded in the over-the-counter (“OTC”) market. In other words, market participants have transacted CDSs bilaterally without the facilitation of an exchange.²⁵ In the OTC market, such as that for CDSs, buyers and sellers independently negotiate terms and settle contracts. By contrast, in an exchange-based market, such as that for U.S. equities, buyers and sellers choose from standardized listed products, and counterparties rarely interact directly, relying instead on the exchange to facilitate contract settlement. Bilateral OTC markets are desirable in that they are conducive to the creation of new financial instruments, as demonstrated by the growing variety of CDS contracts; they also allow for customization.²⁶ However, OTC markets suffer from less transparency than

²¹ For a brief and entertaining history of CDSs, see Matthew Phillips, *The Monster That Ate Wall Street*, NEWSWEEK, Oct. 6, 2008, at 46.

²² *Summary of Recent Survey Results*, INT’L SWAPS & DERIVATIVES ASS’N, <http://www.isda.org/statistics/recent.html#2009end> (last visited Oct. 27, 2010).

²³ The International Swaps and Derivatives Association 2009 Year-End Market Survey valued the CDS market at \$30.4 trillion. *Id.* The World Federation of Exchanges valued the U.S. stock market capitalization at \$15.1 trillion at the end of 2009. See *Year-Domestic Market Capitalization (USD Millions)*, WORLD FED’N OF EXCHS., <http://www.world-exchanges.org/statistics/ytd-monthly> (select “2009” for “Year”; select “December” for “Month”; select “USD” for “Currency”; select “Domestic Market Capitalization” for “Individual Data Series”; then follow “Download” hyperlink) (last visited Oct. 27, 2010).

²⁴ See *Table 19: Amounts Outstanding of Over-the-Counter (OTC) Derivatives*, BANK FOR INT’L SETTLEMENTS (June 2010), <http://www.bis.org/statistics/otcder/dt1920a.pdf> (estimating the gross market value of CDSs to be \$1.801 trillion as of December 2009).

²⁵ See, e.g., Nicholas Varchaver & Katie Brenner, *The \$55 Trillion Question*, FORTUNE, Sept. 30, 2008, available at http://money.cnn.com/2008/09/30/magazines/fortune/varchaver_derivatives_short.fortune/index.htm (noting that most CDS contracts are transacted “in a one-minute phone conversation or an instant message”). For a full discussion of the differences between OTC and exchange-based markets, see Norman Menachem Feder, *Deconstructing Over-the-Counter Derivatives*, 2002 COLUM. BUS. L. REV. 677, 731-35; see also Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 YALE L.J. 1457, 1465-66 (1993).

²⁶ See Cecchetti et al., *supra* note 11, at 49 (noting that bilateral OTC markets “facilitate the creation of new financial instruments at a relatively modest operational cost” and “allow customers to tailor products to their individual needs”); see also EUR. CENT. BANK, *supra* note 16, at 9-10 (describing the proliferation of different varieties of CDSs).

exchange-based markets, thereby complicating risk management and regulation of OTC products.²⁷

Banks have typically been the most active CDS market participants, both as protection buyers and as protection sellers.²⁸ However, securities firms, insurance companies, and hedge funds are also significant market players.²⁹ Industry experts have noted that although the buyers of CDS protection are relatively diffuse, a handful of large dealers dominates the market for selling credit protection.³⁰ Indeed, a July 2009 survey of 100 CDS dealers showed that ninety-six percent of credit derivative exposure was concentrated among five firms: JP Morgan, Goldman Sachs, Citigroup, Morgan Stanley, and Bank of America.³¹

C. *Risks Associated with CDSs*

At its best, the CDS market can benefit the macroeconomy by improving risk mitigation for creditors, increasing liquidity for debtors, and signaling creditworthiness to other market participants.³² Despite these desirable effects, the bilateral OTC CDS market also creates risks that threaten to undermine individual financial firms and the global financial system. Specifically, CDSs subject market participants to counterparty risk created by their trading partners' potential default; meanwhile, the financial system bears systemic risk caused by the interconnectedness of the CDS market.³³

1. *Counterparty Risk*

When a protection buyer acquires a CDS, the buyer expects the seller to furnish the notional amount³⁴—in full and on time—if the reference entity experiences a credit event. Trading partners, however, are not always able to

²⁷ See Cecchetti et al., *supra* note 11, at 45.

²⁸ See MURPHY, *supra* note 15, at 3.

²⁹ *Id.*

³⁰ See EUR. CENT. BANK, *supra* note 16, at 21 (indicating “possible over-concentration in the sense of a scarcity of sellers” in the CDS market).

³¹ *Derivatives: A Closer Look at What New Disclosures in the U.S. Reveal*, FITCH RATINGS, July 22, 2009, at 3.

³² See Frank Partnoy & David A. Skeel, Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1023-27 (2007) (discussing the benefits of CDSs).

³³ Orice M. Williams, Director of the Government Accountability Office (“GAO”) Financial Markets and Community Investment Division, identifies two additional types of CDS risks: operational risk, “the risk that losses could occur from human errors or failures of systems or controls,” and concentration risk, “the potential for loss when a financial institution establishes a large net exposure in similar types of CDSs.” U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-397T, SYSTEMIC RISK: REGULATORY OVERSIGHT AND RECENT INITIATIVES TO ADDRESS RISKS POSED BY CREDIT DEFAULT SWAPS 13-15 (2009). A third additional risk type, jump-to-default risk, is discussed below.

³⁴ The notional amount is “the par amount of credit protection bought or sold.” *Market Statistics: Understanding Notional Amount*, INT'L SWAPS & DERIVATIVES ASS'N, http://www.isdacdsmarketplace.com/market_statistics/understanding_notional_amount (last visited Nov. 5, 2010).

fulfill their contractual commitments; bankruptcy or illiquidity may prevent the protection seller from satisfying the contract. The risk that a market participant experiences losses because of its trading partner's nonperformance is known as counterparty risk.³⁵

While counterparty risk occurs in all derivatives markets, a specific type of nonperformance risk—jump-to-default risk—is unique to CDSs. In general, obligations arising out of other derivative contracts, such as interest rate swaps, tend to fluctuate smoothly over time.³⁶ However, expected payouts under CDS contracts escalate rapidly, as credit events for reference entities, such as bankruptcy filings or missed loan payments, occur suddenly; in other words, reference entities “jump” to default.³⁷ Counterparty nonperformance is more likely under jump-to-default scenarios because the obligee may not have sufficient liquidity to make notional amount payments immediately.³⁸ Indeed, counterparty risk is particularly acute in CDS markets because reference entities are most likely to experience credit events in down markets—precisely when protection sellers are least likely to have the capital or liquidity necessary to satisfy CDS contracts.³⁹ Thus, the procyclical nature of CDSs—reference entities' credit events onset suddenly and usually in down markets—reduces the likelihood that counterparties will be able to perform on their obligations.

To mitigate counterparty risk, OTC CDS market participants sometimes require trading partners to post collateral.⁴⁰ This collateral is intended to minimize losses sustained by the protection buyer in the event that the protection

³⁵ For a primer on counterparty risk, see Miguel A. Segoviano & Manmohan Singh, *Counterparty Risk in the Over-The-Counter Derivatives Market* 5-8 (Int'l Monetary Fund, Working Paper No. 08/258, 2008), available at <http://imf.org/external/pubs/ft/wp/2008/wp08258.pdf>.

³⁶ See, e.g., Gary Gensler, Chairman, Commodity Futures Trading Comm'n., Keynote Address at the Market's Outlook for OTC Derivatives Markets Conference (Mar. 9, 2010) (transcript available at <http://www.cftc.gov/PressRoom/SpeechesTestimony/opagensler-32.html>) (noting that, in contrast to CDSs, “the value of interest rate or commodity derivatives generally adjusts continuously”).

³⁷ See Manmohan Singh & James Aitken, *Counterparty Risk, Impact on Collateral Flows, and Role for Central Counterparties* 11 (Int'l Monetary Fund, Working Paper No. 09/173, 2009), available at <http://imf.org/external/pubs/ft/wp/2009/wp09173.pdf> (“Jump risk is associated with CDS contracts where the price of the underlying reference entity can move sizably during distress and especially around a credit event.”).

³⁸ See Benjamin Yibin Zhang et al., *Explaining Credit Default Swap Spreads with Equity Volatility and Jump Risks of Individual Firms* (Bank for Int'l Settlements, Working Paper No. 181, 2005), available at <http://www.bis.org/publ/work181.pdf> (finding that counterparties demand premiums to account for jump risk in CDSs).

³⁹ See, e.g., Charles Davi, *How to Understand the OTC Derivatives Market*, THE ATLANTIC BUS. CHANNEL (July 16, 2009, 1:00 PM), http://business.theatlantic.com/2009/07/understanding_the_otc_derivatives_market.php (“[C]ounterparty risk is highly correlated to macroeconomic credit risk . . . and so, as the overall risk of default rises, so does the risk of counterparty default. This means that CDS protection sellers are least likely to payout at the very moment they're obligated to: upon someone else's default.”).

⁴⁰ See 2005 ISDA *Collateral Guidelines*, INT'L SWAPS AND DERIVATIVES ASS'N (2005), <http://www.isda.org/publications/pdf/2005isdacollateralguidelines.pdf>.

seller defaults on its obligations.⁴¹ Thus, the amount of collateral required usually reflects “the contracting parties’ assessment of both the riskiness of the position and of each other’s credit quality.”⁴² The parties may adjust collateral requirements several times daily to account for fluctuations in the market value of the CDS contract or changes in the parties’ creditworthiness. However, even with continual collateral adjustments, protection buyers have difficulty collecting sufficient collateral to account for jump-to-default risk.⁴³ Further, although industry data show that most CDS trades are collateralized, some OTC credit derivative exposure is not subject to any collateralization agreement.⁴⁴ Therefore, despite some mitigation through collateralization, a substantial amount of counterparty risk remains in the bilateral OTC CDS market.

2. *Systemic Risk*

The aggregation of CDS counterparty risk throughout financial markets creates systemic risk, the possibility of contagion spreading from institution to institution.⁴⁵ When market participants are interconnected through overlapping CDS exposures, counterparty risk becomes a multilateral, rather than bilateral, concern. In other words,

counterparty risk translates into systemic risk when chains of counterparties form as a result of CDS buyers and sellers continually covering their initial long or short positions by entering into complementary transactions (e.g., protection buyer to one

⁴¹ *Id.* at iv (“Collateralization operates through improving the recovery rate in a post-default situation, and thus decreases the loss given default. This leads to lower expected losses in a collateralized portfolio . . .”).

⁴² See Cecchetti et al., *supra* note 11, at 47.

⁴³ See U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 33, at 22 (“According to market participants, the jump-to-default risk posed by CDS makes determining sufficient margin requirements difficult.”); see also EUR. CENT. BANK, *supra* note 16, at 47 (“When assessing the risk-mitigating role played by [] margin call schemes, one should bear in mind that the mitigation of risk is somewhat more limited for CDS than for other OTC derivatives, due to the possibility of the CDS spread widening too quickly . . .”).

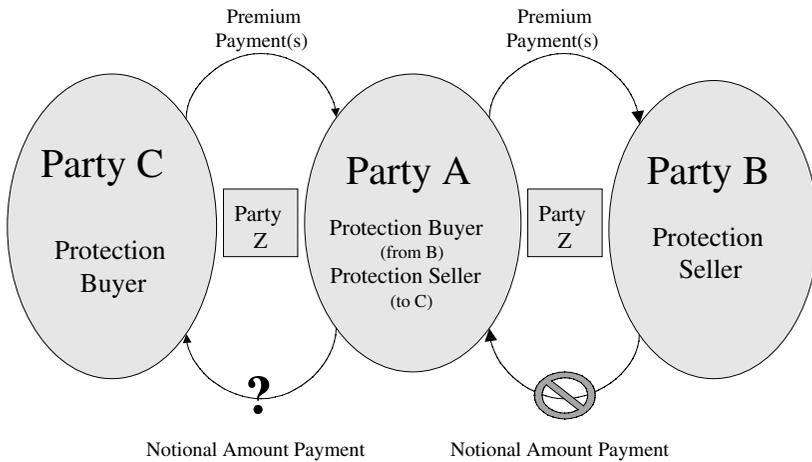
⁴⁴ As recently as 2009, more than one-third of OTC credit derivative exposure was not subject to a collateralization agreement. *ISDA Margin Survey 2009*, INT’L SWAPS AND DERIVATIVES ASS’N 7 (2009), http://www.isda.org/c_and_a/pdf/ISDA-Margin-Survey-2009.pdf. Since then, the level of uncollateralized OTC credit derivative exposures has dropped to 7 percent. *ISDA Margin Survey 2010*, INT’L SWAPS AND DERIVATIVES ASS’N 10 (2010), http://www.isda.org/c_and_a/pdf/ISDA-Margin-Survey-2010.pdf.

⁴⁵ Commonly used definitions of systemic risk are semantically different but all refer to the same concept of contagion. Compare Michael R. Darby, *Over-the-Counter Derivatives and Systemic Risk to the Global Financial System* (Nat’l Bureau of Econ. Research, Working Paper No. 4801, 1994) (defining systemic risk as the possibility that “failure of one firm will lead to the failure of a large number of other firms or indeed the collapse of the international financial system”), with George G. Kaufman & Kenneth E. Scott, *What Is Systemic Risk, and Do Bank Regulators Retard or Contribute to It?*, 7 INDEP. REV. 371, 371 (2003) (defining systemic risk as “the risk or probability of a breakdown in an entire system, as opposed to breakdowns in individual parts or components”).

counterparty subsequently becomes a protection seller to another). The failure of a single large counterparty to fulfill its obligations may result in the oft-termed “domino effect,” whereby institutions once considered fully hedged face substantial losses and lack sufficient liquidity to cover them.⁴⁶

This domino effect explains how one counterparty’s default can have widespread consequences. For example, suppose Party A from Part II.A, *supra*, decides to write credit protection on Party Z for Party C.⁴⁷ Now, default by B would endanger not only A, which would not recoup the notional amount from B, but also C, which might be unable to collect from an illiquid A. See FIGURE 2. Thus, one firm’s insolvency or illiquidity endangers not only its counterparties but also its counterparties’ counterparties, and so on.

FIGURE 2: SYSTEMIC RISK IN CDS TRADES



If Party Z experiences a credit event and Party B defaults on its obligation to Party A, Party A may be unable to satisfy its contract with Party C.

Many financial products contribute to systemic risk, but distinctive features of the credit derivative market heighten the concern for contagion caused by CDSs. As noted above, the CDS market is significantly more concentrated than the market for other financial products;⁴⁸ thus, each major

⁴⁶ *The Global Financial Crisis: A Plan for Regulatory Reform*, COMM. ON CAPITAL MARKETS REGULATION 39 (May 26, 2009), [http://www.capmktreg.org/pdfs/TGFC-CCMR_Report_\(5-26-09\).pdf](http://www.capmktreg.org/pdfs/TGFC-CCMR_Report_(5-26-09).pdf).

⁴⁷ One reason Party A might wish to become a protection seller on an entity for which it has already bought protection would be to take advantage of arbitrage profits made possible by changing credit spreads.

⁴⁸ See *supra* notes 30-31 and accompanying text.

