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The Federal Reserve as Last Resort

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THE FEDERAL RESERVE AS LAST RESORT

Colleen Baker*

The Federal Reserve, the central bank of the United States, is one of the most important and powerful institutions in the world. Surprisingly, legal scholarship hardly pays any attention to the Federal Reserve or to the law structuring and governing its legal authority. This is especially curious given the amount of legal scholarship focused on administrative agencies that do not have anywhere near as critical a domestic and international role as that of the Federal Reserve. At the core of what the Federal Reserve does and should do is to conduct monetary policy so as to safeguard pricing, including that of financial risk.

The recent financial crisis brings the importance of this role into clear resolution, because mispriced financial risk was central to the crisis. To increase the Federal Reserve's efficacy, recent financial reforms in Dodd-Frank created a new "last-resort" role for the central bank. Ironically, these same reforms threaten the efficacy of the Federal Reserve by increasing "moral hazard," which could lead to additional mispricing of financial risk.

This Article aims to contribute to legal scholarship focused on the Federal Reserve, an institution whose decisions significantly impact financial markets and much of the rest of the world. In particular, the Article's first aim is to argue that the Federal Reserve has a new, permanent last-resort role: market-maker of last resort. This new responsibility flows from reforms contained in Dodd-Frank's Title VIII, which transform and expand the Federal Reserve's last-resort-lending legal authority. This Article's second aim is to argue that Title VIII's market stability-oriented reforms require additional accompanying reforms to counterbalance the moral hazard and related mispricing of financial risk that Title VIII's reforms could promote. These proposed reforms aim to ensure that the Federal Reserve's new "last resort" lending role does not inadvertently encourage the excessive risk taking and mispricing of financial risk that brought us the financial crisis and Dodd-Frank in the first place.

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INTRODUCTION

The Federal Reserve, the central bank of the United States, is one of the most important and powerful institutions in the world. Although legal scholars have largely left the Federal Reserve to the economists, its legal aspects are highly significant and merit careful analysis by legal scholarship. Accordingly, the aim of this Article is three-fold: (1) to analyze the new “last-resort” role given by Congress to the Federal Reserve through Dodd-Frank’s Title VIII, especially Title VIII’s new, potentially expansive last-resort lending authority; (2) to argue that Congress fell short of also implementing in Title VIII important additional reforms to accompany the Federal Reserve’s new last-resort role; and (3) to contribute to legal scholarship on the Federal Reserve, a critical expert administrative agency tasked with an incomparable domestic and international role.

During the financial crisis, the Federal Reserve was essential both in its traditional function as the “lender of last resort” and in a newly improvised, ad hoc capacity as a “market-maker of last resort.”¹ In this new last-resort role, the Federal Reserve acted as a backstop or a “last resort” not only for credit creation activity centered in the traditional banking system, but also for certain credit creation activity centered in financial markets.² The market-based credit system, also known as the “shadow banking system,” rivals the traditional banking system in size and importance.³ Financial instruments such as credit default swaps and repurchase agreements are two important components of the market-based credit system.⁴ These instruments were also involved in some of the most spectacular debacles during the financial crisis.⁵ In transforming and expanding the Federal Reserve’s last-resort role, Title VIII makes the

1. See generally PERRY MEHLING, *THE NEW LOMBARD STREET: HOW THE FED BECAME THE DEALER OF LAST RESORT* 1–2 (2011). Note that Merhling actually uses the term “dealer of last resort” rather than “market-maker of last resort,” which is used by other economists.

2. See generally *id.*

3. See generally Gary B. Gorton, *Questions and Answers About the Financial Crisis* (Feb. 20, 2010) (working paper), available at <http://ssrn.com/abstract=1557279>.

4. See generally PERRY MEHLING, *supra* note 1, at 1–2.

5. A “run” in the repurchase agreement markets acted as the proximate trigger of Bear Stearns’s near collapse and Lehman Brothers’ actual collapse. See generally Gary B. Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* (Yale ICF Working Paper No. 09-14, Nov. 9, 2010), available at <http://ssrn.com/abstract=1440752>. AIG nearly collapsed because of its credit default swap contracts. See Adam Davidson, *How AIG Fell Apart*, REUTERS, Sept. 18, 2008, available at <http://www.reuters.com/article/2008/09/18/us-how-aig-fell-apart-idUSMAR85972720080918>.

Federal Reserve potentially responsible for guaranteeing the stability of critical, volatile, highly risky, and massive segments of financial markets.⁶

Three of the most spectacular collapses or near collapses during the financial crisis—Bear Stearns, Lehman Brothers, and American International Group (AIG)—illustrate the importance of the Federal Reserve’s new last-resort role. This is because Title VIII potentially institutionalizes certain last-resort rescues—such as that of AIG—by the Federal Reserve during the financial crisis. These debacles also illustrate the importance of “financial market plumbing,” the background infrastructure systems handling the payment, clearing, and settlement of financial market transactions such as repurchase agreements and credit default swaps. The purpose of these systems is to ensure that “flows of credit, capital, and financial risk”⁷ course seamlessly throughout global financial markets. Not surprisingly, global financial market stability depends critically upon the robust functioning of this background infrastructure.⁸ This is because although these systems operate in the background, they are essentially “the ‘central nervous system’ of the financial system.”⁹

Financial market plumbing is also the area in which the Federal Reserve’s new Title VIII last-resort lending authority could prove vital. What is frequently underappreciated in discussions of the financial crisis is the extent to which breakdowns in financial market plumbing deepened the severity of the crisis.¹⁰ What is also underappreciated is that future systemic disruptions in financial markets or future financial crises are likely to be centered in the financial market plumbing.

In March 2008, the investment bank Bear Stearns confronted what essentially amounted to an old-fashioned bank run, or what

6. See generally Gretchen Morgenson, *One Safety Net That Needs to Shrink*, N.Y. TIMES, NOV. 3, 2012, <http://www.nytimes.com/2012/11/04/business/one-safety-net-that-needs-to-shrink.html>.

7. See Darrell Duffie, *Replumbing Our Financial System: Uneven Progress*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM 2 (Mar. 17, 2012), <http://www.federalreserve.gov/newsevents/conferences/Duffie.pdf>.

8. See generally *id.*

9. Michael H. Moskow, *Public Policy and Central Counterparty Clearing*, 40 ECON. PERSPS., no. 4, 2006, at 48, available at http://www.chicagofed.org/webpages/publications/economic_perspectives/2006/4qtr2006_part6_moskow.cfm.

10. For example, Merhling discusses “unprecedented stress on the payments infrastructure,” MERHLING, *supra* note 1, at 96, and the “utter breakdown of the underlying system of funding liquidity. This is the plumbing behind the walls, and it failed very dramatically,” *id.* at 124.

finance scholars have termed a “run on repo,”¹¹ which is essentially a bank run, but involving repurchase agreements rather than traditional bank demand deposits. Only with the assistance of the Federal Reserve,¹² which acted as a “market-maker of last resort”¹³ and facilitated an emergency acquisition of the investment bank by J.P. Morgan Chase,¹⁴ did Bear Stearns escape the later fate of Lehman Brothers. In September 2008, a similar “run on repo” acted as the proximate trigger of Lehman Brothers’ financial collapse.¹⁵ Severe disruptions in financial markets followed upon Lehman Brothers’ collapse. And right after Lehman Brothers’ debacle, AIG, one of the world’s largest multinational insurance companies, almost collapsed because it was unable to perform its obligations under more than \$440 billion¹⁶ of credit default swaps (CDS) contracts, an insurance-like financial instrument.¹⁷ Only the Federal Reserve’s ad hoc intervention as a market-maker of last resort¹⁸ and an eventual total of over \$180 billion¹⁹ of government financial assistance saved AIG from sharing Lehman Brothers’ fate.

11. Repurchase agreements are essentially short-term secured financing. See generally Gary B. Gorton & Andrew Metrick, *supra* note 5, at 10.

12. In discussing the acquisition of Bear Stearns by JPMorgan Chase, Thomas Baxter Jr., General Counsel and Executive Vice President of the Federal Reserve Bank of New York, stated that “[t]he Federal Reserve stood ready to assist, if necessary. Around midday on Sunday, it became clear that it *was* necessary.” Thomas Baxter, Jr., Presentation at London School of Economics, The Legal Position of the Central Bank: The Case of the Federal Reserve Bank of New York 9 (Jan. 19, 2009), available at www2.lse.ac.uk/fmg/documents/events/conferences/2009/regulatoryResponse/1160_Baxter.pdf.

13. Thomas Baxter noted in a 2009 speech that the Federal Reserve Bank of New York “create[d] a special purpose vehicle to hold assets acquired to facilitate the merger of JPMorgan Chase and Bear Stearns,” *id.* at 1, and that this and other SPVs “needed to be reflected on the Federal Reserve’s balance sheet,” *id.* at 13. Alexander Mehra argues in *Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis*, 13 U. PA. J. BUS. L. 221, 238 (2010) that to acquire these assets, the Federal Reserve made a loan “only in form” to Maiden Lane, an SPV created to buy Bear Stearns’s illiquid assets to facilitate its acquisition by J.P. Morgan Chase. As discussed in Part I.B of this Article, one definition of a market-maker of last resort is the purchasing and selling of a wide variety of financial market assets when markets are not functioning. Accordingly, in the Bear Stearns transaction the Federal Reserve arguably acted as a market-maker of last resort.