CDS dealer has more aggregate exposure and is more likely to be exposed to each of the other major dealers than in a more diffuse market.⁴⁹ This market structure is particularly conducive for the spread of systemic risk.⁵⁰ Additionally, the large proportion of CDSs that are written with financial institutions as the reference entity increases the likelihood that the failure of one institution will have systemic ramifications.⁵¹ A failed financial firm would not only default on its obligations to its counterparties but would also trigger payment on any CDS written with it as the reference entity, potentially starting a domino effect.⁵²

D. *The Role of CDSs in the Financial Crisis*

Scholars are divided over the extent to which systemic risk arising from CDSs precipitated the global financial crisis in 2008. On one hand, it is undisputed that losses on mortgage securities, not CDSs, led to the bailout of Bear Stearns and bankruptcy of Lehman Brothers.⁵³ Additionally, defenders of CDSs point out that the market absorbed losses on \$400 billion of CDSs referencing Lehman without significant contagion.⁵⁴ Indeed, in the aftermath of Lehman's failure, "widespread defaults by CDS protection sellers did not occur" and "the contractual expectations of CDS protection buyers were generally met."⁵⁵

On the other hand, however, there is convincing evidence that systemic risk arising from CDSs would have exacerbated the crisis in the absence of unprecedented government intervention. Government assistance for AIG, for example, was predicated in part on the belief that its CDS portfolio, with a reach broader than that of Lehman's, posed a grave threat to financial sta-

⁴⁹ See EUR. CENT. BANK, *supra* note 16, at 20.

⁵⁰ See, e.g., Rama Cont et al., *Too Interconnected to Fail: Contagion and Systemic Risk in Financial Markets* (2009), <http://cermics.enpc.fr/cnf/Cont.pdf>.

⁵¹ Fitch found that eight financial institutions (Morgan Stanley, General Electric, Bank of America, General Motors/GMAC, JP Morgan Chase, Royal Bank of Scotland, Citigroup, and Deutsche Bank) were among the top 10 reference entities for which CDS protection was purchased at year-end 2008. See *Global Credit Derivatives Survey: Surprises, Challenges and the Future*, FITCH RATINGS, Aug. 20, 2009, at 6.

⁵² See EUR. CENT. BANK, *supra* note 16, at 26 (using the term "risk circularity" to refer to the failure of a CDS market participant that itself is the reference entity for other CDSs).

⁵³ See, e.g., Housman Shadab, *Guilty by Association? Regulating Credit Default Swaps*, 4 ENTREPRENEURIAL BUS. L.J. 407, 414 (2009) ("In contrast to the result of their leveraged investments in mortgage-related securities, banking institutions did not fail because of losses from CDS trading or because they were unable to meet their own CDS obligations."); see also Peter Wallison, *Systemic Risk and the Financial Crisis*, AM. ENTER. INST. FIN. SERV. OUTLOOK (Oct. 31, 2008), <http://www.aei.org/outlook/28872> ("There is much more to learn about the role of CDSs in the financial crisis, but it is altogether clear, even now, that whatever role they played, it was a tiny one when compared to the contribution of imprudent investments in junk mortgages and MBS.").

⁵⁴ See Wallison, *supra* note 53, at 4 (noting that settlement on CDSs referencing Lehman was "completely orderly, almost humdrum").

⁵⁵ Shadab, *supra* note 53, at 415.

bility.⁵⁶ In September 2008, when credit rating agencies downgraded AIG and the insurance giant was unable to meet the ensuing collateral calls on its \$440 billion CDS portfolio, the Federal Reserve stepped in with an \$85 billion credit facility.⁵⁷ As Federal Reserve Chairman Ben Bernanke later testified before Congress, AIG's failure to meet its collateral calls "would have posed unacceptable risks for the global financial system and for our economy."⁵⁸ Had AIG been unable to satisfy its CDS contracts, "institutional investors around the world would have been instantly forced to reappraise the value of those securities, and that in turn would have reduced their own capital and the value of their own debt."⁵⁹ The domino effect, in other words, would have been triggered.

Thus, the bilateral OTC CDS market has contributed to—or at least created the fear of—systemic risk arising from interconnected exposures. Despite sophisticated risk management techniques, counterparty risk is an unavoidable feature of CDS markets.⁶⁰ When CDS counterparties trade with multiple partners, the exposure becomes multilateral, potentially endangering each institution in the tangled web. As AIG's near-failure demonstrates, each protection seller might be the keystone in a precariously-constructed bridge, with one default buckling the entire financial system. So long as CDSs are traded over-the-counter, then, counterparty risk can quickly become a systemic concern.

⁵⁶ See, e.g., William K. Sjostrom, Jr., *The AIG Bailout*, 66 WASH. & LEE L. REV. 943, 978-79 (2009) ("Because of AIG's size and interconnectedness, and the fact that financial markets were already under serious distress, it was feared that AIG's failure would lead to the collapse of the entire financial system."). But see Editorial, *AIG and Systemic Risk*, WALL ST. J., Nov. 23, 2009, available at Factiva, Doc. No. WSJO000020091122e5bn00466 (arguing that regulators were motivated by systemic risk arising from AIG's insurance business, not from its CDS exposures).

⁵⁷ For a detailed analysis of AIG's failure, see OFFICE OF THE SPECIAL INSPECTOR GEN. FOR THE TROUBLED ASSET RELIEF PROGRAM, SIGTARP-10-003 FACTORS AFFECTING EFFORTS TO LIMIT PAYMENTS TO AIG COUNTERPARTIES (Nov. 17, 2009), available at http://www.sig tarp.gov/reports/audit/2009/Factors_Affecting_Efforts_to_Limit_Payments_to_AIG_Counterparties.pdf. AIG required three additional government bailouts, including a \$40 billion capital injection from the Troubled Asset Relief Program. *Id.* at 4.

⁵⁸ *Oversight of the Federal Government's Intervention at American International Group: Hearing Before the H. Comm. on Fin. Services*, 111th Cong. 11 (2009) (statement of Hon. Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve System).

⁵⁹ Edmund L. Andrews et al., *Fed in an \$85 Billion Rescue of an Insurer Near Failure*, N.Y. TIMES, Sept. 17, 2008, available at Factiva, Doc. No. NYTF000020080917e49h00031.

⁶⁰ The only way to eliminate counterparty risk for bilaterally traded OTC derivatives would be through 100% collateralization. However, full collateralization would require too much capital, rendering CDS trading uneconomic. See *Review of CME Group's Credit Default Swap Margin Model and Financial Safeguards for CDS Clearing*, CME GROUP 14 (Apr. 18, 2009), available at <http://www.cmegroup.com/trading/cds/files/cds-review.pdf> ("Conceptually, jump-to-default risk can never be fully covered without requiring clearing members to collateralize any large net sales of protection completely Yet, those benefits must be weighed carefully against certain costs of using a margin system to achieve those ends.").

III. CENTRALIZED COUNTERPARTIES AND SYSTEMIC RISK

To mitigate counterparty and systemic risk, new Wall Street reform legislation calls for CDSs to be traded through centralized counterparties, or clearinghouses.⁶¹ A CCP acts as a middleman: the original, bilateral contract is replaced by two separate contracts, one each between the original parties and the CCP. In general, CCPs are thought to reduce systemic risk by netting offsetting exposures and mutualizing counterparty risk among all of their members.⁶² This Part describes the operations and history of CCPs, analyzes the benefits of centralized clearing, and examines the Dodd-Frank central clearing mandate.

A. *Operations and History of CCPs*1. *Operations*

A CCP interposes itself between the parties to a transaction so that each party contracts only with the CCP and not with the other market participant. In other words, the CCP becomes the “buyer to every seller and seller to every buyer.”⁶³ This process of counterparty substitution, or novation, places the CCP in the middle of every transaction it clears.⁶⁴

For example, the bilateral transaction discussed in Part II.A has been reconceived in FIGURE 3 as if the trade had been cleared through a CCP. Party A pays periodic premiums to the CCP, which in turn furnishes periodic premiums to Party B. If Party Z were to experience a credit event, Party B would fulfill its contract with the CCP by paying the notional amount to the clearinghouse. The CCP would then be obligated under its contract with Party A to disgorge the agreed-upon notional amount.

Crucially, CCPs are not exposed to market risk. Whether or not a contract pays out, the CCP is revenue neutral; each of the CCP’s contracts mirrors—and perfectly offsets—another contract.⁶⁵ Therefore, a CCP is

⁶¹ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203 §§ 723, 763, 124 Stat. 1376, 1675-81, 1762-68 (2010) (codified at 7 U.S.C. § 2, 15 U.S.C. § 78a et seq.). For a full discussion of the legislative mandate, see *infra* Part III.C.

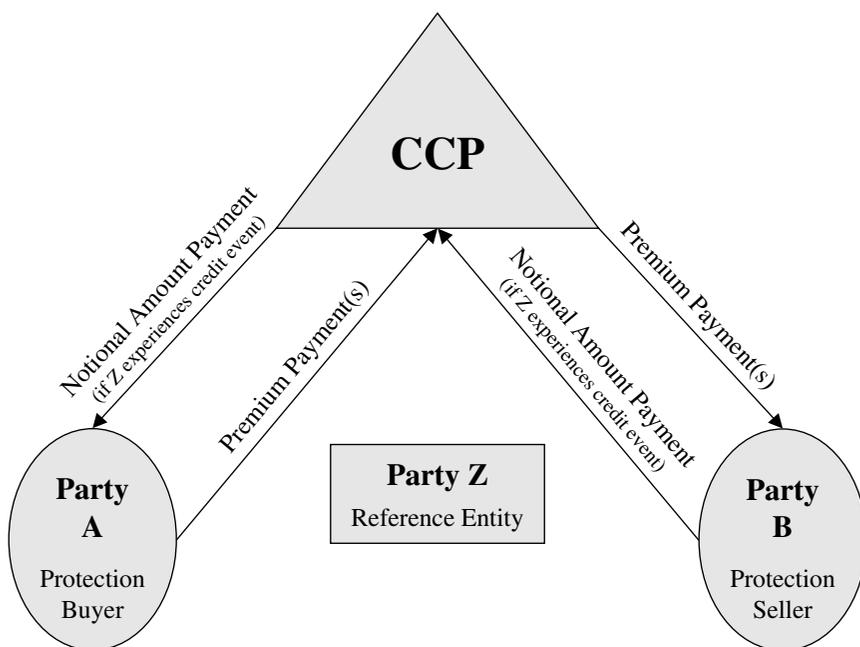
⁶² See *infra* Parts III.B.1 and III.B.2.

⁶³ COMM. ON PAYMENT AND SETTLEMENT SYS., TECHNICAL COMM. OF THE INT’L ORG. OF SEC. COMM’NS, BANK FOR INT’L SETTLEMENTS, RECOMMENDATIONS FOR CENTRAL COUNTERPARTIES 1 (2004), available at <http://www.bis.org/publ/cpss61.pdf>; see also Hills et al., *supra* note 9, at 122.

⁶⁴ For a detailed discussion of novation, see Robert R. Bliss & Chryssa Papatthanassiou, Derivatives Clearing, Central Counterparties and Novation: The Economic Implications 19-24 (Mar. 8, 2006) (unpublished manuscript), available at http://www.ecb.int/events/pdf/conferences/ccp/BlissPapatthanassiou_final.pdf.

⁶⁵ See Anupam Chander and Randall Costa, *Clearing Credit Default Swaps: A Case Study in Global Legal Convergence*, 10 CHI. J. INT’L L. 639, 677 (2010) (“A CCP is perfectly hedged on every market risk, as it has an equal and opposite trade for every exposure it holds.”).

FIGURE 3: CDS TRADE CLEARED THROUGH A CCP



When trades are centrally cleared, the CCP acts as a substituted counterparty so that the two original parties have no direct credit exposure to one another.

protected from any exposure based on the products it trades; a CCP's only exposure is to the credit quality of its trading partners. In the above example, so long as Parties A and B are liquid and solvent, the CCP is agnostic as to a credit event experienced by Party Z. The CCP is, however, exposed to the risk that Party A or B is unable to satisfy its contract because the CCP would still be contractually bound to the other party.

Since the CCP's primary risk arises from its counterparties' credit quality, the CCP assumes the risk management duties that the counterparties previously undertook in the bilateral market. First, a CCP imposes access restrictions to ensure that it trades only with creditworthy partners.⁶⁶ To become—and to remain—CCP members, parties must demonstrate adequate

⁶⁶ See, e.g., Robert R. Bliss & Robert S. Steigerwald, *Derivatives Clearing and Settlement: A Comparison of Central Counterparties and Alternative Structures*, *ECON. PERSPECTIVES*, 4th Q. 2006, at 22, 25 ("Access restrictions (such as membership requirements) are central structural components of the CCP arrangement.")

capitalization and liquidity.⁶⁷ In general, only member firms may trade directly on CCPs; non-member firms that wish to clear trades through the CCP must execute trades through a clearing member.⁶⁸ By denying access to non-members, the CCP limits the breadth of its counterparty credit monitoring, enabling it to conduct thorough reviews of its members.⁶⁹ Second, the CCP enforces “consistent, robust” collateral requirements on its trades.⁷⁰ In contrast to the bilateral market, wherein counterparties individually negotiate collateral agreements—and AAA-rated protection sellers frequently have not been required to post collateral at all⁷¹—CCPs adhere to strict, pre-determined collateralization requirements. Members are required to post initial margin for their trades, and the CCP may impose additional collateral calls when the members’ positions are marked-to-market.⁷² Members who cannot post adequate collateral are denied access to the CCP.⁷³ These strict collateralization rules reduce the loss to the CCP if a member were to default on its obligations.⁷⁴

In the event that one of its counterparties does default, the CCP mutualizes the loss among all of its members. Members, who own the CCP, have injected equity capital and generally have contributed to the CCP’s default fund.⁷⁵ When a counterparty defaults, the CCP satisfies the counterparty’s offsetting contracts through the counterparty’s margin account, the default fund, and if necessary, the equity capital base.⁷⁶ Thus, rather than concentrat-

⁶⁷ See *id.* (“CCPs only deal with parties that meet the CCPs’ standards for creditworthiness and operational capability and may revoke access privileges for those who fail to maintain their creditworthiness . . .”).

⁶⁸ EUR. CENT. BANK, *supra* note 16, at 52 (noting that non-members are “able to trade with a clearing member,” which may pass on the benefits of clearing).

⁶⁹ See Bliss & Steigerwald, *supra* note 66, at 25 (explaining that access restrictions “permit[] the CCPs to limit their risk exposure to those parties they are able to monitor”).

⁷⁰ EUR. CENT. BANK, *supra* note 16, at 52-53.

⁷¹ See *id.* at 29 (noting that most of AIG’s CDS exposures were not collateralized because counterparties accepted AIG’s AAA credit rating as sufficient guarantee of performance).

⁷² See Cecchetti et al., *supra* note 11, at 50 (“CCPs control risk by marking positions to market and requiring that a variation margin be paid and received each day. In periods with high volatility, positions may be marked to market intraday to limit the size of uncollateralised exposures.”). When positions are marked-to-market, they are “revalued during the course of a transaction” to reflect existing market conditions. Hills et al., *supra* note 9, at 127.

⁷³ See *id.* (“As a rule, the CCP will reject new trades from a member whose initial margin is no longer sufficient.”).

⁷⁴ See Bliss & Papanassiou, *supra* note 64, at 3 (noting that collateralization rules “are designed to prevent . . . the default of an individual member from imposing costs on the CCP”).

⁷⁵ See, e.g., Bliss & Steigerwald, *supra* note 66, at 25 (“[L]oss mutualization’ arrangements . . . generally include a clearing or capital fund that is either paid in by clearing members or built up through accumulated undistributed profits or transaction fee rebates.”); EUR. CENTRAL BANK, *supra* note 16, at 53 (stating that CCP risk management techniques “typically include[] . . . contributions to the default fund by each member”).