14. See *id.*

15. See generally Gorton and Metrick, *supra* note 5, at 13 (quoting the Lehman Brothers bankruptcy report by Anton R. Valukas noting Lehman Brothers’ heavy reliance on repurchase agreements).

16. See Ed Nosal, *Clearing Over-the-Counter Derivatives*, 35 ECON. PERSPECTIVES 137, 137 (2011), available at http://www.chicagofed.org/digital_assets/publications/economic_perspectives/2011/4qtr2011_part1_nosal.pdf.

17. See generally Adam Davidson, How AIG Fell Apart, REUTERS, Sept. 18, 2008.

18. See generally MEHRLING, *supra* note 1.

19. For a reference to this number, see Fiona Law & Prudence Ho, *AIG to Sell More AIA Shares to Raise \$2 Billion*, WALL ST. J., Sept. 6, 2012, <http://online.wsj.com/article/BT-CO-20120906-706756.html>.

In both Bear Stearns's and AIG's cases, the Federal Reserve arguably acted not only as a market-maker of last resort but also in important ways as a central clearing party (CCP) of last resort. For example, the Federal Reserve ultimately ensured performance on certain critical financial contracts, such as AIG's CDS.²⁰ One role of a CCP is to ensure the performance of financial contracts.²¹ To function seamlessly, financial market plumbing has long relied upon CCPs, which function as utilities in financial markets.²² CCPs lie at the heart of the plumbing of international financial markets²³ and are a focus of this Article. They are ingenious inventions originally developed by private market actors primarily to ameliorate counterparty credit risk, or the risk that one's contracting partner might default on its obligation.²⁴ CCPs essentially step into the middle of a financial trade. This means that through a legal process known as "novation," the CCPs become the buyer to the seller and the seller to the buyer in each financial contract.²⁵ Therefore, the CCP legally becomes the new counterparty to each original counterparty.²⁶ The implication of this is that each original counterparty is then only exposed to the CCP's credit risk. Consequently, as one banker explained, a CCP is "like the military putting all its artillery shells in a single dump."²⁷ The critical role of CCPs became evident in the aftermath of Lehman Brothers' default. For example, LCH.Clearnet Group's CCPs seamlessly managed Lehman Brothers' open trading positions, which amounted to a notional (face) value of \$10 trillion.²⁸

20. See MEHLING, *supra* note 1, at 133.

21. See PETER NORMAN, *THE RISK CONTROLLERS: CENTRAL COUNTERPARTY CLEARING IN GLOBALISED FINANCIAL MARKETS* 7 (2011).

22. See generally *id.*

23. This is a financial market utility. Part II provides background details.

24. See generally Randall Kroszner, *Can the Financial Markets Privately Regulate Risk?*, 31 J. MONEY, CREDIT & BANKING 596, 598–604 (1999).

25. See NORMAN, *supra* note 21.

26. See generally *id.* at ch. 2.

27. *Credit Derivatives: The Great Untangling*, THE ECONOMIST, Nov. 8, 2008, at 85, 86 (internal quotation marks omitted) (quoting an unnamed banker).

28. This is a "notional" amount from which contractual payments are calculated. See PETER NORMAN, *THE RISK CONTROLLERS: CENTRAL COUNTERPARTY CLEARING IN GLOBALISED FINANCIAL MARKETS* 26 (2011). LCH.Clearnet Group is based in the U.K.; these numbers are representative of amounts handled by significant central clearing parties.

Given their stellar performance during the financial crisis, CCPs are now the focus of widespread international financial market regulatory reforms that seek to mandate their increased use.²⁹ One objective of these regulatory reforms is to promote the seamless functioning of financial market plumbing.³⁰ Not surprisingly, CCPs are now arguably the most important centers of systemic risk in financial markets.³¹

Ironically, these international regulatory reforms may actually increase financial market instability.³² Federal Reserve Chairman Benjamin Bernanke cautioned in a speech focused on CCPs that “if you put all your eggs in one basket, you better watch that basket.”³³ The Chairman’s caution is easily understood in light of the role of and the staggering sums handled by these entities. For example, Ice Clear Credit LLC, recently designated by the Financial Stability Oversight Council³⁴ as a “systemically significant”³⁵ financial market utility (and therefore one that could potentially receive assistance from Title VIII’s new last-resort lending authority) is the leading CCP for credit-default swaps in the United States.³⁶ Importantly, “[t]he value of trades on a CCPs books can be awe-inspiring.”³⁷ And “[t]he outstanding amounts of credit default swaps [worldwide] are

29. For example, the G20 in 2009 agreed to significantly increase the use of central clearing parties in the over-the-counter derivative markets by the end of 2012. See FIN. STABILITY BD., OTC DERIVATIVES MARKET REFORMS: THIRD PROGRESS REPORT ON IMPLEMENTATION (Foreword) (2012), available at http://www.financialstabilityboard.org/publications/r_120615.pdf.

30. For example, see Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 802, 124 Stat. 1376, 2113 (2010) [hereinafter “Dodd-Frank”] (the “Findings and Purposes” of Dodd-Frank’s Title VIII regulations on payment, clearing, and settlement systems).

31. Systemic risk refers to the risk that, as a result of interconnections within the financial markets, the collapse of one financial institution will trigger a domino-like collapse of additional financial institutions.

32. See BANK OF ENG., FINANCIAL STABILITY REPORT 6 (2011), available at <http://www.bankofengland.co.uk/publications/Pages/fsr/2011/fsr30.aspx>.

33. Ben S. Bernanke, Chairman of the Bd. of Governors of the Fed. Reserve Sys., Clearinghouses, Financial Stability, and Financial Reform, Speech at 2011 Financial Markets Conference, Stone Mountain, Georgia (Apr. 4, 2011), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20110404a.htm> (quoting Mark Twain’s character, Pudd’nhead Wilson).

34. The Financial Stability Oversight Council (FSOC) was created in Title I of Dodd-Frank and is a council of financial regulators tasked with oversight of financial market stability.

35. Press Release, U.S. Dep’t of the Treasury, Financial Stability Oversight Council Makes First Designations in Effort to Protect Against Future Financial Crises, July 18, 2012, available at <http://www.treasury.gov/press-center/press-releases/Pages/tg1645.aspx>.

36. See generally *Ice Clear Credit*, ICE CLEAR CREDIT, https://www.theice.com/clear_credit.jhtml (last visited Nov. 3, 2012).

37. NORMAN, *supra* note 21, at 10.

many times world GDP.”³⁸ No wonder financial regulators refer to a failure of such “baskets” as a potential “financial Armageddon.”³⁹ CCPs “really are too big to fail.”⁴⁰ All eyes would turn to the Federal Reserve to do something to prevent such a catastrophe. The Federal Reserve’s new Title VIII last-resort lending authority,⁴¹ a primary focus of this Article, could potentially provide assistance in this situation.

But this Article also argues that well-intentioned, yet poorly designed regulatory reforms can actually increase systemic risk by creating significant moral hazard, which leads to the mispricing of financial risk.⁴² “Moral hazard” is the tendency to exercise less care or to alter one’s behavior when a third-party such as an insurer could be partially or fully responsible for the costs associated with this behavioral change.⁴³ For example, financial market utilities such as central clearing parties might engage in additional risk taking if a third-party insurer, such as the Federal Reserve, could potentially provide a last-resort backstop in a financial emergency.

The creation or presence of moral hazard contributes to the mispricing of financial risk. This is because risk-taking activities become cheaper if part of the downside cost of such activities can potentially be shared by a third-party insurer or a government safety net. For example, banks considered by financial markets as “too-big-to-fail” can borrow money more cheaply than banks not similarly viewed.⁴⁴ Economist Raghuram Rajan argues that “the primary reason for a systemic breakdown [of banking institutions] is

38. PHILLIP WOOD, ALLEN & OVERY, WHAT IS A CENTRAL COUNTERPARTY IN FINANCIAL MARKETS? 5 (2009), available at http://circa.europa.eu/Public/irc/market/market_consultations/library?l=/financial_services/derivatives_derivatives/individual_respondents/wood_enpdf/_EN_1.0_&a=d.

39. *Too Many Latent Triggers of Next Crisis*, FIN. TIMES, May 17, 2011, <http://www.ft.com/intl/cms/s/0/9097e23e-8081-11e0-adca-00144feabdc0.html#axzz22o1PH5ft>.

40. WOOD, *supra* note 38, at 4.

41. This new lending authority is in Section 806 of Dodd-Frank’s Title VIII. See Dodd-Frank § 806.

42. For example, “the world’s 29 most important banks are receiving a de facto subsidy of \$700bn a year in the form of cheaper borrowing costs, because investors believe that governments would never let them go bust.” Brooke Masters and Patrick Jenkins, *Top Regulators Say Bank Reforms Fall Short*, FIN. TIMES, Oct. 26, 2012 (referring to remarks by Andrew Haldane, director of financial stability at the Bank of England, in a recent speech). Because many market participants also believe that governments would never let a significant central clearing party go bust, important CCPs will likely also benefit from significant subsidies.

43. See HEIDI MANDANIS SCHOONER & MICHAEL W. TAYLOR, GLOBAL BANK REGULATION 60–63 (2010).

44. See BASEL COMMITTEE ON BANKING SUPERVISION, GLOBAL SYSTEMICALLY IMPORTANT BANKS: ASSESSMENT METHODOLOGY AND THE ADDITIONAL LOSS ABSORBENCY REQUIREMENT 2 (2011), available at <http://www.bis.org/publ/bcbs207.pdf>.

invariably the underpricing of risk,”⁴⁵ and that “[t]he underpricing of risk in the period leading up to the recent crisis stemmed, in part, from anticipated government or central bank intervention in markets.”⁴⁶ Mispriced financial risk leads to excessive risk-taking by financial markets and institutions. For example, AIG significantly underpriced the credit protection sold through its credit default swaps.⁴⁷ Had AIG properly priced this credit protection, fewer contracts would likely have been sold. Excessive risk-taking can then lead to future financial crises and their attendant disasters, such as AIG’s collapse. In financial crises, governments generally step in to provide stability to financial markets and institutions so as to avert even greater economic collapses. But the problem is that a stability/crisis loop then potentially begins again, with the moral hazard created by the government stability measures taken in prior financial crises.⁴⁸

Therefore, a critical tension exists between financial market stability and moral hazard. Dodd-Frank’s Title VIII grants the Federal Reserve a new last-resort lending authority for financial market utilities designated as “systemically important” in “unusual or exigent” circumstances.⁴⁹ This reform addresses part of this financial crisis loop, because it aims to bolster financial market *stability*. But Dodd-Frank’s Title VIII falls short, because it does not sufficiently address the increased moral hazard and related mispricing of financial risk that will likely result from the measures it provides to promote stability. Therefore, it risks increasing financial market *instability* and the mispricing of financial risk.

In other words, the moral hazard created by Dodd-Frank’s Title VIII reforms could act as an incentive for financial market utilities, such as systemically important CCPs, which have traditionally been heralded as paragons of private market risk management, to relax

45. RAGHURAM G. RAJAN, *FAULT LINES: HOW HIDDEN FRACTURES STILL THREATEN THE WORLD ECONOMY* 160 (2010).

46. *Id.*

47. See generally MEHLING, *supra* note 1, at 129–30. Rajan notes that “[p]rivately, AIGFP executives said the swaps contracts were like selling insurance for catastrophic events that would never happen: they brought in money for nothing!” RAJAN, *supra* note 45, at 135.

48. In *Fault Lines*, Rajan at refers to the Federal Reserve as “tak[ing] us from bubble to bubble by cutting interest rates to near zero and flooding the market with liquidity.” RAJAN, *supra* note 45, at 168. In financial crises, central banks frequently lower interest rates and provide financial institutions increased access to liquidity. Near-zero interest rates encourage excessive risk-taking because such environments make borrowed funds incredibly inexpensive. Unfortunately, this situation also risks laying the foundations for future financial crises.

49. Dodd-Frank § 806(b). Additional requirements also exist for using this lending authority. These requirements are discussed in detail in Part II.B.4.

their risk management practices. Relaxed risk management practices could decrease a CCP's costs, which should increase its profitability. But it could also lead to additional, and possibly excessive, risk-taking. In sum, the Federal Reserve's new "last-resort" role could unintentionally lead to the kind of moral hazard, systemic risk, and mispricing of financial risk that ultimately triggered the 2008 financial crisis and presented a need for the Federal Reserve's stability assistance and Dodd-Frank in the first place.

During the financial crisis, the Federal Reserve asserted de facto control over the financial system.⁵⁰ It also assumed an ad hoc role as the market-maker of last resort.⁵¹ The Federal Reserve provided an unprecedented amount of "last resort" financial assistance to a wide range of financial market institutions during the crisis.⁵² Bloomberg news estimates that the Federal Reserve's assistance to the financial system reached approximately \$7.7 trillion,⁵³ the Federal Reserve itself places this number closer to a mere \$1.5 trillion.⁵⁴ Either amount is staggering. Both numbers highlight what have become top concerns for international financial regulators: international liquidity shortages, mispricing, and mismanagement.⁵⁵

Liquidity is not free. Liquidity risk is one of the fundamental risks in financial markets. All else being equal, liquid financial assets are less risky than illiquid ones and, therefore, worth more.⁵⁶ Financial investors generally expect to receive a "liquidity premium" for illiquid financial assets.⁵⁷ In the past, however, both economic and financial theories have sometimes treated liquidity as

50. Knowledge@Wharton, *Wharton Faculty Teach-In on the Global Economic Crisis*, YouTube (Oct. 23, 2008), <http://www.youtube.com/watch?v=dfvODCAYU-0> (lecture by Richard Herring).

51. See generally MEHLING, *supra* note 1.

52. Liquidity can be thought of as "the ease with which value can be realized from assets." Andrew Crockett, *Market Liquidity and Financial Stability*, FIN. STABILITY REV., Feb. 2008, at 13, 14, available at http://www.banque-france.fr/fileadmin/user_upload/banque_de_france/publications/Revue_de_la_stabilite_financiere/rsf_0208.pdf.

53. Bob Ivry, Bradley Keoun & Phil Kuntz, *Secret Fed Loans Gave Banks \$13 Billion Undisclosed to Congress*, BLOOMBERG MKTS. MAG., Nov. 27, 2011, <http://www.bloomberg.com/news/2011-11-28/secret-fed-loans-undisclosed-to-congress-gave-banks-13-billion-in-income.html>.

54. Benjamin Bernanke, Chairman of the Fed. Reserve, Letter to the Senate Comm. on Banking, Hous., and Urban Affairs 2 (Dec. 6, 2011), available at <http://www.federalreserve.gov/generalinfo/foia/emergency-lending-financial-crisis-20111206.pdf>.

55. For example, international banking regulations such as Basel III increasingly focus on liquidity considerations. A summary table of the Basel III proposed regulatory framework is available at <http://www.bis.org/bcbs/basel3/b3summarytable.pdf>.

56. See generally JOHN HIBBERT, AXEL KIRCHNER, GAVIN KRETZSCHMAR, RUOSHA LI & ALEXANDER McNEIL, LIQUIDITY PREMIUM LITERATURE: REVIEW OF THE THEORETICAL AND EMPIRICAL EVIDENCE (2009), available at http://www.barrhibb.com/documents/downloads/Liquidity_Premium_Literature_Review.PDF.

57. See generally *id.*

costless.⁵⁸ And international financial institutions have long mismanaged and mispriced liquidity risk.⁵⁹ Not surprisingly, liquidity assistance emerged as one of the most sought-after remedies provided by the Federal Reserve and central banks around the world during the financial crisis. Dodd-Frank's Title VIII implicitly acknowledges the potential for certain financial market utilities such as CCPs to experience credit and liquidity problems by its creation of a new last-resort lending authority for the Federal Reserve. This possibility is likely one reason Chairman Bernanke noted the need for regulatory vigilance over certain financial market "baskets."⁶⁰ Alarming, many of these baskets and their accompanying "too big to fail" issues involve the very types of financial instruments that not only were the key triggers of the most significant collapses in the last financial crisis, but even today remain among the most important systemic risks in the financial system.⁶¹

Accordingly, this Article's first aim is to introduce the idea of a "market-maker of last resort" and to argue that reforms in Dodd-Frank's Title VIII, specifically its new last-resort lending authority, transform and expand the Federal Reserve's traditional last-resort role. Its second aim is to argue that Title VIII's stability-oriented provisions require additional reform to counterbalance and minimize the moral hazard and related mispricing of financial risk that these reforms could create. These proposed additional reforms aim to ensure that the Federal Reserve's new last-resort role does not inadvertently encourage the kind of excessive risk-taking and mispricing of financial risk that brought us the financial crisis and Dodd-Frank in the first place. This Article assumes that Title VIII has, practically speaking, settled the controversial normative question of whether the Federal Reserve's last resort role should also include the function of market-maker of last resort. It also assumes that this affirmative answer will remain unchanged for the foreseeable future.

58. MEHRLING, *supra* note 1, at 5. According to Andrew Haldane, "liquidity droughts were perhaps the defining feature of the financial crisis during 2007 and 2008." Andrew Haldane, Exec. Dir. of Fin. Stability at the Bank of Eng., Speech: Haircuts 4 (Aug. 1, 2011), available at www.bankofengland.co.uk/publications/documents/speeches/2011/speech512.pdf.

59. See generally INT'L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT 75 (2011), available at <http://www.imf.org/external/pubs/ft/gfsr/2011/01/pdf/text.pdf>.

60. Bernanke, *supra* note 33.

61. For example, several recent reports have warned about the continuing risk of instability in the tri-party repo markets. See, e.g., *Triparty Repo Market: Hearing Before the Subcomm. on Sec., Inv. & Inv.*, 112th Cong. (2012) (statement of Matthew J. Eichner, Deputy Dir., Div. of Research and Statistics of the Fed. Reserve, Aug. 2, 2012), available at <http://www.federalreserve.gov/newsevents/testimony/eichner20120802a.htm>.