⁷⁶ See EUR. CENT. BANK, *supra* note 16, at 53 (“If a member defaults, the CCP typically allocates the loss first to the members’ own margin fund and then to the default fund . . .”); see also DARRELL DUFFIE ET AL., FED. RESERVE BANK OF N.Y., STAFF REP. NO. 424, POLICY PERSPECTIVES ON OTC DERIVATIVES MARKET INFRASTRUCTURE 21 (2010), available at http://www.newyorkfed.org/research/staff_reports/sr424.pdf (discussing resort to capital base).

ing the risk of default on individual counterparties, as is the case in bilateral transactions, a CCP spreads the loss from default among all of its members.⁷⁷

2. History

Centralized counterparties have long been used for various financial products.⁷⁸ Equities have been centrally cleared since the mid-1800s;⁷⁹ shortly thereafter, markets began to adopt CCPs for more complex instruments like futures.⁸⁰ These late nineteenth century futures exchanges formed the predecessors of modern-day derivative CCPs by requiring members to meet certain solvency standards and to post standardized margin levels.⁸¹ Contracts traded on these exchanges were still executed bilaterally, however, and each member was still exposed to the credit risk of its counterparties.⁸²

Two important developments revolutionized clearing arrangements. First, in 1891, the Minneapolis Grain Exchange began to insure its members against nonperformance, thereby mutualizing losses.⁸³ Then, in 1925, the Chicago Board of Trade (“CBOT”) clearinghouse agreed to serve as “a counterparty to all transactions on the exchange,” becoming the first clearinghouse to novate trades.⁸⁴ With that development, the modern practice of centralized clearing had begun, and CCPs spread rapidly as dealers demanded the benefits of loss mutualization and novation. By the turn of the

⁷⁷ See EUR. CENT. BANK, *supra* note 16, at 53 (noting that the use of a default fund “effectively mutualises the residual loss from a member’s default, sharing it out across clearing members, rather than having losses concentrated in one non-defaulting member”).

⁷⁸ For a comprehensive account of the development of CCPs, see Randall S. Kroszner, *Can the Financial Markets Privately Regulate Risk? The Development of Derivatives Clearinghouses and Recent Over-the-Counter Innovations*, 31 J. MONEY, CREDIT, & BANKING 596, 598-604 (1999); see also Bliss & Papathanassiou, *supra* note 64, at 11-12.

⁷⁹ See Alexander D. Noyes, *Stock Exchange Clearing Houses*, 8 POL. SCI. Q. 252, 256 (1893) (“The system of clearing houses for stocks is not new. It was adopted by the New York Stock Exchange only in the early months of 1892, but it has been in existence elsewhere for at least twenty-five years.”).

⁸⁰ See Kroszner, *supra* note 78, at 600 (noting that the Chicago Board of Trade began regulating futures contracts in 1865). Kroszner notes that central clearing for derivatives is significantly more important than for equities because derivative contracts are settled at the expiration of the contract, and losses can accumulate over months or years; equity trades experience no such time lag and are settled nearly instantaneously. See *id.* (“Credit or nonperformance risk in futures contracts is particularly acute due to the potentially long time between entering the contract and the delivery date. Losses can accumulate over time.”); see also Bliss & Steigerwald, *supra* note 66, at 23 (“The combination of a much longer time horizon for completing transactions, greater uncertainty as to the value (and even direction) of the ultimate transfer obligations, and the unavoidable significance of counterparty credit risk in derivatives transactions means that substantial performance (that is, credit) risk is an integral factor in the completion of derivatives transactions, compared with securities or payments transactions.”).

⁸¹ See Kroszner, *supra* note 78, at 601 (noting the development of formal rules, including solvency thresholds and margin requirements).

⁸² *Id.* (noting that the first clearinghouses “provided no direct insurance function but simply [were] a means to reduce transaction costs”).

⁸³ *Id.* at 602.

⁸⁴ *Id.*

twenty-first century, all derivatives exchanges in the United States had adopted a CCP.⁸⁵

With few exceptions, CCPs have performed consistently well since CBOT's landmark innovation. Even in times of market stress, clearinghouses have withstood high volatility and counterparty failures without incident.⁸⁶ Notably, the recent market crisis did not cause significant CCP disruptions.⁸⁷ To date, no U.S. futures clearinghouse has ever defaulted on its guarantees.⁸⁸

B. *Benefits of Centralized Clearing*

As demonstrated by their strong track record, CCPs can have desirable risk mitigation effects. The benefits of centralized clearing include loss mutualization and credit risk homogenization, multilateral netting, and information aggregation.

1. *Loss Mutualization and Credit Risk Homogenization*

Perhaps the most important benefit of centralized clearing is the reduction in systemic risk achieved through the mutualization of losses among all clearing members.⁸⁹ As discussed in Part III.A, *supra*, if losses incurred by an insolvent member exceed that member's posted collateral and capital contribution, the CCP spreads the remaining losses amongst the non-defaulting members. Sharing losses in this way prevents an insolvent party's trading partners from absorbing acute, potentially catastrophic defaults; instead, losses are spread among solvent members of the CCP. From a systemic perspective, it is generally preferable for a large number of parties to experience small losses than for a small number of interconnected parties to experience large losses.⁹⁰ Thus, participants in centrally-cleared derivatives markets pose less of a systemic risk than participants in bilateral OTC markets.⁹¹

⁸⁵ *See id.* at 603.

⁸⁶ *See id.* ("Derivatives clearinghouses have weathered the Great Depression, the Second World War, failures of major players such as Barings, and high levels of volatility . . . without a collapse.")

⁸⁷ *See* Cecchetti et al., *supra* note 11, at 55 ("[D]uring the recent financial crisis, existing CCP arrangements have performed well.")

⁸⁸ Andrew M. Kulpa, *Minimal Deterrence: The Market Impact, Legal Fallout, and Impending Regulation of Credit Default Swaps*, 5 J.L. ECON. & POL'Y 293, 309 (2009).

⁸⁹ *See, e.g.*, U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 33, at 21 (A CCP "can limit counterparty credit risk by absorbing counterparty defaults and preventing transmission of their impacts to other market participants." (emphasis added)).

⁹⁰ *See* Hills et al., *supra* note 9, at 128 ("Market participants may prefer to replace th[e] risk of a potentially large loss with a more predictable chance of a smaller loss. . . . In this way, central counterparties with a member default fund have the potential to improve social welfare.")

⁹¹ *See* Bliss & Papanthassiou, *supra* note 64, at 7 (CCP loss mutualization "greatly reduce[s] the probability that the insolvency of any one market participant would cause the failure of one or more other participants."); Squam Lake Working Grp. on Fin. Regulation, *Credit Default Swaps, Clearinghouses, and Exchanges 4* (Council on Foreign Relations Working Paper, July 2000), available at http://cfr.org/content/publications/attachments/Squam_

Relatedly, centralized clearing can homogenize counterparty credit risk. CCPs standardize the credit risk to which their members are exposed through novation; instead of facing the varying credit qualities of their trading partners, all members of a CCP are exposed to a single, uniform credit risk—that of the CCP.⁹² Credit risk homogenization significantly reduces monitoring costs for counterparties; instead of tracking credit risk for each of its numerous trading partners and tailoring collateral arrangements, a party need only observe the financial condition of the CCP.⁹³

Centralized clearing not only standardizes, but also might reduce, credit risk. Indeed, a CCP is likely to pose less counterparty risk to its members than bilateral counterparties would pose to one another in a decentralized market. In a decentralized market, parties have limited information on which to base risk management decisions; these parties are unlikely to disclose relevant information to bilateral counterparties who may also be competitors.⁹⁴ CCP members, however, might furnish more information to a CCP, which is not a competitor and may require such information as a condition of membership.⁹⁵ With a more complete understanding of members' aggregate exposures, CCPs will likely be able to conduct more robust risk management than decentralized counterparties, thereby reducing counterparty risk.

2. *Netting*

Additionally, CCPs allow parties to cancel out, or net, offsetting derivative exposures more easily than in bilateral markets. Netting beneficially reduces the interconnectedness of market participants, lowers collateral demands, and facilitates market exit. Consider, for example, the bilateral market presented in FIGURE 4.⁹⁶ Party L has an exposure of 2 to Party M; Party M has an exposure of 4 to Party N; and Party N has an exposure of 6 to Party L. This series of bilateral exposures is both risky and cumbersome. First, if one party were to default, all parties might be endangered as a result

Lake_Working_Paper5.pdf [hereinafter CFR Working Group] (“[W]ith adequate capitalization, the clearinghouse can reduce systemic risk by insulating the financial system from the failure of large participants . . .”).

⁹² See Hills et al., *supra* note 9, at 126 (“[A] central counterparty redistributes counterparty risk, replacing a firm’s exposure to bilateral credit risks (of variable quality) with the standard credit risk of the central counterparty.”).

⁹³ See Bliss & Papathanassiou, *supra* note 64, at 3 (“[R]ather than monitoring and managing credit risk vis-à-vis original counterparties individually, each market participant need only be concerned with the CCP’s credit risk. This greatly reduces monitoring costs . . .”).

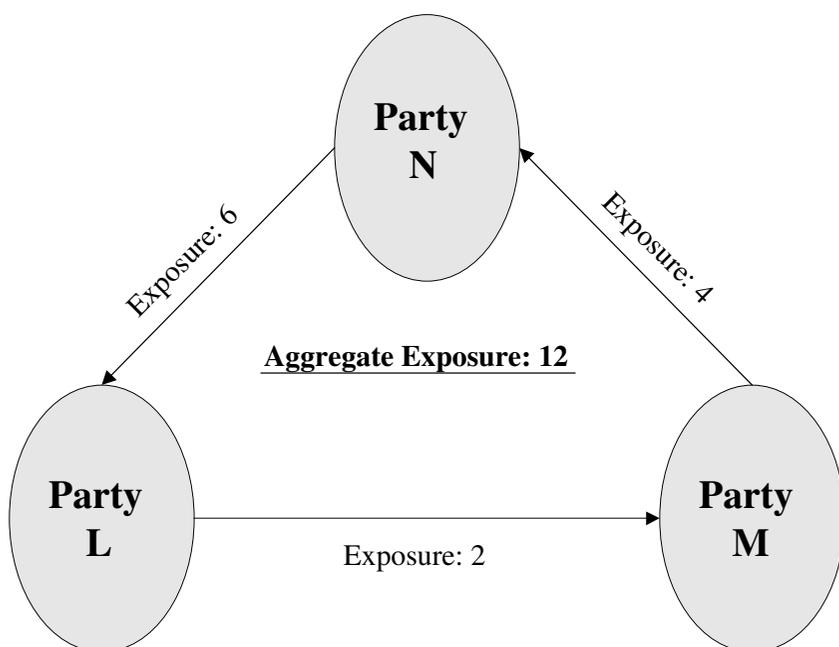
⁹⁴ See Hills et al., *supra* note 9, at 128 (stating that decentralized counterparties might not fully disclose their aggregate exposures to “potential competitors”); see also Bliss & Papathanassiou, *supra* note 64, at 8 (“In a bilaterally-cleared market, a given dealer will know their own positions vis-à-vis their counterparties, but they cannot know their counterparties [sic] positions vis-à-vis other dealers, and thus cannot form a clear picture of their counterparties’ risks.”).

⁹⁵ See Hills et al., *supra* note 9, at 128 (A CCP is likely to be better at counterparty risk mitigation because the “firms may be more open with a central counterparty than with bilateral counterparties which are also potential competitors . . .”).

⁹⁶ Figures 4 and 5 are adapted from diagrams in Hills et al., *supra* note 9, at 124.

of the “domino effect”; thus, this bilateral arrangement exacerbates counterparty and systemic risk.⁹⁷ Second, even though Party L has a net positive exposure, it might still be required to post collateral on its trade with Party M.⁹⁸ This structure therefore forces excess collateral into the system, thereby reducing capital efficiency. Third, market exit is complicated. If Party N wants to exit the market, it could enter into an offsetting transaction with Party L; however, Party L is unlikely to want to exit a profitable transaction and would therefore demand a very high price. Alternatively, Party N could enter into an offsetting transaction with a different counterparty, but that arrangement would fail to eliminate credit risk from the system.⁹⁹

FIGURE 4: AGGREGATE EXPOSURES IN DECENTRALIZED DERIVATIVES MARKET



The interconnecting series of bilateral exposures amongst Parties L, M, and N is both risky and cumbersome.

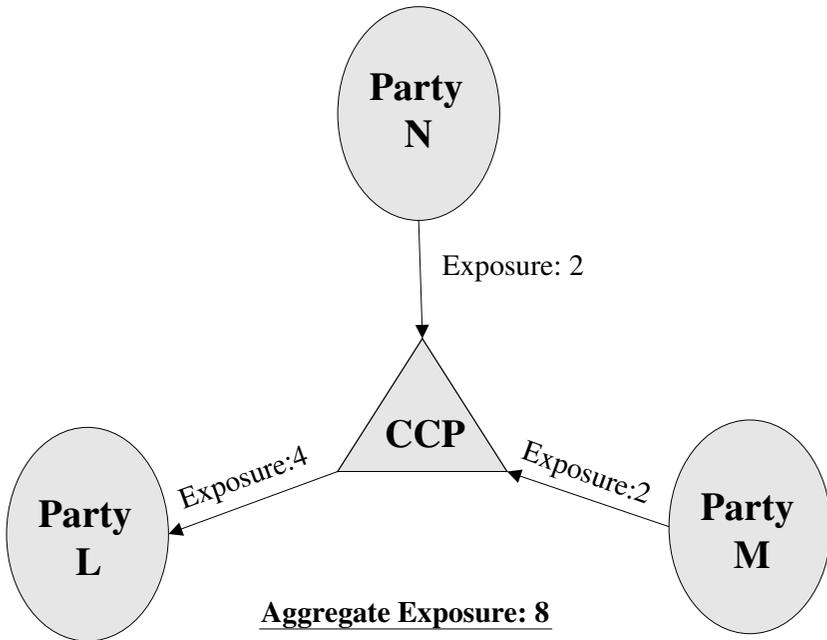
⁹⁷ See *supra* Part II.C.

⁹⁸ See, e.g., Craig Pirrong, *The Economics of Clearing in Derivatives Markets: Netting, Asymmetric Information, and the Sharing of Default Risks Through a Central Counterparty* 26 (Jan. 8, 2009) (unpublished manuscript) (on file with the Univ. of Houston Dep't of Fin.), available at <http://ssrn.com/abstract=1340660> (“[A] firm with offsetting positions often has to post collateral on the [sic] both the purchased and sold contracts.”).

⁹⁹ See Bliss & Papathanassiou, *supra* note 64, at 5 (“If counterparties to matched offsetting contracts differ and one counterparty fails, netting does not occur and the position is no longer market neutral.”).

Introduction of a CCP allows for multilateral netting, as exhibited in FIGURE 5. The benefits of netting through a CCP are threefold. First, the aggregate level of exposure has dropped from 12 to 8, thereby mitigating counterparty and systemic risks.¹⁰⁰ Second, the CCP will likely reduce the amount of collateral in the system. Since Party L has a net positive exposure, it probably will not have to post collateral, freeing capital for more productive uses.¹⁰¹ Third, netting through a CCP facilitates exit. To exit the market, Party N need only enter into an offsetting transaction with any counterparty; this transaction will be novated through the CCP, and Party N's offsetting exposure to Party L will completely cancel.¹⁰²

FIGURE 5: NET EXPOSURES IN CENTRALLY CLEARED DERIVATIVES MARKET



Interlocks are eliminated and aggregate exposures reduced when the parties' positions are netted multilaterally through a CCP.

¹⁰⁰ See Cecchetti et al., *supra* note 11, at 49 (estimating that multilateral netting reduces gross notional exposures of CDSs by 90 percent). *But see* Pirrong, *supra* note 98, at 25 (“Netting merely redistributes wealth among a defaulter’s creditors, and this redistribution does not necessarily enhance welfare.”).

¹⁰¹ See Cecchetti et al., *supra* note 11, at 49 (noting that centralized clearing “increases the efficiency of collateral management”).

¹⁰² See Bliss & Papathanassiou, *supra* note 64, at 4 (“A market participant with a no-longer-desired position need only enter into an offsetting but otherwise identical position . . . to be free of all residual legal, market, and credit risks, and to the degree that exit frees up collateral, to reallocate the collateral they had posted to other uses . . .”).

Although OTC market participants attempt to net exposures, such decentralized netting has inherent limitations when compared to netting through a CCP. There is reason to believe that, absent centralized clearing, derivative market participants lack either the desire or the capability to coordinate information flows necessary to achieve the benefits of multilateral netting.¹⁰³ While some third-party providers have tried to facilitate multilateral netting, it is likely that CCPs could achieve similar results more efficiently.¹⁰⁴ Thus, the ability to net offsetting exposures is one of the primary benefits of centralized clearing.

3. *Information Collection*

Finally, CCPs can serve an information-gathering function, tallying outstanding exposures in previously opaque OTC markets to help market participants and regulators identify potential risks.¹⁰⁵ A CCP could improve transparency in OTC derivative markets by, for instance, publishing pricing and volume information.¹⁰⁶ This information might improve dealers' models and help ensure that overly exposed market participants are required to post adequate collateral.¹⁰⁷ The informational benefit is less pronounced in markets, such as the CDS market, wherein most participants already submit trades to an electronic trade repository that aggregates and releases market data anonymously.¹⁰⁸ However, given the limitations of voluntary reporting to a trade repository, it is likely that CCPs would yield at least some informational benefits for all derivatives markets.¹⁰⁹

C. *Dodd-Frank and the Central Clearing Mandate*

Given these substantial benefits, central clearing has been viewed as a potential solution for those CDS markets perceived as risk-prone. Some

¹⁰³ See Bliss & Steigerwald, *supra* note 66, at 26 (“Multilateral netting . . . requires knowledge and analysis of all the positions of all members in the network—however, the information needed to accomplish multilateral netting may include proprietary information that the traders involved may not wish to share with outsiders. That concern may inhibit the cooperation and disclosure needed in the bilateral markets to accomplish multilateral netting.”).

¹⁰⁴ See Cecchetti et al., *supra* note 11, at 49 n.6 (discussing multilateral netting arrangements by third party providers).

¹⁰⁵ *Id.* at 51 (“The centralisation of information in a CCP makes it possible to provide market participants, policymakers and researchers with the information to better gauge developments in various markets . . .”).

¹⁰⁶ See U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 33, at 22.

¹⁰⁷ See, e.g., Cecchetti et al., *supra* note 11, at 51 (noting that aggregate information “should help ensure that adequate collateral is posted by CDS protection sellers”).

¹⁰⁸ See U.S. GOV'T ACCOUNTABILITY OFFICE *supra* note 33, at 20 (discussing voluntary submission of CDS trade information to the Depository Trust and Clearing Corporation's Trade Information Warehouse).

¹⁰⁹ See *id.* (noting that the Trade Information Warehouse does not include all CDS trades, particularly customized contracts, and cannot ensure the quality of its data).

CDS market participants, for instance, have been advocating for a CCP since 2005.¹¹⁰ By December 2009, two domestic CCPs had begun clearing CDSs, and large banks had committed to clearing a significant portion of eligible trades.¹¹¹ Prior to the passage of regulatory reform in the summer of 2010, however, participation in a CCP had been voluntary, and some CDS traders opted against central clearing.¹¹² After intense congressional deliberation, Dodd-Frank institutes a new mandate of centralized clearing for a significant portion of the CDS market.¹¹³

Unlike the final Dodd-Frank bill, early legislative proposals introduced shortly after the market crisis would have required central clearing for *all* CDSs.¹¹⁴ However, market participants protested that mandatory central clearing would stifle innovation and effectively eliminate bespoke products.¹¹⁵ The Obama administration advanced a proposal that would have mandated central clearing only for “standardized” CDSs.¹¹⁶ Under the Obama framework, if a CDS were accepted for clearing at any CCP, then the contract would be presumed “standardized” and clearing of the contract would be mandatory.¹¹⁷ Industry officials opposed compulsory clearing of standardized CDSs because CCPs would have difficulty setting appropriate collateral requirements for illiquid, standardized contracts.¹¹⁸ Subsequent

¹¹⁰ See Shadab, *supra* note 53, at 453.

¹¹¹ Jacob Bunge, *CME Group Reports First Credit Derivatives Trades Cleared*, DOW JONES NEWSWIRES, Dec. 15, 2009, available at Factiva, Doc. No. DJ00000020091215e5cf00cz; Kevin Kingsbury, *ICE Opens CDS Clearinghouse*, WALL ST. J. ONLINE, Mar. 10, 2009, <http://online.wsj.com/article/SB123668920159782863.html>; Letter from Senior Managers of G15 Member Banks, to William C. Dudley, President, Fed. Reserve Bank of N.Y. (Sept. 8, 2009), <http://www.ny.frb.org/newsevents/news/markets/2009/ma090908c.pdf>.

¹¹² For reasons why market participants would not want to submit trades to a CCP, see *infra* notes 115 and 118.

¹¹³ See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 723, 763, 124 Stat. 1376, 1675-81, 1762-68 (2010) (codified at 7 U.S.C. § 2, 15 U.S.C. § 78a et seq.).

¹¹⁴ Derivatives Markets Transparency and Accountability Act of 2009, H.R. 977, 111th Cong. § 13 (2009) (as reported by H. Comm. on Agric., Feb. 12, 2009); Financial System Stabilization and Reform Act of 2009, H.R. 1754, 111th Cong. § 120(c) (2009) (“Any person that engages in a credit-default swap transaction shall utilize a clearinghouse designated by the [Securities and Exchange] Commission for such purpose”); Financial System Stabilization and Reform Act of 2009, S. 664, 111th Cong. § 120(c) (2009) (same).

¹¹⁵ See, e.g., Eric Burroughs, *Regulators Need to Coordinate on CDS Oversight—NY Fed*, REUTERS, Apr. 22, 2009, available at <http://www.reuters.com/article/idUSHKG13563320090422> (noting that “market participants have opposed proposals to require mandatory clearing” of CDSs and other derivatives because mandatory clearing would make it “impossible to customize trades for specific client’s [sic] needs”).

¹¹⁶ DEP’T OF THE TREASURY, FINANCIAL REGULATORY REFORM: A NEW FOUNDATION 47 (2009), http://www.financialstability.gov/docs/regs/FinalReport_web.pdf.

¹¹⁷ *Id.*

¹¹⁸ See *Hearing to Review Proposed Legislation by the U.S. Department of the Treasury Regarding the Regulation of Over-the-Counter Derivatives Markets Before the H. Comm. on Agric.*, 111th Cong. 72 (2009) (testimony of Robert Pickel, Chief Exec. Officer, Int’l Swaps and Derivatives Ass’n) (“Not all standardized contracts can be cleared. Contracts that are infrequently traded, for example, are difficult if not impossible to clear even if they contain standardized economic terms. That’s because the ability of a central counterparty clearing facility to clear a contract depends on such factors as liquidity, trading volume and daily pricing.

legislative drafts required central clearing only for standardized OTC derivatives traded by dealers and other major market participants, exempting industrial “end-users” that trade derivatives to hedge commercial risks.¹¹⁹

Ultimately, Dodd-Frank institutes a central clearing mandate for many derivatives previously traded OTC, including CDSs, subject to a limited end-user exemption. Under Dodd-Frank, if regulators determine that a class of derivatives contracts is appropriate for clearing,¹²⁰ no market participant may enter into that contract unless the contract has been submitted to a CCP.¹²¹ The only exception to this central clearing mandate is for certain end-users.¹²² The central clearing requirement does not apply to a derivative contract if one of the counterparties is not a financial entity and uses the derivative to hedge or mitigate commercial risk.¹²³ Thus, depending on the aggressiveness with which regulators deem central clearing appropriate, market participants might be required to clear a significant proportion of their derivatives trades.

Mandatory centralized clearing promises certain benefits in terms of reduced counterparty risk through netting and loss mutualization; however, policymakers must not overlook the potential drawbacks of concentrating systemic risk in CCPs.

Standardized, illiquid contracts are hard to price daily, which makes it difficult for the clearinghouse to calculate collateral requirements consistent with prudent risk management.”).

¹¹⁹ For background on the end-user exemption, see Gretchen Morgenson, *Don't Let Exceptions Kill the Rule*, N.Y. TIMES, Oct. 18, 2009, available at Factiva, Doc. No. NYTF00002 0091018e5ai0001w.

¹²⁰ In determining whether a class of derivatives is suitable for clearing, regulators must take into account, *inter alia*, the existence of significant outstanding notional exposures, trading liquidity, and adequate pricing data, as well as the effect on the mitigation of systemic risk. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 723(a), 763(a), 124 Stat. 1376, 1675-81, 1762-68 (2010) (codified at 7 U.S.C. § 2, 15 U.S.C. § 78a et seq.).

¹²¹ See *id.* § 723(a), 124 Stat. at 1675-76 (“It shall be unlawful for any person to engage in a [security-based] swap unless that person submits such [security-based] swap for clearing . . . if the [security-based] swap is required to be cleared.”). A swap or security-based swap must be cleared if a derivatives clearing organization or clearing agency plans to accept the contract for clearing and the Commodity Futures Trading Commission (“CFTC”) or Securities and Exchange Commission (“SEC”) determines that the contract should be cleared. *Id.* (“A clearing agency shall submit to the Commission each [security-based] swap, or any group, category, type, or class of [security-based] swaps that it plans to accept for clearing . . .”). In addition, the CFTC and SEC may initiate their own rules for mandatory review to determine whether a class of derivatives must be centrally cleared without waiting for submission by a clearinghouse. *Id.* (“The Commission on an ongoing basis shall review each [security-based] swap, or any group, category, type, or class of [security-based] swaps to make a determination as to whether the [security-based] swap or group, category, type, or class of [security-based] swaps should be required to be cleared.”).

¹²² § 723(h)(7)(A), 124 Stat. at 1679.

¹²³ *Id.* In addition, in order for the exception to apply, the counterparty must notify the relevant Commission “how it generally meets its financial obligations associated with entering into non-cleared swaps.” *Id.*

IV. DRAWBACKS TO CENTRALIZED CLEARING FOR CDSs

Despite potential salutary effects, centralized counterparties are not without their drawbacks. In particular, a CCP, as a quasi-utility, concentrates systemic risk in a universal counterparty and may be perceived as “too big to fail” (“TBTF”), thereby creating moral hazard. Part IV begins by discussing these significant drawbacks. Next, this Part points out that, due to peculiarities in the credit derivatives market, the downsides to centralized clearing are likely to be even more pronounced for CCPs that clear CDSs.

A. *CCPs, Systemic Risk, TBTF, and Moral Hazard*

One of the primary justifications for centralized clearing of any class of derivatives is a reduction in systemic risk through loss mutualization and netting; however, rather than reduce systemic risk, a CCP may simply concentrate it in one entity of monumental systemic importance.¹²⁴ In a decentralized bilateral market, one party’s default can spread directly to its counterparties and indirectly to its counterparties’ counterparties, and so on, with diminishing severity as the ripple effect radiates from the epicenter. As a crucial junction in the financial system, however, a CCP’s failure would have immediate and severe consequences for many of its counterparties.¹²⁵ Because of the systemic implications of a CCP failure, CCPs may be—or at least may be perceived as—TBTF, thereby encouraging reckless behavior by CCP members who presume that the government will bail out the CCP should a crisis occur.

1. *Concentration of Systemic Risk*

Instead of reducing systemic risk, CCPs may simply redistribute and concentrate dangers within the financial system.¹²⁶ While default by a major participant in a decentralized market might threaten the solvency or liquidity of its counterparties and even its counterparties’ counterparties, failure of a CCP would endanger any of its members that held an open exposure to the

¹²⁴ See Bliss & Papathanassiou, *supra* note 64, at 8 (“While CCPs limit the risks to other market participants and to the functioning of markets associated with the failure of a major participant, CCPs themselves become a critical component of the market so that their own failure becomes a potential systemic event.”).

¹²⁵ See, e.g., Kirsi Ripatti, *Central Counterparty Clearing: Constructing a Framework for Evaluation of Risks and Benefits* 43 (Bank of Finland Discussion Paper No. 30/2004, Dec. 30, 2004), available at <http://papers.ssrn.com/abstract=787606> (deeming the risk of CCP failure to be “an ‘all eggs in one basket’ risk”).

¹²⁶ Compare Hills et al., *supra* note 9, at 131 (noting that “the presence of a central counterparty in a market may serve to exacerbate systemic risk”), with *Risk Management and Its Implications for Systemic Risk: Hearing Before the Subcomm. on Securities, Ins., and Inv. of the S. Banking, Hous., and Urban Affairs Comm.*, 111th Cong. 14 (2009) (statement of Donald L. Kohn, Vice Chairman, Bd. of Governors of the Fed. Reserve Sys.) (arguing that a CCP “can reduce risk, but it concentrates risk”).

clearinghouse.¹²⁷ In other words, while the failure of a bilateral dealer may have a domino effect, the failure of a CCP would have a bulldozer effect.¹²⁸ Indeed, a CCP failure “would likely be much more disruptive than the failure of any single derivatives dealer.”¹²⁹ In the words of one commentator, “[i]f interconnectedness among big financial institutions is the source of a systemic risk problem, creating a central counterparty is an odd way to ‘solve’ it. After all, a CCP is a formalized interconnection among big financial institutions.”¹³⁰

2. *TBTF and Moral Hazard*

CCPs may fail for any number of reasons. For instance, operational failure, technical malfunction, or human error could lead to a CCP defaulting on its obligations.¹³¹ However, since it concentrates systemic risk so dramatically, a CCP is unlikely to be allowed to fail.¹³² In other words, if in a time of market distress a CCP were on the verge of default, regulators would have little choice but to make good on the CCP’s obligations, lest the financial system implode.¹³³

¹²⁷ See Bliss & Papathanassiou, *supra* note 64, at 8-9 (“[T]he failure of a CCP would necessarily lead to at least a temporary breakdown of the market as the whole structure through which positions are established, maintained, and closed-out would be disrupted.”).

¹²⁸ See Ripatti, *supra* note 125, at 43 (noting that “the probability of a CCP failure may be very small, but the consequences of a systemic failure are huge”); Stephen Cecchetti, *Centralized Counterparties and Systemic Risk*, http://www.mhhe.com/economics/cecchetti/Cecchetti2_Ch09_CentralCounterparties.pdf (last visited Oct. 26, 2010) (noting that a CCP failure “would be potentially catastrophic for the financial system”).

¹²⁹ Shadab, *supra* note 53, at 455; see also Bliss & Papathanassiou, *supra* note 64, at 9 (arguing that the effects of a CCP failure “might well outweigh the effects of the failure of a major dealer in a bilaterally-cleared market”).

¹³⁰ Craig Pirrong, *The Clearinghouse Cure*, REGULATION, Winter 2008-09, at 44, 49; see also Michael H. Moskow, *Public Policy and Central Counterparty Clearing*, ECON. PERSPECTIVES, 4th Q. 2006, at 46, 49 (“[A] CCP also concentrates risks and responsibility for risk management, making it a potential single point of failure. Concentration carries with it systemic implications, since the failure of a CCP would be, by definition, a major systemic event.”).