Part I provides a brief background of the Federal Reserve, its traditional lender-of-last-resort role, and its long-standing emergency powers under §13(3) of the Federal Reserve Act.⁶² It then analyzes the concept of a market-maker of last resort. Part II provides an overview of CCPs and the financial market systems in which they play a starring role. This Part also analyzes Title VIII's financial market utility reforms. Part III argues that although normative discussion among economists about the proper scope of the Federal Reserve's last-resort role is still nascent, Congress has in fact ushered the Federal Reserve into this capacity on a permanent basis through Title VIII. Part IV proposes the additional reforms Congress should implement to minimize the moral hazard and related mispricing of financial risk that could result from the Federal Reserve's new last-resort role. These reforms include additional financial mandates, increased transparency and accountability measures, restructuring of financial markets that are most likely to require the assistance of a market-maker of last resort, and increased private sector second-to-last-resort mechanisms. Part V concludes.

I. THE FEDERAL RESERVE: TRADITIONAL LENDER OF LAST RESORT AND NOW MARKET-MAKER OF LAST RESORT

This part first provides a brief background history of the Federal Reserve, its traditional lender-of-last-resort role as expressed through its discount window and open market operations, and its related 13(3) emergency powers. It also introduces the concept of a market-maker of last resort. Readers familiar with the Federal Reserve, CCPs, and payment, clearing, and settlement systems should read I.B and then continue reading at Part II.B.

A. The Federal Reserve System

1. History

The Federal Reserve is a central bank born of financial and political crises. Perhaps because the Constitution did not establish a central bank, U.S. banking and banking regulation have always been permeated by constitutional concerns.⁶³

62. 12 U.S.C. § 343(A) (2006).

63. *See, e.g.,* *Osborne v Bank of the United States*, 22 U.S. 738 (1824); *McCulloch v. Maryland*, 17 U.S. 316 (1819).

The first U.S. Congress, upon the studied recommendation of Alexander Hamilton, established the First Bank of the United States in 1791.⁶⁴ The First Bank's duration proved brief. A conflict between national and state banking interests (aligned with agrarian powers) allowed Bank opponents to block renewal of the First Bank's charter.⁶⁵

The War of 1812, lax state regulation, and financial emergencies, reversed the misfortunes of national banking proponents.⁶⁶ Their fortunes rose with the establishment of a Second Bank of the United States in 1816.⁶⁷ In 1819, the U.S. Supreme Court decision in *McCulloch v Maryland* settled the Bank's constitutionality.⁶⁸

Nevertheless, the turbulent political history of banking continued when Congress did not renew the charter of the Second Bank.⁶⁹ The defeat of the renewal of the Second Bank's charter unfortunately did not also defeat the wars and financial crises that arose in subsequent years, in which state banks dominated the banking landscape.⁷⁰ Overall, the state-banking atmosphere, particularly because of the introduction of "free banking"⁷¹ practices, was "*laissez faire* in the extreme"⁷² and "vulnerable to financial panics."⁷³

By 1864, there was a renewed focus on a federal banking system, and a "national banking system" arose that "outlasted the crisis [created by the Civil War] and became one of the central features of the contemporary bank regulatory system, [and] also established the federal-state 'dual banking system' that has been a characteristic of U.S. commercial banking ever since."⁷⁴ Nevertheless, it was not until the 1907 financial crisis that Congress, following the advice of the "National Monetary Commission,"⁷⁵ decided to create a central bank.⁷⁶

Thus, more than one hundred years after the country's founding, following years of constitutional controversy and a spectrum of

64. See generally MICHAEL P. MALLOY, *PRINCIPLES OF BANK REGULATION* 1–27 (2d ed. 2003).

65. *Id.*

66. See generally *id.* at § 1.3.

67. See generally *id.*

68. See *McCulloch*, 17 U.S. at 316.

69. See generally MALLOY, *supra* note 64, at § 1.4.

70. *Id.*

71. "Free banking" meant that state "statutes began to emerge, allowing for organization of state banks by general legislation, rather than by special legislative act." *Id.* at § 1.4

72. *Id.* at § 1.4.

73. WILLIAM LOVETT, *BANKING AND FINANCIAL INSTITUTIONS LAW* 45 (6th ed. 2005).

74. MALLOY, *supra* note 64, at § 1.6.

75. Malloy explains that this Commission "was created in 1908 to investigate the causes of the panic [of 1907] and recommend remedial legislation." *Id.*

76. *Id.*

financial crises, the Federal Reserve Act of 1913 established the Federal Reserve System.⁷⁷ At long last, the United States had a central bank, the product of “extensive study and intense political maneuvering.”⁷⁸ The Federal Reserve has since evolved into one of the most important and powerful institutions in the world.

2. Responsibility and Structure

The Federal Reserve System has a unique structure that reflects the frequently turbulent history of U.S. banking.⁷⁹ Its traditional responsibilities include (1) conducting monetary and credit policy “in pursuit of maximum employment, stable prices, and moderate long term interest rates”;⁸⁰ (2) banking regulation and supervision; (3) oversight of financial market stability and systemic risk; and (4) provision of various financial services—for example providing accounts and payment settlement services such as Fedwire.⁸¹

The first of these, monetary policy—control over the country’s money supply—is widely viewed as the primary responsibility of central banks such as the Federal Reserve.⁸² Open market operations—

77. Federal Reserve Act of 1913, Pub. L. No. 63-43, 38 Stat. 251 (codified as amended in scattered sections of 12 U.S.C. (2006)).

78. MILTON SCHROEDER, *THE LAW AND REGULATION OF FINANCIAL INSTITUTIONS* § 3.01 (1995).

79. As an entirety, the Federal Reserve System includes the Federal Reserve Board of Governors, the Federal Open Markets Committee, the twelve regional Federal Reserve Banks, regional district member banks, and several advisory committees. See *How Is the Federal Reserve System Structured?*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/faqs/about_12593.htm (last visited Aug. 30, 2012). The heart of the Federal Reserve System is the Board of Governors of the Federal Reserve. *Id.* It is an independent government agency headed by a seven-member committee appointed by the President with the advice and consent of the Senate. See *Who Are the Members of the Federal Reserve Board and How Are They Selected?*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/faqs/about_12591.htm (last visited Aug. 30, 2012). As of the writing of this Article, Chairman Bernanke is the Chairman of the Board of Governors. See *Board Members*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., <http://www.federalreserve.gov/aboutthefed/bios/board/default.htm> (last visited Aug. 30, 2012).

80. FED. RESERVE BD., *FEDERAL RESERVE SYSTEM: PURPOSES AND FUNCTIONS 1* (2005), available at http://www.federalreserve.gov/pf/pdf/pf_complete.pdf.

81. *Id.* Among the three wholesale payment services operated by the Federal Reserve is the Fedwire Funds Service (Fedwire), which is a real-time gross settlement system designed to settle funds electronically between banks. See *Fedwire® and National Settlement Services*, FED. RESERVE BANK OF N.Y., <http://www.newyorkfed.org/aboutthefed/fedpoint/fed43.html> (last visited Aug. 9, 2012).

82. See *Structure of the Federal Reserve System*, THE FED. RESERVE, <http://www.federalreserve.gov/pubs/frseries/frseri3.htm> (last visited Aug. 30, 2012).

the buying and selling of (generally) U.S. Treasury securities⁸³—is one of the Federal Reserve’s main tools of monetary policy.⁸⁴ By buying and selling securities to and from financial institutions known as primary dealers, the Federal Reserve influences the amount of money available in the economy.⁸⁵ The Federal Reserve uses open market operations, in conjunction with its discount window lending facility, to align the overnight, unsecured interest rate at which banks lend to one another—the effective federal funds rate—with the target federal funds rate, which is set by the Federal Reserve.⁸⁶ These critical open market operations are overseen by the Federal Open Market Committee (FOMC), which is composed of the Board of Governors, the president of the Federal Reserve Bank of New York, and four additional Federal Reserve Bank presidents who rotate through this position.⁸⁷

Another primary tool that the Federal Reserve uses in conducting monetary policy is reserve requirements. The Board of Governors sets reserve requirements, which mandate that all depository institutions maintain a certain fraction of their deposits in cash or in accounts at the Federal Reserve.⁸⁸ Whether or not they are members of the Federal Reserve System, all depository institutions are required to maintain these reserve balances to strengthen their liquidity resources.⁸⁹ Required reserve levels rarely change.⁹⁰

3. The Discount Window

The final traditional tool of the Federal Reserve’s monetary policy operations is its discount window. It is also perhaps the strongest and most potentially controversial tool in the Federal Reserve’s arsenal.⁹¹ Aptly described as “the Fed’s pawnshop for commercial

83. In open market operations, the Federal Reserve could also buy or sell other types of collateral. Depending upon the collateral bought or sold, the Federal Reserve could be acting as a market-maker of last resort.

84. See *Purposes and Functions of the Federal Reserve System*, THE FED. RESERVE, http://www.federalreserve.gov/pf/pdf/pf_complete.pdf (last visited Oct. 13, 2012).

85. See *id.*

86. See *id.*

87. See *id.*

88. Reserve requirements are mandated for all depository institutions, regardless of whether they are members of the Federal Reserve System. See 12 U.S.C. § 461 (2006).

89. See *id.*

90. See THE FED. RESERVE, *supra* note 84, at 31.

91. See generally RANDALL S. KROZNER & WILLIAM MELICK, THE RESPONSE OF THE FEDERAL RESERVE TO THE RECENT BANKING AND FINANCIAL CRISIS 5 (2009), available at <http://faculty.chicagobooth.edu/randall.kroszner/research/pdf/KrosznerMelickFedCrisisResponse.pdf>.

banks facing short-term liquidity problems,”⁹² the discount window has two main purposes.⁹³ First, it is used in combination with open-market operations to align the effective Federal funds rate, an overnight interest rate at which banks lend to one another, with the Federal Reserve’s announced target Federal funds rate, the interest rate at which the Federal Reserve wants interbank lending to happen in practice.⁹⁴ Second, it loans money to individual depository institutions under “primary, secondary, and seasonal credit programs.”⁹⁵ And the discount window has traditionally enabled the Federal Reserve to act as the lender of last resort to the commercial banking system.⁹⁶

4. The Federal Reserve as Lender of Last Resort

Both open market operations and the discount window enable the Federal Reserve to act as the U.S. lender of last resort.⁹⁷ In this role, the Federal Reserve is focused on the overall stability of the traditional banking system. Through open market operations, the Federal Reserve can quickly inject additional liquidity into the banking system when credit conditions are tight. Alternatively, the Federal Reserve can use its discount window to provide targeted injections of credit and liquidity.

In *Lombard Street*, Walter Bagehot described the role of a lender of last resort: to lend freely, for good collateral, at high interest rates to solvent institutions.⁹⁸ Since Bagehot’s time, the lender-of-

92. Jose Gabilondo, *Leveraged Liquidity: Bear Raids and Junk Loans in the New Credit Market*, 34 J. CORP. L. 447, 448 (2009).

93. FED. RESERVE BD., FEDERAL RESERVE SYSTEM: PURPOSES AND FUNCTIONS 45 (2005), available at http://www.federalreserve.gov/pf/pdf/pf_complete.pdf.

94. *Id.* at 2.

95. *See id.* at 46.

96. *See generally* James Bullard, *President’s Message: The Fed as Lender of Last Resort*, THE REG’L ECONOMIST, Jan. 2009, available at http://www.stlouisfed.org/publications/pub_assets/pdf/re/2009/a/pres_mes.pdf; *see also generally* Joao Santos and Stavros Pertistiani, *Why Do Central Banks Have Discount Windows?* FED. RESERVE BANK OF N.Y. (Mar. 30, 2011), <http://libertystreeteconomics.newyorkfed.org/2011/03/why-do-central-banks-have-discount-windows.html>.

97. *Id.* at 45. *See generally* Joao Santos & Stavros Peristiani, *Why Do Central Banks Have Discount Windows?*, FED. RESERVE BANK OF N.Y. (Mar. 30, 2011), <http://libertystreeteconomics.newyorkfed.org/2011/03/why-do-central-banks-have-discount-windows.html>.

98. *See* Paul Tucker, Deputy Governor, Fin. Stability, Bank of Eng., *The Repertoire of Official Sector Interventions in the Financial System: Last Resort Lending, Market-Making, and Capital*, Remarks at the Bank of Japan 2009 International Conference (May 27–28, 2009), available at <http://www.bankofengland.co.uk/publications/Documents/speeches/2009/speech390.pdf>.

last-resort role has traditionally been considered the bedrock function of central banks. High or penalty interest rates are designed both to discourage banks from unnecessary reliance upon a lender of last resort and to minimize the moral hazard created by the presence of this public backstop.⁹⁹ The requirement of quality collateral is to ensure that a bank needs assistance because it is illiquid, not because it is insolvent due to a balance sheet filled with worthless assets.¹⁰⁰ In practice, however, it can be difficult for both market participants and financial regulators to distinguish between liquidity issues and insolvency in a financial crisis.¹⁰¹ Not surprisingly, therefore, the discount window has sometimes been used to assist insolvent banking institutions.¹⁰²

Around the world, central banks act as “lenders of last resort.” The Federal Reserve was “extraordinarily active” as a lender of last resort during the recent financial crisis.¹⁰³ But why are lenders of last resort necessary?

Modern economies rely on access to credit for their growth. Banks have traditionally supplied the bulk of this credit. Banks have a fragile financial structure, which creates vulnerabilities in individual banking institutions and in the overall banking system. These vulnerabilities arise because the liabilities of banks are generally short-term, such as demand deposits or overnight wholesale funding like repos, but their assets are typically long-term, often highly illiquid, credit-creating financial contracts. This difference results in what is known as a “maturity mismatch” between a bank’s assets and liabilities. The “maturity mismatch” between a bank’s assets and liabilities can become highly problematic, making banks susceptible to runs and financial panics. This mismatch is characteristic of financial institution intermediaries engaged in the practice of “maturity transformation,” which means using short-term liabilities to fund longer-term assets.

In a bank run or panic, an otherwise solvent depository institution suddenly requires additional emergency “funding liquidity.” Funding liquidity is the ability “to attract external finance at short

99. Santos & Peristiani, *supra* note 96.

100. See generally SCHOONER & TAYLOR, *supra* note 43, at 53 *passim*.

101. See Jeffrey N. Gordon & Christopher Muller, *Avoiding Eight-Alarm Fires in the Political Economy of Systemic Risk Management* 47 (Columbia Law & Econ. Research Paper, No. 369, 2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1553880. See generally MEHRLING, *supra* note 1, at 44–45; Santos & Peristiani, *supra* note 97.

102. See Anna Schwartz, *The Misuse of the Fed’s Discount Window*, Remarks at Sixth Annual Homer Jones Memorial Lecture (1992), available at http://research.stlouisfed.org/publications/review/92/09/Misuse_Sep_Oct1992.pdf; see also Gordon & Muller, *supra* note 101, at 46.

103. James Bullard, *supra* note 96, at 3.

notice, subject to low transaction costs and at a financial cost that reflects the [institution's] fundamental solvency."¹⁰⁴ Funding liquidity replenishes the liability side of a bank's balance sheet;¹⁰⁵ it can replace demand deposits or other short-term funding that is suddenly on the run. The role of a lender of last resort is to provide this funding when a solvent bank finds itself unable to borrow funds from other banks or market participants. The collapse of one depository institution risks triggering further runs and panics in the banking system. In severe cases, such disruptions in the banking system could cause a broader economic collapse. Without a lender of last resort to supply emergency "funding liquidity," liquidity problems could quickly become solvency issues, because a bank could be forced to conduct a fire sale of its assets. To prevent this circumstance, this is the moment in which central banks such as the Federal Reserve can step into the gap as "lenders of last resort" to provide emergency funding liquidity.¹⁰⁶

Non-bank financial institutions, such as Bear Stearns, Lehman Brothers, and shadow banks,¹⁰⁷ can also engage in maturity transformation. Accordingly, the structure of their balance sheets would also exhibit maturity mismatches similar to those that characterize the balance sheets of traditional banks. These financial institutions also provide credit to the economy and are part of what is known as the "market-based credit system" or the "shadow banking system."¹⁰⁸ Though such financial institutions can share the financial fragility of traditional banks, however, they are not similarly regulated.¹⁰⁹ And importantly, the explicit government backstops present in the traditional banking system to combat runs and panics, such as deposit insurance and the lender of last resort, are absent from this system.¹¹⁰ These non-bank financial institutions became the epicenter of the financial crisis. This led to calls for the Federal Reserve to

104. WILLEM H. BUIJTER, *CENTRAL BANKS AND FINANCIAL CRISIS* 16 (2008), available at <http://www.wilembuiter.com/hole.pdf>.

105. *See id.*

106. *See generally supra* note 97. Note that federal deposit insurance regimes are also designed to ameliorate runs and panics.

107. *See* Sandra C. Krieger, Executive Vice-President, Fed. Reserve Bank of N.Y., *Reducing the Systemic Risk in Shadow Maturity Transformation*, Remarks at the Global Association of Risk Professionals 12th Annual Risk Management Convention (Mar. 8, 2011), available at <http://www.newyorkfed.org/newsevents/speeches/2011/kri110308.html>.

108. *See generally id.*

109. *See generally* Gary B. Gorton & Andrew Metrick, *Regulating the Shadow Banking System* (Oct. 18, 2010) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1676947.

110. *See generally* Krieger, *supra* note 107.

become a market-maker of last resort and thereby act as a backstop to such institutions in financial crises.¹¹¹

5. The Discount Window and the Federal Reserve's 13(3) Emergency Powers

Depression-era amendments to the Federal Reserve Act added its 13(3) emergency power. This power enabled the Federal Reserve to provide extensive emergency discount window financial assistance during the crisis to "any individual, partnership, or corporation" in "unusual and exigent circumstances."¹¹² But this longstanding emergency authority was largely dormant¹¹³ until it was resurrected with a vengeance during the recent financial crisis.¹¹⁴

Chairman Bernanke explained the importance of the Federal Reserve's 13(3) emergency power during the financial crisis:

As the financial crisis spread, the continuing pullback of private funding contributed to the illiquid and even chaotic conditions in financial markets and prompted runs on various types of financial institutions, including primary dealers and money market mutual funds. To arrest these runs and help stabilize the broader financial system, the Federal Reserve used its emergency lending authority under Section 13(3) of

111. See, e.g., Willem Buiter, *The Fed as Market-Maker of Last Resort: Better Late than Never*, FT.COM (Mar. 12, 2008, 2:27 AM), <http://blogs.ft.com/maverecon/2008/03/the-fed-as-market-maker-of-last-resort-better-late-than-never/#axzz29CzyekMM>.