¹³¹ See, e.g., Hills et al., *supra* note 9, at 131-32 (“Even if the central counterparty’s risk management procedures are in theory sound, their effectiveness is still dependent on the competent implementation of those procedures by its management. The concentration of operational risk in a central counterparty is considerably greater than that in any individual participant in a decentralised market, and the repercussions of incompetent management would be correspondingly larger.”); see also Ripatti, *supra* note 125, at 43 (discussing various reasons why a CCP might fail).

¹³² See, e.g., Cecchetti, *supra* note 128 (noting that “a CCP may come to be viewed as a kind of public utility that cannot be allowed to fail”); see also Satyajit Das, *OTC Derivative Regulation Proposals—Neat, Plausible, and Wrong!*, WILMOTT (July 17, 2009, 4:24 AM), <http://www.wilmott.com/blogs/satyajitdas/index.cfm/2009/7/17/> (“The CCP centralises all performance in a single entity, surely the ultimate case of ‘too big to fail.’”).

¹³³ Supporters of Dodd-Frank argue that the bill solves the TBTF problem by establishing a resolution process through which failing complex financial institutions can be liquidated. See, e.g., S. COMM. ON BANKING, HOUS., & URBAN AFFAIRS, BRIEF SUMMARY OF THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT, available at http://banking.senate.gov/public/_files/

This implicit assurance that it will not be allowed to fail makes it less likely that a CCP will enact and enforce robust risk management practices; in other words, the TBTF problem creates moral hazard.¹³⁴ CCPs might, for instance, lower collateral requirements or default fund contributions in an attempt to attract additional members without regard to safety and soundness.¹³⁵ CCP members might not monitor the clearinghouse for adequate capitalization as closely as if they believed the CCP might be allowed to fail.¹³⁶ Similarly, systemically important CCPs, which may have otherwise purchased insurance to protect against failure, may not bother to adequately insure themselves if they believe they are too vital to be allowed to fail.¹³⁷ Regulators may try to institute capital and collateral requirements to account for moral hazard, but as recent market crises demonstrate, prudential regulation is often an inadequate safeguard.¹³⁸

Thus, the concentration of systemic risk in a CCP may make the clearinghouse TBTF, thereby creating moral hazard and increasing the likelihood that the CCP might default. In sum, although CCPs offer potential benefits from loss mutualization and netting, they do so at the cost of concentrating systemic risk, creating TBTF institutions, and encouraging lax CCP risk management.¹³⁹

070110_Dodd_Frank_Wall_Street_Reform_comprehensive_summary_Final.pdf (asserting that Dodd-Frank “ends the possibility that taxpayers will be asked to write a check to bail out financial firms that threaten the economy”); *see also* Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 201-17, 124 Stat. 1442-1520 (2010). However, skeptics question whether, notwithstanding the new resolution authority, regulators would actually allow troubled complex institutions, including clearinghouses, to fail. *See, e.g.*, Gretchen Morgenson, *Count on Sequels to TARP*, N.Y. TIMES, Oct. 3, 2010, at BU1 (arguing that, despite attempts to end TBTF, Dodd-Frank “has created a new set of institutions that will almost certainly be deemed too important to fail” and noting that clearinghouses remain on the “roster of bailout candidates”).

¹³⁴ For a primer on TBTF and moral hazard, see Daniel K. Tarullo, Governor, Fed. Reserve Bd. Of Governors, *Confronting Too Big to Fail*, Address at the Exchequer Club of Washington, D.C. (Oct. 21, 2009), *available at* <http://www.federalreserve.gov/newsevents/speech/tarullo20091021a.htm>.

¹³⁵ *See* Shadab, *supra* note 53, at 455 (“[C]entral counterparties may have an incentive to reduce the amount of margin collateral they require their customers to post in order to attract business.”).

¹³⁶ One of the consequences of the TBTF problem is that it leads to inadequate monitoring by those market participants that could otherwise avert the failure of the institution through diligent oversight. *See* GARY H. STERN & RON J. FELDMAN, *TOO BIG TO FAIL: THE HAZARDS OF BANK BAILOUTS* 11-28 (The Brookings Institution, 2004).

¹³⁷ *Cf.* Bernanke, *supra* note 7, at 143-44 (“[W]hile a conservative clearinghouse might try to prepare itself for even a very large shock, there must be some eventualities for which, *ex ante*, insurance is just too costly.”).

¹³⁸ *See* Shadab, *supra* note 53, at 455 (noting that CCPs “are likely to be subject to deficient prudential supervision and risk-based capital requirements”).

¹³⁹ Craig Pirrong has pointed out additional drawbacks to centralized clearing, including the difficulty of pricing each clearing member’s balance sheet risk. *See* Pirrong, *supra* note 130, at 48.

B. Peculiarities of CDS Markets

These concerns about systemic risk and moral hazard are oftentimes overlooked because clearinghouses have an impeccable track record for avoiding failure.¹⁴⁰ Clearinghouse proponents reason that sophisticated CCP risk management techniques adequately protect against systemic shocks, mitigating concerns and rendering CCP failure unlikely.¹⁴¹ However, even though CCPs have performed reasonably well for some derivatives, there is little reason to believe that they are equally safe for clearing CDSs. In fact, due to meaningful differences between CDSs and other derivatives, CCPs that clear CDSs may be significantly riskier than traditional clearinghouses. Specifically, jump-to-default risk is likely to increase systemic risk for CDS CCPs.¹⁴²

In the same way that jump-to-default risk complicates bilateral collateral agreements, rapid-onset credit events pose margining problems for central clearinghouses;¹⁴³ however, the systemic consequences of imprecise margining are significantly more dire for a CCP than for bilateral trading partners.¹⁴⁴ Recall that jump-to-default risk is the danger that a reference entity experiences a credit event suddenly, necessitating immediate payments from potentially illiquid counterparties.¹⁴⁵ This possibility of sudden increase in CDS premiums confounds risk management practices for CCPs that clear CDSs. In other words, “because a firm is either bankrupt or not, it is difficult for CCPs to demand margins or collateral that vary smoothly with the risk of the loans insured.”¹⁴⁶

Jump-to-default risk makes a CDS CCP more likely to experience liquidity shortfalls than a CCP that clears other, less volatile derivatives.¹⁴⁷ Rapid escalation in premiums is likely to result in larger and more sudden collateral calls for CDSs than for other derivatives, and members’ ability to meet such margin demands are questionable.¹⁴⁸ If the reference entities in

¹⁴⁰ See *supra* notes 86-88 and accompanying text.

¹⁴¹ See, e.g., Bliss & Papanthassiou, *supra* note 64, at 9 (concluding that “CCP failure [is] less likely than the failure of a major dealer” in decentralized OTC markets).

¹⁴² See *infra* note 147 and accompanying text.

¹⁴³ See *supra* Part II.C.1.

¹⁴⁴ See *supra* Part IV.A.1 (noting the systemic importance of CCPs and possible “bull-dozer effect” of a CCP failure).

¹⁴⁵ See *supra* Part II.C.1.

¹⁴⁶ *Over the Counter, Out of Sight*, ECONOMIST, Nov. 14, 2009, available at http://www.economist.com/displaystory.cfm?story_id=14843667; see also Mark J. Roe, *Derivatives Clearinghouses are No Magic Bullet*, WALL ST. J., May 6, 2010, available at Factiva, Doc. No. EC00000020091112e5be0000d (“Collateralizing and monitoring such discontinuous obligations will not be so easy for the clearinghouse.”).

¹⁴⁷ See U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 33, at 22 (emphasizing that jump-to-default risk “has the potential to create significant losses for [] clearinghouses”); CFR Working Group, *supra* note 91, at 2 (noting that CDS CCPs “may actually increase counterparty and systemic risk, contrary to the assumption of many policy makers”).

¹⁴⁸ See CME GROUP, *supra* note 60, at vi (“Catastrophic ‘jumps to default’ by reference entities underlying single-name CDSs may precipitate margin coverage shortfalls on portfolios

question indeed default, the CCP must make good on its obligations even if it was unable to collect collateral from the delinquent members. Experiencing a shortfall of collateral, the CCP would have to dip into its default fund to perform on its contracts.

Centralizing jump-to-default risk in a CCP may create only a temporary liquidity shortfall if the CCP is later able to recoup from the nonperforming members; more troublingly, however, jump-to-default risk might create solvency problems for CCPs, as well. Recall that if CCPs were to set margin requirements that accurately reflected jump-to-default risk, CDSs would become uneconomic.¹⁴⁹ Therefore, CDS CCPs are likely to be perennially undercapitalized, raising questions about their ability to survive liquidity strains by resorting to default funds.¹⁵⁰ Member defaults that leave the CCP with unfulfilled obligations that exceed the size of the default fund may render the CCP insolvent, potentially endangering all of its members.

Imagine, for instance, that all of AIG's credit derivative positions had been cleared through a CCP.¹⁵¹ The CCP's default fund likely would have been insufficient to satisfy obligations on AIG's \$440 billion CDS portfolio.¹⁵² Without recourse to the default fund, CCP members—many of whom were likely experiencing their own liquidity or solvency crises—would have had to absorb the losses. In contrast to a bilateral market, wherein only AIG's counterparties would have experienced direct losses, all clearing members would have felt the systemic impact of AIG's default and the CCP's insolvency. Thus, centralizing jump-to-default risk in a clearinghouse might exacerbate the systemic problems caused by one counterparty's default.

with highly concentrated exposures to the defaulting reference name(s)."). Further, some market commentators have noted that legislative proposals requiring centralized clearing of illiquid CDSs might exacerbate the volatility of margining given the difficulty of marking-to-market in the absence of robust price discovery. *See, e.g., On Clearinghouses*, ECONOMICS OF CONTEMPT (Mar. 25, 2010, 1:19 AM), <http://economicsofcontempt.blogspot.com/2010/03/on-clearinghouses.html> ("[F]orcing OTC derivatives that aren't sufficiently liquid onto clearinghouses is *not* necessarily 'playing it safe' from a regulatory perspective. It greatly increases the chances that a clearinghouse will misprice its counterparty risk, and end up not having collected enough variation margin to cover the losses from a default.").

¹⁴⁹ *See supra* note 60 and accompanying text.

¹⁵⁰ *See, e.g., Yves Smith, The Fantasy of the Clearinghouse Magic Bullet*, NAKED CAPITALISM (Nov. 6, 2009, 5:32 AM), <http://www.nakedcapitalism.com/2009/11/the-fantasy-of-the-clearing-house-magic-bullet.html> ("A large enough margin to allow for jump-to-default risk will make CDS uneconomic . . . so dealers and counterparties will fight for a lower margin, meaning the [CCP] will be undercapitalized relative to the risks it faces.").

¹⁵¹ *See Pirrong, supra* note 130, at 49 ("An AIG default would have imposed huge losses on the clearinghouse, and hence on its members—other big financial intermediaries. Such a large default would have threatened the viability of the clearinghouse and its members . . .").

¹⁵² *Id.*

V. SAFEGUARDING CDS CENTRALIZED COUNTERPARTIES

In light of the foregoing concerns about inadequate collateralization and jump-to-default risk, CCPs that clear CDSs must have access to emergency financing to protect against unexpected, and perhaps simultaneous, member defaults. Although CCPs have historically performed well, forcing CDSs through clearinghouses necessarily increases the risks to CCPs, concentrates systemic risk, and raises questions about how best to protect against clearinghouse failure. The traditional approach to emergency financing for systemically risky entities has been through the Federal Reserve's "lender of last resort" ("LoLR") function.¹⁵³ This Part summarizes arguments for CCP access to central bank liquidity and explores LoLR financing mechanisms through which CCPs were eligible to obtain credit prior to Dodd-Frank.

A. *Necessity of LoLR Access for CCPs*

For reasons discussed in Part III, even tightly regulated CCPs are unlikely to protect themselves against the most severe market crises. Clearinghouses may have incentives to undercapitalize,¹⁵⁴ and prudential capital requirements may be set inadequately.¹⁵⁵ Jump-to-default risk also undermines a CDS CCP's ability to set margin requirements accurately, since robust collateralization would render CDS trading uneconomic.¹⁵⁶ Further, while some clearinghouses might seek external insurance to protect against capital shortfalls, such insurance is likely to be either inadequate or prohibitively costly.¹⁵⁷ Thus, while CDS CCPs are likely to function well in calm markets, emergency funding would be necessary if, for instance, a market crisis were to cause simultaneous member defaults.

In the event of a market crisis, providing CCPs with access to emergency liquidity through the Federal Reserve's LoLR powers would ensure that the CCP could continue to make payments to counterparties and would thereby maintain the stability of the credit derivatives market.¹⁵⁸ If a clearinghouse were unable to make counterparty payments as a result of member defaults and depletion of its reserve fund, the Federal Reserve could provide a temporary liquidity backstop. With this emergency funding, the

¹⁵³ See, e.g., Michael D. Bordo, *The Lender of Last Resort: Some Historical Insights 3* (Nat'l Bureau of Econ. Research, Working Paper No. 3011, 1989), available at <http://www.nber.org/papers/w3011.pdf>.

¹⁵⁴ See Shadab, *supra* note 135 and accompanying text.

¹⁵⁵ See Shadab, *supra* note 138 and accompanying text.

¹⁵⁶ See CME GROUP, *supra* note 60 and accompanying text.

¹⁵⁷ See Bernanke, *supra* note 137 and accompanying text.

¹⁵⁸ See, e.g., Nina Mehta, *Options Clearinghouse Lobbies for Access to Fed Funding During Emergencies*, BLOOMBERG (June 23, 2010, 2:25 PM), <http://www.bloomberg.com/news/2010-06-23/options-clearinghouse-lobbies-for-access-to-fed-funding-during-emergencies.html> (citing OCC Chairman Wayne Luthringhausen's claim that access to Federal Reserve liquidity could, in a crisis, allow OCC to satisfy its obligations to its counterparties and thereby "help the financial system").

CCP could continue to satisfy its contractual obligations while unwinding the positions of the defaulting members. After market conditions normalized, the CCP could repay the loan from the central bank through additional assessments on its members. Thus, a CCP's ability to access Federal Reserve liquidity directly would mitigate concerns about clearinghouses concentrating systemic risk.

Alternatives to emergency liquidity, however, are unlikely to safeguard CCPs and their members. In lieu of LoLR access, CCPs could immediately assess non-defaulting members to cover deficiencies arising from other members' defaults;¹⁵⁹ however, given that CCPs are most likely to experience defaults in times of severe market stress, even non-defaulting members are unlikely to have the excess liquidity necessary to recapitalize the CCP. A strategy of immediate assessments on members might therefore provoke additional member defaults. Alternatively, regulators could establish an insurance account, pre-funded by CCPs, to recapitalize troubled clearinghouses, but such a fund is likely to be cumbersome to manage and politically difficult to create.¹⁶⁰ Additionally, instead of resorting to the Federal Reserve, a troubled CCP could seek loans from private banks; however, private banks will be at a significant disadvantage in assessing the CCP's creditworthiness,¹⁶¹ and therefore less likely to lend than the Federal Reserve.¹⁶²

As a final alternative, rather than providing liquidity directly to a CCP, the LoLR could lend indirectly through CCP members. Under this indirect lending approach, the Federal Reserve could provide emergency liquidity to non-defaulting members, and the CCP could then assess the non-defaulting members to recover any deficiency. However, this alternative lending structure might be both inefficient and inequitable. First, coordinating a multi-party lending arrangement is likely to be less efficient than injecting liquidity directly into the CCP.¹⁶³ Indirect lending necessitates a multi-step pro-

¹⁵⁹ See DUFFIE ET AL., *supra* note 76, at 21 (noting that clearinghouses generally have "a contractual claim to additional contributions by CCP participants, contingent on losses to the guarantee fund").

¹⁶⁰ A comparable pre-funded default account for systemically important depository institutions faced significant industry opposition. See, e.g., Letter from Am. Council of Life Insurers et al. to Christopher Dodd, Chairman, and Richard Shelby, Ranking Member, of the Senate Comm. on Banking, Hous., and Urban Affairs (Dec. 7, 2009), available at http://www.financialservicesforum.org/attachments/365_joint_trade_letter.pdf (opposing a pre-funded systemic risk resolution fund in light of, *inter alia*, costly assessments and increased moral hazard).

¹⁶¹ See, e.g., Jack Guttentag and Richard Herring, *The Lender of Last Resort Function in an International Context* 9 (U. of Penn. Wharton Sch., Working Paper No. 9-81, 1981), available at <http://finance.wharton.upenn.edu/~rlwctr/papers/8109.PDF> (noting that a LoLR "may well have better information regarding the condition of [a financial institution] than the private markets").

¹⁶² Given market conditions likely to prevail at a time of CCP distress, private banks might also lack the necessary liquidity to support a troubled clearinghouse.

¹⁶³ For an example of possible complications arising out of multi-party lending arrangements through the Federal Reserve, see ROGER LOWENSTEIN, *WHEN GENIUS FAILED: THE RISE AND FALL OF LONG TERM CAPITAL MANAGEMENT* 185-219 (Random House, 2000).

cess, slowing and potentially compromising the injection of emergency funds into the CCP.¹⁶⁴ Direct lending to the CCP, on the other hand, eliminates one or more intermediate steps and obviates the need for multi-party agreements, thereby achieving CCP liquidity more efficiently.¹⁶⁵ Second, direct lending to the CCP ensures equitability by enabling the clearinghouse to make all of its counterparty payments without regard to the strength of the counterparties' balance sheets, whereas indirect lending might require the Federal Reserve to signal its assessment of the poor creditworthiness of some CCP members. If the Federal Reserve were to lend to the CCP through some members and not through others, the market might perceive—rightly or wrongly—that the central bank had concerns about the excluded members' solvency.¹⁶⁶ Direct lending to the CCP would be a more equitable arrangement, allowing the clearinghouse to make its counterparty payments and ensuring that derivative contract payouts—and not Federal Reserve lending decisions—determine the fate of clearinghouse members. In sum, direct CCP access to emergency lending is more efficient and equitable, and thus superior, to the Federal Reserve lending indirectly through CCP members.

Derivatives experts agree about the necessity of CCPs having direct access to central bank liquidity.¹⁶⁷ The next Section analyzes LoLR authority

¹⁶⁴ Ben Bernanke, in describing the emergency liquidity provision to save OCC in October 1987, notes that the Federal Reserve had to lend to First Options of Chicago, through its parent bank, Continental Illinois. Bernanke, *supra* note 7, at 148-50. However, "if First Options had not had access to the 'deep pockets' of Continental Illinois [or] if the crash had occurred on the previous Monday, Columbus Day, when the banks were closed . . . much more severe consequences might have ensued." *Id.* at 150. Had the Federal Reserve lent directly to the clearinghouse, Continental Illinois' deep pockets and bank closures would have been less relevant.

¹⁶⁵ Clearinghouse board members would still have to agree to accept an emergency loan from the Federal Reserve, but such an agreement could be made by majority or supermajority vote, as provided in the CCP's rules. *See, e.g.,* CME GROUP, CME RULE 230.K, available at <http://www.cmegroup.com/rulebook/CME/I/2/30.html> (providing that "in the event . . . that an emergency situation exists . . . [the Board] may, upon a majority vote . . . take such action as may in the Board's sole discretion appear necessary to prevent, correct or alleviate the emergency condition."). On the other hand, a multiparty indirect lending agreement, in order to be effective, might need to be unanimous, or near unanimous, among all member firms. *See generally* LOWENSTEIN, *supra* note 163, at 185-219 (referencing the importance of unanimity in multi-party lending agreements).

¹⁶⁶ For a discussion of how Federal Reserve lending can provide signals to the market about the borrower's financial condition, see Renee Courtois and Huberto M. Ennis, *Is There Stigma Associated with Discount Window Borrowing?* 1-4 (Fed. Reserve Bank of Richmond, Economic Brief No. 10-05, 2010), available at http://www.richmondfed.org/publications/research/economic_brief/2010/pdf/eb_10-05.pdf.

¹⁶⁷ *See, e.g.,* EUR. CENT. BANK, *supra* note 16, at 51 (noting that CCPs should "have access to central bank liquidity in the currency in which the products cleared are denominated"); Cecchetti et al., *supra* note 11, at 55 (indicating that "CCPs may require public sector support"); Jeremy Grant, *Call For Central Banks to Regulate Clearing Houses*, FIN. TIMES, Dec. 29, 2009, available at Factiva, Doc. No. FTFT000020091229e5ct0000v (quoting Xavier Rolet, the CEO of the London Stock Exchange, as saying that "central banks should have at least a funding relationship to clearing houses"). Members of the British Parliament have argued that the European Union ("EU") should not be permitted to regulate CCPs because the

in the U.S. before Dodd-Frank, while Part VI dissects misguided—and ultimately unsuccessful—congressional attempts to restrict the Federal Reserve’s ability to lend directly to CCPs.

B. Availability of LoLR Financing Prior to Dodd-Frank

Under the Federal Reserve Act, borrowers may receive credit from the central bank in one of two ways: depository institutions have routine access to short-term Federal Reserve loans, while other entities have discretionary access in emergency circumstances.¹⁶⁸ Prior to Dodd-Frank, CCPs would have been unable to receive Federal Reserve loans under normal conditions; however, the central bank could have provided liquidity to a clearinghouse in times of market crisis.

1. Short-Term Loans for Depository Institutions

A number of provisions in the Federal Reserve Act¹⁶⁹ enable the Federal Reserve to extend credit to depository institutions through its discount window.¹⁷⁰ Typically, discount window loans to depository institutions are short-term and designed to assist banks with temporary liquidity shortfalls; in most cases the Federal Reserve makes loans with overnight maturities.¹⁷¹ However, the Federal Reserve has expressed willingness to use the discount window to address longer-term liquidity issues; in March 2008, it extended the maximum term of loans to depository institutions to 90 days.¹⁷² A loan may be provided in the form of an advance in exchange for a note executed by the depository institution, or in the form of a discount in exchange for

EU has insufficient resources to bail out a failing CCP. Instead, the members of Parliament prefer that CCPs be regulated by the countries in which they are located, since the host countries could provide support through their central banks. Jeremy Grant, *Lords Raise Questions Over Clearing Houses*, FIN. TIMES, Mar. 31, 2010, available at Factiva, Doc. No. FTCOM00020100331e63v004v2.

¹⁶⁸ See *infra* notes 170, 179-181 and accompanying text.

¹⁶⁹ Federal Reserve Act, 12 U.S.C. § 226 (2006).

¹⁷⁰ See Federal Reserve Act § 10B, 12 U.S.C. § 347b(a) (2006) (advances on time or demand notes); § 13(2), 12 U.S.C. § 343(2) (2006) (discounts on real bills arising out of commercial transactions); § 13(4), 12 U.S.C. § 344 (2006) (discounts on bills of exchange arising out of shipment of agricultural goods); § 13(6), 12 U.S.C. § 346 (2006) (discounts on acceptances); § 13(8), 12 U.S.C. § 347 (2006) (advances to depositories on promissory notes); § 13A, 12 U.S.C. § 348 (2006) (discounts on agricultural paper). As written, the aforementioned provisions allow the Federal Reserve to lend only to banks that are members of the Federal Reserve System; however, § 19(b)(7) provides that “any depository institution in which transaction accounts or nonpersonal time deposits are held shall be entitled to the same discount and borrowing privileges as member banks.” 12 U.S.C. § 461(b)(7) (2006).

¹⁷¹ *The Federal Reserve Discount Window*, FEDERAL RESERVE DISCOUNT WINDOW & PAYMENT SYSTEM RISK WEBSITE 1 (2010), http://www.frbdiscountwindow.org/discountwindow_pf.doc.

¹⁷² See Press Release, Bd. of Governors of the Fed. Reserve Sys. (Mar. 16, 2008), available at <http://www.federalreserve.gov/newsevents/press/monetary/20080316a.htm>.

eligible paper endorsed by the institution.¹⁷³ Under § 10B, the broadest of the discount window provisions, advances to depository institutions need only be collateralized “to the satisfaction” of the Federal Reserve.¹⁷⁴ Discount window access is generally routine; the Federal Reserve does not require depository institutions seeking short-term loans to provide explanations for requesting credit, though the Federal Reserve may restrict access if a depository institution relies too heavily on the discount window.¹⁷⁵ The Federal Reserve charges an above-market rate for discount window loans to ensure that depository institutions use the LoLR as a “backup, rather than a regular source of funding.”¹⁷⁶

Prior to Dodd-Frank, clearinghouses did not qualify for ordinary discount window access since CCPs did not meet the statutory definition of “depository institution.”¹⁷⁷ However, other provisions of the Federal Reserve Act would have given CCPs access to central bank liquidity, if necessary, in times of market crisis.

2. § 13(3) and “Unusual and Exigent Circumstances”

The second, and far less common,¹⁷⁸ method of Federal Reserve lending is through its § 13(3) authority. Before undergoing significant revision in Dodd-Frank, § 13(3) granted the Federal Reserve broad discretion to extend credit to “any individual, partnership, or corporation,”¹⁷⁹ but only “in unusual and exigent circumstances”¹⁸⁰ and when failure to extend such credit “would adversely affect the economy.”¹⁸¹ This far-reaching classification of potential borrowers included both depository and nondepository institutions. Thus, under the previous version of § 13(3), the Federal Reserve would have had the authority to lend to a systemically important CCP that, for example, experienced simultaneous member defaults, provided the clearinghouse

¹⁷³ For a discussion of the differences between advances and discounts, see HOWARD H. HACKLEY, *LENDING FUNCTION OF THE FEDERAL RESERVE BANKS: A HISTORY* 83 (1973). The Federal Reserve has traditionally lent to depository institutions through advances under §§ 10B and 13(8) because of their relative simplicity. See David H. Small & James A. Clouse, *The Limits the Federal Reserve Act Places on the Monetary Policy Actions of the Federal Reserve*, 19 ANN. REV. BANKING L. 553, 561 (2000).

¹⁷⁴ Small & Clouse, *supra* note 173, at 561 (noting the flexibility of the “satisfaction” standard).

¹⁷⁵ *The Federal Reserve Discount Window*, *supra* note 171, at 2.

¹⁷⁶ *Id.* at 1.

¹⁷⁷ Federal Reserve Act § 19(b)(1)(A), 12 U.S.C. § 461(b)(1)(A) (2006) (defining “depository institution” as, *inter alia*, an FDIC insured bank, mutual savings bank, insured credit union, or savings association).

¹⁷⁸ See *infra* note 184 and accompanying text.

¹⁷⁹ Federal Reserve Act § 13(3), 12 U.S.C. § 343(3).

¹⁸⁰ *Id.*

¹⁸¹ 12 C.F.R. § 201.4(d) (2009). In addition, § 13(3) makes the grant of emergency loans, unlike ordinary discount window loans, contingent on an affirmative vote of five members of the Federal Reserve Board of Governors. 12 U.S.C. § 343(3). Before extending credit under § 13(3), the Federal Reserve must also obtain evidence that the borrower is unable to secure credit from other banking institutions. *Id.*

could post suitable collateral. Section 13(3)'s collateral standards were as broad as those under § 10B: a § 13(3) discount only needed to have been "secured to the satisfaction of the Federal Reserve bank."¹⁸² Commentators have noted that this nebulous standard provided "virtually no restrictions" on the type of collateral the Federal Reserve could accept for a § 13(3) loan.¹⁸³ Therefore, a CCP that pledged some of its members' assets as security would, under emergency circumstances, likely have been able to access credit from the Federal Reserve under § 13(3).

The Federal Reserve has invoked its § 13(3) emergency lending powers exceedingly rarely; in the 75 years between the Great Depression and the market crisis of 2008, the Federal Reserve did not once extend credit under § 13(3).¹⁸⁴ The Federal Reserve made modest use of § 13(3) during the 1930s, making only 123 loans totaling \$1.5 million.¹⁸⁵ This sparing use of § 13(3) during the Great Depression contrasts starkly with the Federal Reserve's heavy reliance on its emergency lending powers during the recent market crisis. Beginning with its creation of a special \$29 billion credit facility to assist the acquisition of Bear Stearns by JPMorgan Chase in March

¹⁸² 12 U.S.C. § 343(3).

¹⁸³ Small & Clouse, *supra* note 173, at 564; *see also* Thomas O. Porter, *The Federal Reserve's Catch-22: A Legal Analysis of the Federal Reserve's Emergency Powers*, 13 N.C. BANKING INST. 483, 508 (2009) (noting that the Fed had "complete discretion to accept any types of collateral for a discount" under § 13(3)). *But see* HACKLEY, *supra* note 173, at 129 ("[I]t seems clear that it was the intent of Congress that loans should be made only to creditworthy borrowers; in other words, the Reserve Bank should be satisfied that a loan under this authority would be repaid in due-course, either by the borrower or by resort to security"). For his part, Federal Reserve Chairman Ben Bernanke has insisted that the Fed may make § 13(3) loans only if the credit risk it assumes is equivalent to AAA. *See Oversight of the Federal Government's Intervention at American International Group: Hearing Before the H. Comm. on Fin. Servs.*, 111th Cong. 42 (2009) (statement of Ben Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Bank). However, other Federal Reserve officials have subsequently backed off of Bernanke's rigid construction of the statutory terms. Former Federal Reserve Board Vice Chairman Donald Kohn has, for instance, stated that "secured to the satisfaction of the Federal Reserve bank" means only that "[w]e need to have enough security that we feel the loan has a good prospect of being repaid." *Regulatory Restructuring: Balancing the Independence of the Federal Reserve in Monetary Policy with Systemic Risk Regulation: Hearing Before the H. Comm. on Fin. Servs.*, 111th Cong. 15 (2009) (statement of Donald L. Kohn, Vice Chairman, Bd. of Governors of the Fed. Reserve Bank). Similarly, Federal Reserve Board General Counsel Scott Alvarez has implied that security for a § 13(3) loan need not be equivalent to a AAA credit risk so long as the Federal Reserve thinks the loan "would be fully repaid." *H.R. 1207, the Federal Reserve Transparency Act of 2009: Hearing Before the H. Comm. on Fin. Servs.*, 111th Cong. 24 (2009) (statement of Scott G. Alvarez, Gen. Counsel, Bd. of Governors of the Fed. Reserve Bank).

¹⁸⁴ The Federal Reserve prepared to lend under § 13(3) two times in the 1960s, but no borrowers accepted the credit. *An Examination of the Extraordinary Efforts by the Federal Reserve Bank to Provide Liquidity in the Current Financial Crisis: Hearing Before the H. Comm. on Fin. Servs.*, 111th Cong. 72 n.1 (2009) [hereinafter *House Hearing on § 13(3)*] (statement of Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Bank).

¹⁸⁵ David Fettig, *Lender of More Than Last Resort*, REGION, Dec. 2002, at 14, 18-19, <http://www.minneapolisfed.org/pubs/region/02-12/lender.pdf> (noting that one reason for the Federal Reserve's minimal reliance on § 13(3) during the Great Depression was its temporary authority, under a separate provision, to supply \$280 million in working capital directly to industrial and commercial businesses).