112. Thomas C. Baxter, Jr., *supra* note 12, at 4. The Fed's 13(3) emergency powers are now set forth in 12 U.S.C. § 343(A) as follows:

In unusual and exigent circumstances, the Federal Reserve Board [Board of Governors of the Federal Reserve System], by the affirmative vote of not less than five members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with the provisions of section 14, subdivision (d) of this Act [12 U.S.C. § 357], to discount for any participant in any program or facility with broad-based eligibility, notes, drafts, and bills of exchange when such notes, drafts, and bills of exchange are indorsed or otherwise secured to the satisfaction of the Federal reserve bank: *Provided*, That before discounting any such note, draft, or bill of exchange, the Federal reserve bank shall obtain evidence that such participant in any program or facility with broad-based eligibility is unable to secure adequate credit accommodations from other banking institutions. All such discounts for any participant in any program or facility with broad-based eligibility shall be subject to such limitations, restrictions, and regulations as the Federal Reserve Board [Board of Governors of the Federal Reserve System] may prescribe.

113. See *id.* (explaining that the 13(3) emergency power had not been used since the 1930s).

114. In reading through this section, readers should carefully note that Title VIII's new emergency authority bears many similarities to the Federal Reserve's longstanding 13(3) emergency authority.

the Federal Reserve Act—an authority not used since the Great Depression—to provide short-term backup funding to certain nondepository institutions through a number of temporary facilities.¹¹⁵

For example, when Bear Stearns faced imminent financial collapse in March 2008, the legal authority for the Federal Reserve Bank of New York's emergency \$30 billion dollar loan, upon which JPMorgan Chase's acquisition of Bear Stearns hinged, was rooted in section 13(3) of the Federal Reserve Act.¹¹⁶

Ultimately, the Federal Reserve's extensive use of its 13(3) emergency powers during the financial crisis proved highly controversial.¹¹⁷ As a result, Congress subsequently circumscribed this authority in the Dodd-Frank Act by adding several accountability requirements to the Federal Reserve's use of this emergency power.¹¹⁸

First, Dodd-Frank prohibits the Federal Reserve's 13(3) emergency power from being used solely to assist an individual financial institution, and allows it to be deployed only to provide liquidity to a "participant in any program or facility with broad-based eligibility."¹¹⁹

Second, Dodd-Frank imposes the requirement that the Treasury Department approve the Federal Reserve's use of these powers.¹²⁰ The Federal Reserve is required to report to designated congressional committees within seven days of using its 13(3) emergency

115. Ben S. Bernanke, *Federal Reserve's Exit Strategy*, Bd. OF GOVERNORS OF THE FED. RESERVE SYS. (Feb. 10, 2010), <http://www.federalreserve.gov/newsevents/testimony/bernanke/20100210a.htm> (footnotes omitted). Gretchen Morgenson notes that at the "peak of its crisis lending in December 2008," the Federal Reserve supplied an incredible \$1.2 trillion to financial institutions. Gretchen Morgenson, *The Rescue That Missed Main Street*, N.Y. TIMES, Aug. 27, 2011, at BU1.

116. See *supra* note 13. See also *Actions by the New York Fed in Response to Liquidity Pressures in Financial Markets: Hearing Before the S. Comm. on Banking, Hous., and Urban Affairs*, 110th Cong. (2008) (statement of Timothy F. Geithner, President and Chief Executive Officer, Fed. Reserve Bank of N.Y., *Actions by the New York Fed in Response to Liquidity Pressures in Financial Markets*, Apr. 3, 2008).

117. See, e.g., Alexander Mehra, *supra* note 13 (arguing that certain of the Federal Reserve's emergency actions in the financial crisis went beyond its legal authority).

118. See Dodd-Frank § 1101.

119. See *id.* Much of the extensive financial assistance provided by the Federal Reserve using its 13(3) emergency authority during the crisis was in the form of a program or facility. See *The Federal Reserve's Response to the Financial Crisis and Actions to Foster Maximum Employment and Stability*, Bd. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm (last updated Oct. 31, 2012). Therefore, it is unclear to what extent this change actually circumscribes this emergency power in practice.

120. Dodd-Frank § 1101.

authority.¹²¹ This report must include information such as the justification for invoking 13(3) emergency authority, the identity of the borrowers, the dates and amounts of borrowing, and the material terms of the loans.¹²² The Federal Reserve must also send Congress updated reports every thirty days during which these loans are outstanding.¹²³

Additionally, Dodd-Frank makes numerous other statutory changes to the Federal Reserve's 13(3) emergency authority. First, it instructs the Federal Reserve to develop "policies and procedures governing emergency lending" under its 13(3) emergency authority.¹²⁴ Such standards are to be designed, among other things, to insure that this emergency authority provides only emergency liquidity rather than a bailout to an insolvent institution.¹²⁵ Second, it requires that the collateralization of discount window loans be sufficient to protect taxpayers from loss.¹²⁶ In fact, the Federal Reserve must assign a value to all collateral used to secure 13(3) emergency funding, and the loans must be terminated in a timely manner.¹²⁷

These new Dodd-Frank collateral requirements somewhat narrow the expansive effect of 1991 amendments to the Federal Reserve Act. These amendments significantly broadened the types of collateral eligible to secure discount window funding via the 13(3) emergency authority.¹²⁸ They also facilitated the Federal Reserve's extensive use of its 13(3) emergency power during the financial crisis. The overall effect of this change was that 13(3) emergency discount window funding only needed to be secured "to the satisfaction of the Federal reserve bank"¹²⁹ rather than secured by the types of collateral generally available for Federal Reserve lending to traditional commercial banks and depository institutions.¹³⁰

121. *Id.*

122. *Id.*

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *Id.*

128. See Binyamin Appelbaum & Neil Irwin, *Congress's Afterthought, Wall Street's Trillion Dollars*, WASH. POST, May 30, 2009, at A1.

129. 12 U.S.C. § 343(A) (2006).

130. The 1991 amendments deleted the phrase "of the kinds and maturities made eligible for discount for member banks under other provisions of this Act"; therefore, the requirement then became that the lending was merely secured to the satisfaction of the Federal Reserve banks. See Federal Deposit Insurance Corporation Improvement Act (FDICIA), Pub. L. 102-242, Section 473, 105 Stat. 2236, 2386 (1991). See also Walker F. Todd, *FDICIA's Emergency Liquidity Provisions*, 29 ECON. REV. no. 3 (1993). Traditionally, commercial banks have

This change effectively “allow[ed] the Fed to lend directly to non-bank firms during times of emergency”¹³¹ and “to lend directly to securities firms during times of emergency.”¹³² Professor Jeffrey Gordon and Christopher Muller suggested that this change “raise[d] novel questions about what it means for borrower debt to be ‘secured to the satisfaction to the Federal reserve bank.’”¹³³

In sum, Dodd-Frank circumscribed the Federal Reserve’s 13(3) emergency authority while adding several new, significant accountability and transparency requirements for its use. Below, I analyze Title VIII’s new last-resort lending authority, which could potentially be used for certain financial market utilities in “unusual or exigent circumstances.” Although this new last-resort lending authority in many ways resembles the Federal Reserve’s traditional 13(3) emergency powers, it is a significant, distinct, critical new last-resort lending authority. Importantly, several of Dodd-Frank’s accountability and transparency requirements now mandated for the use of the Federal Reserve’s 13(3) emergency authority, which are discussed above, are not similarly mandated in Title VIII’s new last-resort lending authority.¹³⁴

B. *The Concept of a Market-Maker of Last Resort*

Economist Perry Mehrling argues that during the financial crisis, the Federal Reserve acted as the de facto “dealer of last resort”¹³⁵ to

used highly regulated, high-grade, limited types of assets as collateral to secure discount window funding. KROZNER & MELICK, *supra* note 91, at 8. Kroszner and Melick explain that the impact of the “traditional tools” of the Federal Reserve is “felt on bank balance sheets via either short-term transactions involving Treasury Securities [high-grade collateral] or the lending of reserves against high quality collateral.” *Id.* The balance sheets of security firms and other financial market entities, such central counterparties, have a much broader array of assets, which are typically much riskier than those of traditional banking institutions. Because of the 1991 amendments, emergency discount window funding did not have to be secured by the same types of collateral that commercial banks generally use to secure discount window funding. See generally Walker F. Todd, *FDICIA’s Emergency Liquidity Provisions*, *ECON. REV.*, Q. III 1993, at 16–23, available at <http://www.clevelandfed.org/Research/Review/1993/93-q3-todd.pdf>; see also Gordon & Muller, *supra* note 101, at 30–33.