2008,¹⁸⁶ the Federal Reserve has made unprecedented use of § 13(3). Among the lending programs it enacted under § 13(3) were the Term Asset-Backed Securities Loan Facility (“TALF”), Commercial Paper Funding Facility (“CPFF”), Money Market Investor Funding Facility (“MMIFF”), Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (“AMLF”), Primary Dealer Credit Facility (“PDCF”), Term Securities Loan Facility (“TSLF”), and Maiden Lanes II and III.¹⁸⁷ At its peak in December 2008, the Federal Reserve had more than \$506 billion outstanding in loans under its § 13(3) emergency lending programs.¹⁸⁸

The Federal Reserve’s invocation of § 13(3) in 2008 and 2009 prompted sharp disapproval from critics, some of whom alleged that the Federal Reserve had overstepped its legal authority,¹⁸⁹ and others of whom derided the policy motivating Chairman Ben Bernanke’s emergency lending decisions.¹⁹⁰ Many opponents alleged that, while the Federal Reserve’s use of § 13(3) to salvage Bear Stearns was proper, its wider use during the fall of 2008 and winter of 2009 did not meet the “unusual” standard required by statute.¹⁹¹ A related critique accused the Federal Reserve of overstepping its § 13(3) authority by purchasing private assets, rather than lending against them.¹⁹² In addition to attacks on the legal authority for the Federal Reserve’s lending, critics decried the lack of oversight of the Federal Reserve’s § 13(3) decisions¹⁹³ and the absence of any real limitations on the Federal Reserve’s discretion.¹⁹⁴ Criticism of the Federal Reserve’s emergency lending actions was particularly sharp in Congress,¹⁹⁵ where some members sought to limit the Federal Reserve’s discretion to extend emergency liquidity.

¹⁸⁶ FED. RESERVE BANK OF N.Y., SUMMARY OF TERMS AND CONDITIONS REGARDING THE JPMORGAN CHASE FACILITY (2008), available at <http://www.newyorkfed.org/newsevents/news/markets/2008/rp080324b.html>.

¹⁸⁷ See, e.g., FED. RESERVE BD. OF GOVERNORS, MONTHLY REPORT ON CREDIT AND LIQUIDITY PROGRAMS AND THE BALANCE SHEET (2010), available at <http://www.federalreserve.gov/monetarypolicy/files/monthlyclbsreport201002.pdf>.

¹⁸⁸ FED. RESERVE BD. OF GOVERNORS, STATISTICAL RELEASE H.4.1: FACTORS AFFECTING RESERVE BALANCES OF DEPOSITORY INSTITUTIONS (2008), available at <http://www.federalreserve.gov/releases/h41/20081211/> (\$309 billion for the CPFF, \$52 billion for the PDCF, \$41 billion for the AMLF, \$27 billion for JPMorgan Chase’s purchase of Bear Stearns, and a total of \$78 billion for AIG).

¹⁸⁹ See *infra* notes 191-192 and accompanying text.

¹⁹⁰ See *infra* notes 193-194.

¹⁹¹ See, e.g., Porter, *supra* note 183, at 512-13 (questioning at what point circumstances cease to be unusual).

¹⁹² See, e.g., Chad D. Emerson, *The Illegal Actions of the Federal Reserve: An Analysis of How the Nation’s Central Bank has Acted Outside the Law in Responding to the Current Financial Crisis*, 1 WM. & MARY BUS. L. REV. 109, 128-29 (2010).

¹⁹³ *House Hearing on § 13(3)*, *supra* note 184, at 3 (statement of Rep. Spencer Bachus (R-Ala.)) (decrying “unprecedented interventions into the financial markets” with “no disclosure” and “little oversight or accountability”).

¹⁹⁴ *Id.* at 26 (statement of Rep. Jeb Hensarling (R-Tex.)) (implying a lack of temporal restrictions on Federal Reserve lending under § 13(3)); *id.* at 27 (statement of Rep. Brad Sherman (D-Cal.)) (expressing concern over the Federal Reserve’s ability to determine whether collateral is satisfactory).

¹⁹⁵ See *supra* notes 193-194.

VI. DODD-FRANK AND FEDERAL RESERVE LENDING TO CCPs

As a result of congressional discontent with the Federal Reserve's unprecedented market interventions in 2008 and 2009, legislators involved in regulatory reform negotiations repeatedly attempted to eliminate the central bank's ability to lend to certain entities, including clearinghouses. This Part discusses early drafts of regulatory reform legislation that would have cut off the Federal Reserve's authority to lend to CCPs and analyzes how the final Dodd-Frank bill largely corrects the flaws in these early drafts by preserving CCP access to central bank liquidity.

Initially, both the House of Representatives and Senate passed Wall Street reform bills that would have effectively barred the Federal Reserve from lending to CCPs. The House, which passed its bill in December 2009, would have rewritten § 13(3) so that clearinghouses would no longer qualify as eligible borrowers.¹⁹⁶ The Senate, in its bill passed five months later, attempted to ensure that CCPs would retain eligibility, but a separate, contradictory provision would have negated clearinghouses' borrowing privileges.¹⁹⁷ Fortunately, after undergoing revisions in conference committee, the final Dodd-Frank legislation effectively maintains the status quo in which clearinghouses may borrow from the central bank under emergency circumstances. This Part analyzes the House bill, Senate bill, and final Dodd-Frank text chronologically to track the development of the CCP liquidity rules, and concludes that Congress only narrowly avoided enacting potentially dangerous restrictions on Federal Reserve lending.

A. *House Bill's Restrictions on § 13(3) Authority*

In response to the extraordinary use of § 13(3) during the recent financial crisis, some lawmakers in the House of Representatives sought to restrict the Federal Reserve's emergency lending powers both directly and indirectly. Although House Financial Services Committee Chairman Barney Frank (D-Mass.) was able to water down an amendment that would have explicitly prohibited Federal Reserve lending to clearinghouses, other provisions of the House bill likely would have had the effect of barring any CCP from borrowing from the Federal Reserve. This Section analyzes how House members' overreaction to the Federal Reserve's emergency lending led to sections of the House bill that unwisely would have blocked CCPs from receiving Federal Reserve liquidity.

¹⁹⁶ See *infra* Part VI.A.

¹⁹⁷ See *infra* Part VI.B.

1. *Attempts to Explicitly Prohibit CCPs from Receiving Federal Reserve Credit*

In a direct attack on the central bank's ability to lend to clearinghouses, Rep. Spencer Bachus (R-Ala.) offered an amendment in a House Financial Services Committee mark-up that would have expressly prohibited the Federal Reserve from lending to CCPs.¹⁹⁸ The amendment, as offered, mandated that "no provision of this title *or any other Act, including the Federal Reserve Act* . . . shall be construed to authorize federal assistance to support the clearing operations or liquidation of a derivatives clearing organization."¹⁹⁹ The amendment would have defined "federal assistance" as, *inter alia*, "the use of public funds for . . . making loans," thereby prohibiting the Federal Reserve from lending to any derivatives clearinghouse.²⁰⁰

Rep. Frank, recognizing the far-reaching and potentially deleterious effects of foreclosing CCP access to central bank liquidity, convinced Rep. Bachus to modify his amendment.²⁰¹ The revised amendment, incorporated into the House bill, provided that "no provision *of this title* shall be construed to authorize Federal assistance" for a derivatives clearinghouse.²⁰² By limiting its applicability to the OTC derivatives title of the regulatory reform bill, the amendment, as adopted, would have had no bearing on the Federal Reserve's ability to lend to CCPs under § 13(3).²⁰³ However, Rep. Bachus's attempt to deny CCPs access to Federal Reserve credit was just the opening salvo against the central bank's lending authority and may have catalyzed other provisions in the House bill that would have accomplished the same goal indirectly.

2. *Proposed Implicit Prohibitions on CCPs Receiving Federal Reserve Credit*

Although Rep. Bachus's direct attack on Federal Reserve lending to CCPs proved unsuccessful, other restrictions on § 13(3) lending authority in

¹⁹⁸ Oct. 2, 2009 Draft of Amendment #27 to the Over-the-Counter Derivatives Markets Act of 2009, H.R. 3795, 111th Cong. (2009), *available at* [http://www.house.gov/apps/list/speech/financialsvcs_dem/bachus_amendment_\(revised\).pdf](http://www.house.gov/apps/list/speech/financialsvcs_dem/bachus_amendment_(revised).pdf).

¹⁹⁹ *Id.* (emphasis added).

²⁰⁰ *Id.* There may be a legitimate question as to whether loans from the Federal Reserve constitute the use of "public funds"; however, given the inclusion of the Federal Reserve Act in the enumerated lists of statutes to which the amendment would apply, it is likely that Rep. Bachus intended to bar Federal Reserve loans to CCPs.

²⁰¹ See Webcast: Mark-Up of OTC Derivatives Market Act, House Comm. on Fin. Servs. (Oct. 14, 2009), <http://financialserv.edgeboss.net/wmedia/financialserv/markup101409.vwx> (exchange between Rep. Frank and Rep. Bachus concerning Amendment no. 27).

²⁰² Wall Street Reform and Consumer Protection Act of 2009, H.R. 4173, 111th Cong. § 3004(a) (as passed by House, Dec. 11, 2009) (emphasis added).

²⁰³ Rep. Jeb Hensarling noted at the mark-up that nothing in the amendment, as revised, "curtails the Federal Reserve's [§] 13(3) exigent powers." Webcast: Mark-Up of OTC Derivatives Market Act, *supra* note 201 (statement of Rep. Hensarling in response to exchange between Rep. Frank and Rep. Bachus narrowing the scope of the amendment).

the House bill would have indirectly blocked a clearinghouse from seeking emergency credit. Indeed, the House bill would have rewritten § 13(3) of the Federal Reserve Act to significantly narrow the conditions under which the central bank could extend emergency credit. Although the House bill's § 13(3) restrictions were apparently designed to limit bailouts to large institutions like AIG and Bear Stearns,²⁰⁴ the revisions would have posed difficulties for any CCP that sought to access emergency loans.

Among the provisions of the House bill that would have prevented a CCP from receiving Federal Reserve liquidity were the following:

Prohibition on Institution-Specific Lending. The House bill would have prohibited the Federal Reserve from authorizing § 13(3) loans “for only a single and specific individual, partnership, or corporation,”²⁰⁵ effectively foreclosing direct Federal Reserve lending to a single central clearinghouse. Instead, under the House bill, the Federal Reserve would have been limited to extending § 13(3) credit “only as part of a broadly available credit or other facility.”²⁰⁶ Thus, under the House bill, the only permissible means of extending § 13(3) credit would have been along the lines of TALF, CPFF, MMIFF, AMLF, PDCF, and TSLF. Extensions of Federal Reserve credit to AIG and to JPMorgan as acquirer of Bear Stearns would have been forbidden—as would loans to a central clearinghouse.

Collateral Restrictions. The House bill also specified that the Federal Reserve could not discount or accept as security any asset that would be classified as “substandard,” “doubtful,” or a “loss” by a federal or state banking regulator,²⁰⁷ likely preventing a CCP from accessing emergency liquidity. If a CCP were in the position of needing emergency credit, it probably would have already exhausted its capital base and default fund, leaving the clearinghouse and many of its members without marketable assets. While the clearinghouse could offer as security a note pledging the future assessments of its members after the market crisis subsided, it is unclear whether such a note would exceed the House bill's “substandard” test. Thus, collateral restrictions in the House bill likely would have posed a significant barrier to CCP borrowing from the Federal Reserve.

Mandatory Council Determination. The House bill would have predicated the Federal Reserve's emergency lending powers on a determination by two-thirds of a nine-member systemic risk council that “a liquidity event

²⁰⁴ See Michael R. Crittenden, *US Rep. Frank: Will Limit Fed's Lending Leeway*, DOW JONES NEWSWIRES, Nov. 3, 2009, available at Factiva, Doc. No. DJI0000020091103e5b3001ho (quoting Rep. Frank as saying that policymakers adopted restrictions on § 13(3) to ensure that there would be “[n]o more Fed to AIG, no more Fed to Bear Stearns”).

²⁰⁵ H.R. 4173 § 1701.

²⁰⁶ *Id.*

²⁰⁷ *Id.* A substandard asset—the highest quality of the three prohibited classifications—is an asset that is “inadequately protected by the current sound worth and paying capacity of the obligor.” OFFICE OF THRIFT SUPERVISION, EXAMINATION HANDBOOK 260.3 (2009), available at files.ots.treas.gov/422089.pdf.

exists that could destabilize the financial system.”²⁰⁸ Such a determination would have required certification by the President and consent from the Secretary of the Treasury before the Federal Reserve could extend credit under § 13(3).²⁰⁹ Prior to regulatory reform, the Federal Reserve could act unilaterally under § 13(3),²¹⁰ and adding procedural roadblocks to extensions of emergency credit would have slowed the process.

Repayment Threshold. A new, stringent repayment threshold also might have effectively barred clearinghouses from accessing Federal Reserve credit. During the crisis of 2008 and 2009, Federal Reserve officials disagreed over the types of credit risk that the central bank was authorized to assume under § 13(3);²¹¹ the House bill would have clarified that an extension of emergency credit is not “secured to the satisfaction of the Federal Reserve bank”—and therefore cannot be made—unless there is “at least a 99 percent likelihood” that all dispersed funds will be repaid, with interest.²¹² Members of the Federal Reserve Board of Governors would have been prohibited from voting for, and the Treasury Secretary forbidden from consenting to, any action under § 13(3) unless they were satisfied that the 99 percent repayment threshold was satisfied.²¹³ This standard—while a difficult hurdle for any potential recipient of emergency credit to surmount—would have been particularly disadvantageous for any clearinghouse that sought a § 13(3) loan, given the complexity of the CCP’s contractual claims for additional member resources and the likely variable nature of those members’ balance sheets.²¹⁴

Taken together, these restrictions on the Federal Reserve’s powers under § 13(3) would have foreclosed the possibility of a CCP accessing emergency credit. Granted, clearing members would have retained some—albeit more limited—access to Federal Reserve liquidity under § 13(3). However, as demonstrated above, the inefficiency and inequity of Federal Reserve lending to a clearinghouse through clearing members suggest that the preservation of indirect liquidity mechanisms would fail to safeguard CCPs and the financial system as robustly as would direct clearinghouse access to the discount window.²¹⁵ Thus, the House of Representatives, in overreacting to the Federal Reserve’s targeted lending to troubled institutions like AIG, passed overbroad limitations on the central bank’s powers that would have prohibited future targeted lending but also would have reduced the Federal

²⁰⁸ H.R. 4173 § 1701.

²⁰⁹ *Id.*

²¹⁰ *See supra* notes 179-181 and accompanying text.

²¹¹ *See supra* note 183.

²¹² H.R. 4173 § 1701.

²¹³ *Id.*

²¹⁴ *See* DUFFIE ET AL., *supra* note 76, at 21 (discussing contingent claims of the CCP on its members).

²¹⁵ *See supra* notes 163-166 and accompanying text.

Reserve's ability to prevent a catastrophic collapse of a central clearinghouse.

B. Senate Bill's Confused Approach to Federal Reserve Lending

Although the Senate sought to correct the deficiencies of the House bill, its attempts to preserve clearinghouses' access to Federal Reserve lending were frustrated by internal contradictions. Indeed, the Senate bill included two ostensibly incompatible provisions: one that ensured CCP access to Federal Reserve liquidity and one that prohibited it. Had both been enacted, the central bank would have been unable to comply with the conflicting mandates. This Section discusses how the Senate sought to strengthen the liquidity of clearinghouses by providing access to the discount window and how a conflicting provision likely would have frustrated this purpose.

1. Attempted Preservation of Federal Reserve Lending by Opening Discount Window

Senate Banking Committee Chairman Chris Dodd's (D-Conn.) regulatory reform bill attempted to rectify the flaws in the way the House bill treated clearinghouses. In its findings, the Senate bill presciently acknowledged that "[f]inancial market utilities that conduct . . . clearing . . . activities may reduce risks for their participants and the broader financial system, *but such utilities may also concentrate and create new risks.*"²¹⁶ Accordingly, the Senate bill explicitly permitted the Federal Reserve to lend to CCPs. The Senate bill adopted a novel approach to preserving clearinghouse access to central bank liquidity: it sought to reverse the status quo under which CCPs were ineligible to access the discount window but could receive § 13(3) emergency credit.²¹⁷ Instead, the Senate bill would have granted CCPs routine access to the discount window while severely restricting § 13(3) lending.

Recognizing the need to "mitigate systemic risk [by] strengthening the liquidity of systemically important financial market utilities," the Senate bill provided CCPs with routine access to the Federal Reserve's discount window.²¹⁸ Section 806(b) of the Senate bill would have allowed the Federal Reserve to grant a systemically important market utility, including a clearinghouse, "the same discount and borrowing privileges as the Federal Reserve may provide a depository institution."²¹⁹ Thus, for the first time,

²¹⁶ Restoring American Financial Stability Act of 2010, S. 3217, 111th Cong. § 802(a)(2), (as passed by Senate May 20, 2010), available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:s3217as.txt.pdf (emphasis added).

²¹⁷ See *supra* Part V.B for a discussion of the Federal Reserve's powers to lend to CCPs prior to Dodd-Frank.

²¹⁸ S. 3217 § 802(b)(3).

²¹⁹ *Id.* § 806(b). A "financial market utility" was defined as "any person that manages or operates a multilateral system for the purpose of transferring, clearing, or settling payments,

CCPs would have been able to access Federal Reserve liquidity through the discount window like any bank.²²⁰

Although the Senate bill sought to open the discount window to CCPs, it would have restricted § 13(3) lending in a way that would have rendered clearinghouses ineligible to borrow under that section. Like the House bill, the Senate bill struck the broad “individual, partnership, or corporation” language used to designate possible recipients of § 13(3) credit.²²¹ The bill would have limited the mechanism for emergency Federal Reserve loans to a “program or facility with broad-based eligibility.”²²² Under this formulation, it is unlikely that clearinghouses would have been able to receive § 13(3) lending.²²³

Thus, the Senate bill sought to reverse the status quo: prior to regulatory reform, clearinghouses did not have routine discount window access but were eligible creditors under § 13(3); the Senate bill attempted to grant CCPs explicit discount window access but foreclose them from borrowing under § 13(3). Ultimately, this reversal of the status quo likely would have aided clearinghouses’ risk management practices. Indeed, CCPs no longer would have needed to suffer “unusual and exigent circumstances” in order to receive liquidity from the Federal Reserve; instead, clearinghouses would have been eligible to borrow routinely, potentially preventing emergency conditions from ever arising.

securities, or other financial transactions among financial institutions or between financial institutions.” *Id.* § 803(5). A financial market utility was eligible to be designated as systemically important if its failure or disruption “could create, or increase, the risk of significant liquidity or credit problems spreading among financial institutions or markets and thereby threaten the stability of the financial system.” *Id.* § 803(8). Applying these definitions, many large CCPs likely would have fallen within the § 806 designation of systemically important financial market utilities.

²²⁰ See *supra* notes 170-177 and accompanying text.

²²¹ S. 3217 § 1151(2).

²²² *Id.* In its initial draft, the Senate had presciently included among potential § 13(3) credit recipients any “financial market utility” that a systemic risk council “determines is, or is likely to become, systemically important.” *Id.* §§ 804(a)(2), 806(a) (as introduced Apr. 15, 2010). These provisions would have ensured that large, interconnected CCPs had access to Federal Reserve credit in emergency situations. However, after complaints from Federal Deposit Insurance Corporation Chairman Sheila Bair that this formulation of § 13(3) would allow for “backdoor bailouts” of any large financial corporation that performed clearing or settlement services, see, e.g., Michael R. Crittenden, *Dodd Bill May Allow for “Backdoor Bailouts,” Bair Says*, WALL ST. J., Mar. 19, 2010, available at <http://online.wsj.com/article/SB10001424052748703580904575131462323522590.html>, Sen. Dodd dropped the provision preserving financial market utilities’ access to § 13(3) funds. See S. 3217 § 1151 (Manager’s Amendment released Mar. 23, 2010) (striking permission for the Federal Reserve to extend credit to financial market utilities under § 13(3)), available at http://banking.senate.gov/public/_files/032310MangersAmendmentAYO10627.pdf.

²²³ See *supra* notes 205-206 and accompanying text.

2. *Contradictory Prohibition on Federal Reserve Lending to Clearinghouses*

Although the Senate bill sought to preserve clearinghouse liquidity, a separate provision in the same bill would have expressly prohibited the Federal Reserve from lending to CCPs. Section 716 of the Senate bill stated categorically that “no Federal assistance may be provided to any swaps entity”²²⁴ and defined a “swaps entity” as, *inter alia*, a “central counterparty, clearing house, clearing agency, or derivatives clearing organization.”²²⁵ Leaving no doubt as to its effect, § 716 specified that the prohibition on federal assistance included the extension of credit by the Federal Reserve.²²⁶ Like Rep. Bachus’s proposed amendment,²²⁷ § 716 would have expressly prevented the central bank from lending to clearinghouses.

Section 716 of the Senate bill therefore directly contradicted provisions in the same bill preserving CCP access to Federal Reserve liquidity. On the one hand, § 806 instructed the Federal Reserve to open the discount window to clearinghouses; on the other hand, however, § 716 would have prevented the Federal Reserve from extending any credit to CCPs. It would seem, then, that the central bank would have been unable to comply with the dual mandates of the Senate bill.

The most likely explanation for the fundamental inconsistency within the Senate bill is that § 716 was never intended to be enacted as written. Instead, Sen. Dodd may have inserted the prohibitory language in an effort to temporarily placate its strongest proponent, Sen. Blanche Lincoln (D-Ark.).²²⁸ Indeed, senators may have regarded § 716 merely as “placeholder” language, serving as a filler until the conference committee could negotiate a reasonable compromise.²²⁹ Regardless of the legislators’ intentions for the conference committee, however, the Senate nonetheless passed a bill con-

²²⁴ S. 3217 § 716(a).

²²⁵ *Id.* § 716(b)(2).

²²⁶ *Id.* § 716(b)(1) (defining “Federal assistance” as “the use of any funds, including advances from any Federal Reserve credit facility, discount window, or pursuant to [§ 13(3)] of the Federal Reserve Act”).

²²⁷ See *supra* notes 198-200 and accompanying text.

²²⁸ See Damian Paletta and Victoria McGrane, *Snags Slow Financial Overhaul*, WALL ST. J., June 25, 2010, available at Factiva, Doc. No. J000000020100625e66p00047 (describing Sen. Lincoln’s support for § 716 and calling it “the most divisive issue” in ongoing congressional negotiations); see also Kevin Drawbaugh and Andy Sullivan, *Senate Fails to End Debate on Bank Reform Bill*, REUTERS, May 19, 2010, available at Factiva, Doc. No. LBA 0000020100519e65j001fh (“In a move to defuse tension with fellow Democrat Blanche Lincoln, Dodd dropped an attempt to kill . . . Lincoln[’s] proposal.”).

²²⁹ See, e.g., Sarah N. Lynch, *Sen. Dodd: Banking and Agriculture Committees in Talks on Derivatives*, DOW JONES NEWSWIRES, Apr. 20, 2010 (describing the Senate bill’s derivatives language as a “placeholder”). Perhaps the best evidence for the intended transience of the § 716 prohibition on lending to CCPs is that the conference committee agreed to delete the provision shortly after Sen. Lincoln won her party’s primary for re-nomination to her Senate seat. See, e.g., Damian Paletta, *Senator Pitches a Tamer Bank Bill*, WALL ST. J., June 15, 2010, at C1, available at Factiva, Doc. No. J000000020100615e66f00043.

taining inherently contradictory mandates regarding Federal Reserve lending to CCPs.

C. Dodd-Frank's Statutory Revisions Preserving the Status Quo

Following the conference committee's negotiations, the final regulatory reform law represented a compromise between those legislators, like Sen. Dodd, who would have strengthened CCP liquidity by opening the discount window and the Federal Reserve skeptics, like Rep. Bachus and Sen. Lincoln, who would have eliminated clearinghouses' ability to borrow from the central bank. Dodd-Frank, as enacted, opens the discount window to CCPs, but only in emergency circumstances. In the end, therefore, Dodd-Frank changes the Federal Reserve's statutory lending framework, but the result closely resembles the system in place prior to regulatory reform.

First, Dodd-Frank restricts the scope of the Federal Reserve's § 13(3) lending authority in much the same way as the House and Senate bills. Dodd-Frank's revisions to § 13(3) are less severe than those initially passed by the House: Dodd-Frank contains no mandatory repayment threshold,²³⁰ nor are its collateral restrictions as draconian as those in the House bill.²³¹ However, like both the House and Senate bills, Dodd-Frank prohibits institution-specific lending and allows the Federal Reserve to extend credit under § 13(3) only through a "program or facility with broad-based eligibility."²³² Further, Dodd-Frank subjects the Federal Reserve's § 13(3) lending decisions to review by the Secretary of the Treasury,²³³ potentially delaying or politicizing emergency lending. Cumulatively, these provisions of Dodd-Frank likely render CCPs ineligible to borrow under § 13(3).

However, to ensure clearinghouses' liquidity, Dodd-Frank opens the discount window to CCPs, but only in limited circumstances. Like the Senate bill, Dodd-Frank treats clearinghouses as financial market utilities to which the Federal Reserve may provide discount and borrowing privileges.²³⁴ However, unlike the Senate bill, Dodd-Frank, using language from § 13(3), allows the Federal Reserve to extend credit to CCPs "only in unusual or exigent circumstances."²³⁵ In this way, Dodd-Frank ensures that clearinghouses have access to Federal Reserve liquidity but severely limits the circumstances under which such borrowing will be permitted. Impor-

²³⁰ Compare *supra* notes 211-214 and accompanying text, with Dodd-Frank § 1101(a) (setting no repayment threshold).

²³¹ Dodd-Frank requires simply that "the security for emergency loans [be] sufficient to protect taxpayers from losses." § 1101(a)(6). Compare *supra* note 207 and accompanying text.

²³² § 1101(a)(2), 124 Stat. at 2113.

²³³ § 1101(a)(6), 124 Stat. at 2114.

²³⁴ § 803(6)(A), 124 Stat. at 1805; § 806(b), 124 Stat. at 1811.

²³⁵ § 803(6)(A), 124 Stat. at 1805.

tantly, Dodd-Frank modifies § 716 of the Senate bill so that it no longer prohibits CCPs from receiving federal assistance.²³⁶

By restricting § 13(3) access and opening the discount window in emergency circumstances, Dodd-Frank alters the statutory framework but does not significantly change the status quo. Prior to regulatory reform, CCPs were eligible to borrow from the Federal Reserve only under emergency circumstances through § 13(3); after Dodd-Frank, clearinghouses are eligible to receive Federal Reserve credit only under emergency circumstances through the discount window. Thus, Dodd-Frank changes the mechanism through which clearinghouses may borrow but does not make it any easier or harder for CCPs to obtain central bank credit.

While it would be preferable for CCPs to have routine access to the discount window without limitation in order to prevent emergency conditions from arising,²³⁷ Dodd-Frank crucially avoids the pitfalls of the House and Senate bills that would have prevented the Federal Reserve from lending to clearinghouses entirely. Emergency access for clearinghouses is better than no access, and the final version of Dodd-Frank carefully corrected the flaws in the House and Senate bills that would have eliminated CCPs' borrowing privileges, thereby increasing systemic risk.

VII. CONCLUSION

The two topics of this Article—credit default swaps and centralized clearinghouses—are, in many ways, similar. Both CDSs and CCPs offer the benefits of risk spreading: CDSs disperse credit risks, while clearinghouses distribute counterparty risks. The downsides of CDSs and CCPs are related, as well. CDSs increase interconnections in the financial system, creating systemic risks; CCPs, in trying to reduce those interconnections, concentrate systemic risk.

All centralized clearing focuses systemic risk in an entity that, if large enough, may become too big to fail. Moreover, the central clearing of CDSs is particularly worrisome because of the instruments' jump-to-default risk. An inability to margin adequately against such risks poses potential threats to the stability of CCPs that clear CDSs. Early versions of the House and Senate financial reform bills that forced more of the CDS market through central clearinghouses without also addressing the concentration of systemic risk were at best incomplete and at worst counterproductive.

²³⁶ Like the Senate bill, Dodd-Frank prohibits "swaps entities" from receiving federal assistance; however, Dodd-Frank changes the Senate bill's definition of a swaps entity so that clearinghouses are no longer disqualified. § 716(b)(2)(A), 124 Stat. at 1648.

²³⁷ Although granting clearinghouses routine access to the discount window might foster moral hazard, many market observers already believe that CCPs are TBTF. *See supra* Part IV.A.2. Thus, routine access could reduce the likelihood that CCPs reach emergency conditions without appreciably increasing moral hazard.

To alleviate the systemic risks of clearinghouses, CCPs—especially those that clear CDSs—must have access to central bank liquidity. Prior to Dodd-Frank, CCPs had access to Federal Reserve credit in emergency circumstances under § 13(3); however, discontent with the Federal Reserve’s use of § 13(3) over the past two years led some legislators to promote over-broad restrictions on these emergency lending powers. Paired with additional requirements for the central clearing of CDSs, such limitation on the Federal Reserve’s ability to lend to CCPs would have threatened to exacerbate potential future crises. The final version of Dodd-Frank, fortunately, recognizes the systemic importance of clearinghouses and explicitly permits the Federal Reserve to extend credit to CCPs, even if only in emergency circumstances.

We have seen what happens when clearinghouses do not have access to central bank liquidity. In the week after Black Monday, when the Federal Reserve provided expedited assistance to ensure the smooth operation of two CCPs, the U.S. stock market fell only 17 percent.²³⁸ In contrast, when the Hong Kong central bank did not intervene to assist the country’s main clearinghouse, the stock market dropped 39 percent in that same time span.²³⁹ Were a U.S. clearinghouse to fail today, absent the availability of Federal Reserve emergency funds, the consequences could be similarly dramatic. With Dodd-Frank forcing volatile credit derivatives through centralized clearinghouses, ensuring that those clearinghouses can access central bank liquidity may help mitigate the consequences of the next financial crisis.

²³⁸ The Dow Jones Industrial Average opened at 2,164.16 on October 19, 1987 and closed at 1,793.93 on October 26, 1987. *Dow Jones Industrial Average Historical Prices for Oct. 19-26, 1987*, YAHOO! FINANCE, <http://finance.yahoo.com/q/hp?s=DJI&a=09&b=19&c=1987&d=09&e=26&f=1987&g=d> (last visited Oct. 27, 2010).

²³⁹ The Hang Seng Index opened at 3,665.70 on October 19, 1987 and closed at 2,241.70 on October 26, 1987. *Hang Seng Index Historical Prices for Oct. 19-26, 1987*, YAHOO! FINANCE, <http://finance.yahoo.com/q/hp?s=^HSI&a=09&b=19&c=1987&d=09&e=26&f=1987&g=d> (last visited Oct. 27, 2010).