131. David Fettig, *The History of a Powerful Paragraph*, *THE REGION*, June 2008, at 33, available at <http://www.minneapolisfed.org/pubs/region/08-06/section13.pdf>; see also Roberta S. Karmel, *An Orderly Liquidation Authority Is Not the Solution to Too-Big-to-Fail 5* (Brooklyn Law School Legal Studies Research Papers Accepted Paper Series, Research Paper No. 259, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2001639.

132. David Fettig, *Lender of More Than Last Resort*, *THE REGION*, Dec. 2002, at 15, 46, available at <http://www.minneapolisfed.org/pubs/region/02-12/lender.pdf>.

133. Gordon & Muller, *supra* note 53, at 33.

134. See Title VIII of Dodd-Frank.

135. See generally MEHRLING, *supra* note 1, at 1–2. Note that Mehrling uses the term “dealer” rather than “market-maker” of last resort. To see the use of both terms, see Marshall

the market-based credit system. In addition, economists such as Willem Buiter and Anne Sibert argue that this role—also termed a market-maker of last resort—“is a defining function of the modern central bank.”¹³⁶ As such, they claim, central banks such as the Federal Reserve must assume this role.¹³⁷

Professor Steven Schwarcz has similarly advocated for the Federal Reserve to assume the role of market liquidity provider of last resort.¹³⁸ Proponents of this new role for the Federal Reserve argue that this transformation is necessary in light of the changed nature of credit intermediation or creation in the economy, which has shifted from a largely banking-centered system to an increasingly market-based system.

Proponents of this new last-resort role for the Federal Reserve argue that provision of last-resort funding liquidity to traditional depository institutions has been and is insufficient to address the liquidity needs of modern financial markets.¹³⁹ This is because the practical impact of Depression-era reforms such as Glass-Steagall’s separation of commercial and investment banking has been “to restrict the tools of the Fed to focus narrowly on commercial banks and bank holding companies.”¹⁴⁰ Banking and financial regulation, however, has long lagged financial market innovation and change. One example of this is that banking regulation, even post-Dodd-Frank, has yet to fully embrace the reality that significant credit creation occurs outside traditional banking institutions in the market-based credit system.¹⁴¹

Auerback, *The Central Bank As “Dealer of Last Resort?”*, NAKED CAPITALISM (Apr. 10, 2010), <http://www.nakedcapitalism.com/2010/04/auerback-the-central-bank-as-%E2%80%9Cdealer-of-the-last-resort%E2%80%9D.html> (noting that “Mehrling’s ultimate conclusion: [h]a[s] the central Bank become ‘Dealer of the Last Resort,’ in effect backstopping the system by being the ultimate market-maker or ‘insurer of last resort’[?]”).

136. See Willem Buiter & Anne Sibert, *The Central Bank As the Market-Maker of Last Resort: From Lender of Last Resort to Market-Maker of Last Resort*, VOX (Aug. 13, 2007), <http://www.voxeu.org/index.php?qN%de/459>.

137. *Id.* Note that legal scholars have largely been absent from the debate about the proper normative scope of the Federal Reserve’s last-resort role. An exception is Professor Steven Schwarcz’s work. See, e.g., Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 225 (2008), available at <http://ssrn.com/abstract=1008326> (proposing a liquidity provider of last resort).

138. See *id.*; see also Steven Schwarcz, Keynote Address: The Case for a Market Liquidity Provider of Last Resort, in 5 N.Y.U. J.L. & Bus. 339 (2009); Steven L. Schwarcz, *Controlling Financial Chaos: The Power and Limits of Law*, 2012 Wis. L. REV. 815.

139. See generally Buiter & Sibert, *supra* note 136; see also Buiter, *supra* note 111.

140. KROZNER & MELICK, *supra* note 91, at 3.

141. See generally Gary B. Gorton & Andrew Metrick, *supra* note 109. For example, the authors note, “While Dodd-Frank takes some important steps in the regulation of shadow banking there are still large gaps where it is (almost) silent.” *Id.* at 1.

Opponents of a new last-resort role for central banks have argued that “central banks should not rescue fools.”¹⁴² If central banks act as market-makers of last resort, they risk “offering a commitment to be buyers of last resort in a market for lemons, thereby subsidizing the creation of a market in junk.”¹⁴³ The concern is that market participants will know that in an emergency, they could potentially sell or “put” such assets to the central bank, and that this knowledge could impact the market’s ex ante valuation or demand for these assets. Assets that a central bank accepts to collateralize emergency credit and liquidity assistance are ultimately more liquid and valuable than those assets ineligible for this role. The potential ability to “put” an assortment of financial market assets to the central bank in financial crises in exchange for last-resort funding introduces an important moral hazard, because this “put” potentially acts as a form of insurance. Therefore, the market-maker of last resort role creates a price floor for such assets.¹⁴⁴ This essentially catastrophic liquidity insurance inherently makes such assets more liquid, which could impact asset pricing, as liquid financial assets are more valuable than illiquid ones. Ultimately, market discipline surrounding credit creation could be importantly impacted by the presence of a market-maker of last resort. U.S. securities regulation has traditionally been based on a disclosure-based rather than a merit-based regulation paradigm. If, as market-makers of last resort, central banks begin to accept a broad variety of collateral to secure last-resort funding, then there is a risk that some of this collateral might end up being unintelligible junk or toxic assets. To guard against this risk, therefore, regulatory paradigms of securities markets might need to shift in the direction of merit-based systems; “the properties of all the products these institutions invent” would need to be regulated.¹⁴⁵ In fact, legal and economic scholarship is increasingly discussing this general issue. For example, Professors Eric Posner and Glen Weyl suggest the creation of an “FDA for Financial Innovation.”¹⁴⁶ Under this system, innovations in financial

142. Martin Wolf, *Central Banks Should Not Rescue Fools*, FIN. TIMES, Aug. 28, 2007, <http://www.ft.com/intl/cms/s/0/d3db8c86-5564-11dc-b971-0000779fd2ac.html#axzz23N50eMBN>. See generally Martin Wolf, *Why the Credit Squeeze Is a Turning Point for the World*, FIN. TIMES, Dec. 11, 2007, <http://www.ft.com/cms/s/0/90126fca-a810-11dc-9485-0000779fd2ac.html#axzz2BCHKaEC3>.

143. *Id.*; see also Crockett, *supra* note 52, at 15.

144. MEHLING, *supra* note 1, at 137.

145. Wolf, *supra* note 142.

146. Eric A. Posner & E. Glen Weyl, *A Proposal for Limiting Speculation on Derivatives: An FDA for Financial Innovation 1* (Univ. of Chi. Inst. for Law & Economics, Olin Research Paper No. 594, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1995077.

derivative markets would require financial regulators' prior approval.¹⁴⁷ Somewhat similarly, Professors Gary Gorton and Andrew Metrick suggest in *Regulating the Shadow Banking System* that financial regulators should supervise the securitization process by the creation of "narrow funding banks" that would have access to the Federal Reserve's discount window.¹⁴⁸ Only these "narrow funding banks" would be allowed to buy securitized products.¹⁴⁹

Regardless of the proper balance between disclosure- and merit-based regulation, Title VIII's new last-resort lending authority and its consequent transformation of the Federal Reserve's last resort role suggests that this issue should be thoughtfully revisited. Economists are debating the normative question of whether central banks should act as market-makers of last resort. But as this Article argues, Title VIII's practical effect is to settle this question in the affirmative.

In sum, the idea of a central bank as market-maker of last resort is controversial¹⁵⁰ for at least four reasons. First, it means that financial markets ultimately cannot take care of themselves. Second, it requires central banks to price private market securities and assets in financial crises. Third, this role entails central banks potentially buying private securities and financial assets to restore liquidity when financial markets break down. Fourth, this role would essentially entail central banks guaranteeing the market value of the financial assets themselves¹⁵¹ by creating a price floor for these assets by buying them. This last point is potentially problematic because this guarantee could impact asset pricing—that is, the pricing of financial market risk.

Financial markets' determination of an asset's price is impacted by its liquidity. An asset's market liquidity is also potentially impacted by anticipation of whether central bank last-resort financial assistance is likely to be forthcoming in a crisis.¹⁵² Andrew Crockett, as President of JPMorgan Chase International, explained that

147. *Id.*

148. See GORTON & METRICK, *supra* note 141, at 21.

149. *Id.*

150. See Schooner and Taylor, *supra* note 43, at 56. (explaining that "[d]espite initial concerns among central bankers that this course of action [acting as a market-maker of last resort] violated a leading principle of central banking followed for over a century, during the Great Financial Crisis, a number of central banks adopted this practice").

151. MEHRLING, *supra* note 1, at 134.

152. See, e.g., Todd, *supra* note 130, at 20 ("It is important to keep in mind that nonbanks' behavior depends in part on how they expect the Federal Reserve to manage emergency lending powers.").

Since market participants generally acquire assets and liabilities to trade, they will be particularly concerned about the conditions under which they can on-sell assets, or can use them as collateral for funding needs. They are, in other words, concerned not only about fundamental long-term value, but also about the value they can realize in circumstances under which they need to liquidate a position quickly. *This consideration implies circularity in the concept of liquidity. An asset that is perceived as liquid will be demanded for its liquidity characteristics. But one that is perceived as lacking in liquidity will lose demand.*¹⁵³

Liquidity can be thought of as a financial institution's "survival constraint."¹⁵⁴ The financial crisis highlighted the critical importance of market liquidity and the profound systemic consequences of its shortage. The financial crisis also "highlighted the lack of sound liquidity risk management at financial institutions and the need to address systemic liquidity risk."¹⁵⁵ Most importantly, the financial crisis "suggest[ed] that liquidity has been significantly underpriced."¹⁵⁶ The presence of a market-maker of last resort could exacerbate this practice.

What then is a market-maker of last resort, which provides last-resort market liquidity, and how does it impact financial market liquidity? Market liquidity refers to a financial institution's ability to "sell a financial instrument at short notice, subject to low transaction costs and at a price close to its fundamental value."¹⁵⁷ While "funding liquidity" targets the liability side of a financial institution's balance sheet, market liquidity primarily impacts its asset side.¹⁵⁸ These different types of liquidity, however, are interrelated.¹⁵⁹ And as credit markets evolve, this liquidity "distinction . . . is becoming less relevant."¹⁶⁰ This evolution is one reason some suggest that the Federal Reserve should provide an integrated last-resort liquidity role.¹⁶¹

A market-maker of last resort can provide market liquidity in a variety of ways: (1) by buying and selling a wide variety of private

153. Crockett, *supra* note 52, at 15 (emphasis added).

154. *See supra* note 53.

155. INT'L MONETARY FUND, *supra* note 59, at 75.

156. Martin Wolf, *Why the Credit Squeeze is a Turning Point for the World*, FIN. TIMES, Dec. 11, 2007, <http://www.ft.com/intl/cms/s/0/90126fca-a810-11dc-9485-0000779fd2ac.html#axzz23N50eMBN>.

157. BUITER, *supra* note 104, at 16.

158. *Id.*

159. *See generally* MEHRLING, *supra* note 1, at 25–29.

160. Crockett, *supra* note 52, at 14.

161. *See* MEHRLING, *supra* note 1, at 10, 114.

market securities and assets when financial markets freeze;¹⁶² (2) by accepting a broad variety of collateral to secure discount window funding;¹⁶³ or (3) by using a broad variety of collateral in repurchase agreements.¹⁶⁴ Market illiquidity is characteristic of disruptions in the market-based credit system.¹⁶⁵ During the financial crisis, the most important disruptions occurred in the market-based credit system, which has become “a more important source of credit than the traditional banking system.”¹⁶⁶ The market-based credit system or “shadow banking system includes familiar institutions as investment banks, money-market mutual funds, and mortgage brokers; rather old contracts, such as sale and repurchase agreements . . . and more esoteric instruments such as asset-backed securities . . . collateralized-debt obligations . . . , and asset-backed commercial paper.”¹⁶⁷

The traditional banking system has long had government backstops in place for systemic disruptions, including the Federal Reserve’s lender-of-last-resort role and federal deposit insurance. Regulation of traditional banking institutions protects against insolvency risk by mandated capital requirements and the provision of federal deposit insurance.¹⁶⁸ It manages liquidity risk by statutorily mandated reserve requirements and the Federal Reserve’s role as a lender of last resort.¹⁶⁹ The market-based credit system likewise confronts solvency and liquidity risk, but it has not been subject to comparable regulation or had the benefit of parallel, explicit government backstops.

In the absence of government backstops, private markets developed backstops of their own for the market-based credit system. These backstops included credit default swaps, which eventually assumed a private “last-resort” stability role in the market-based credit system.¹⁷⁰ Private sector “liquidity and credit puts” such as credit

162. See Willem Buiter, *The Central Bank As Market-Maker of Last Resort*, FT.COM (Aug. 12, 2007, 4:16 AM), <http://blogs.ft.com/maverecon/2007/08/the-central-banhtml/#axzz29F5IYNYf>.

163. *Id.*

164. See *id.* See also Anne Sibert, *Price Stability and the Lender of Last Resort*, EUR. PARLIAMENT (May 2008), <http://www.europarl.europa.eu/document/activities/cont/200803/20080312ATT23932/20080312ATT23932EN.pdf> (briefing paper for the Committee on Economic and Monetary Affairs (ECON) of the European Parliament for the Quarterly Dialogue with the President of the European Central Bank); see also Buiter, *supra* note 104; Buiter & Sibert, *supra* note 136.

165. See Willem Buiter, *supra* note 111.

166. MEHLING, *supra* note 1, at 113.

167. Gorton & Metrick, *supra* note 109, at 1.

168. MEHLING, *supra* note 1, at 117.

169. *Id.* at 117–18.

170. *Id.*

default swaps thus “underpinned the stability of the shadow banking system” before the financial crisis.¹⁷¹ For example, in selling nearly half a trillion dollars’ worth of credit default swap protection, AIG was ultimately functioning as a private market-maker of last resort.¹⁷² Therefore, when “the Fed took over AIG’s book of credit derivatives in exchange for an 80 percent equity stake in the company . . . the government acquired the CDS portfolio that had been supporting the entire system.”¹⁷³ Financial markets erroneously assumed all was well. But when AIG avoided catastrophic collapse only due to the Federal Reserve’s assistance, the inadequacy of private market backstops in the market-based credit system became abundantly clear.¹⁷⁴

Tragically, before the spectacular collapses and near-collapses in the financial crisis, market participants failed to grasp the critical importance of liquidity:

[T]he key mistake that [investment banks and insurance companies] made was in not appreciating the liquidity dimension of the system . . . the investment banks and the insurance companies were acting as suppliers of market liquidity. The insurers thought they were insuring a low-probability risk, whereas in fact they were acting as a private dealer of last resort, selling market liquidity and at a price that proved to be too generous.¹⁷⁵

This reality is now alarmingly clear: market liquidity was, and arguably will continue to be, underpriced and mismanaged in the market-based credit system. Without the additional reforms proposed in Part IV, the Federal Reserve’s new last-resort lending role could inadvertently further encourage additional mismanagement and mispricing of market liquidity risk.

The next Part explains Title VIII’s financial market utility reforms. As noted above, acting as a market-maker of last resort requires a central bank to be able to accept a broad variety of collateral to secure discount window assistance, to provide a pricing floor for and buy private market assets, and to accept a broad range of collateral in repo transactions. Once the practical impact of Title

171. ZOLTAN POZSAR ET AL., FED. RESERVE BANK OF N.Y., SHADOW BANKING 2 (2012), available at http://www.ny.frb.org/research/staff_reports/sr458.pdf.

172. MEHLING, *supra* note 1, at 132.

173. *Id.* at 132–33.

174. See generally MEHLING, *supra* note 1.

175. *Id.* at 129–30.

VIII is understood, it becomes clear that its reforms meet these requirements. Title VIII has transformed the Federal Reserve's traditional lender-of-last-resort role to also include "market-maker" of last resort.

II. CENTRAL CLEARING PARTIES AND TITLE VIII'S REFORMS

Central clearing parties (CCPs) are at the heart of Title VIII's financial market utility reforms. In fact, most of the financial market utilities initially designated by the Financial Stability Oversight Council as systemically significant—and therefore potentially eligible to benefit from Title VIII's last-resort lending assistance—are CCPs. This Part first tells the story of CCPs and their importance in financial markets, particularly their increasing significance in the over-the-counter (OTC) derivative markets. It then introduces Title VIII and the reforms it implements for certain financial market utilities, particularly systemically important CCPs.

In this context, this Part also examines the Federal Reserve's expansive new lending authority, and argues that Title VIII's reforms fall short of implementing measures needed to minimize the moral hazard and threats to the mispricing of risk that such reforms could create.

A. Financial Market Plumbing and Central Clearing Parties

1. Financial Market Plumbing

Financial market utilities, operated both by the Federal Reserve and the private sector, are at the heart of the "plumbing" of the financial markets.¹⁷⁶ Payment, clearing, and settlement systems are critical to the systemic stability of modern financial markets across the globe.¹⁷⁷ Financial market utilities, such as CCPs, are part of the infrastructure of these systems.

Payment, clearing, and settlement systems ensure that the details of each trade are matched and confirmed, that counterparties

176. See generally DONNA NORDENBERG & MARC LABONTE, DODD-FRANK ACT, TITLE VIII: SUPERVISION OF PAYMENT, CLEARING, AND SETTLEMENT ACTIVITIES (2010).

177. *Id.* at 3–11. On an average business day, over \$13 trillion dollars of financial transactions—including securities, derivatives, foreign exchange, and retail—are settled by these systems. *Id.* at 1.

make their requisite payments, and that performance on the financial contract ultimately occurs. Payment systems transfer funds electronically. Settlement systems finalize financial transactions through “facilitat[ing] the settlement of transfers of funds or financial transactions.”¹⁷⁸ And the time lag between execution of a trade and its final settlement is referred to as the “clearing process.”¹⁷⁹ Post-trade processes can occur through centralized financial market utilities, such as CCPs, or by operations processes within individual financial institutions.¹⁸⁰ The latter approach has traditionally been, and for now remains, prevalent in the bilaterally traded OTC derivative markets and in the tri-party repo markets.¹⁸¹ But however this process happens, “[t]here is general consensus that smoothly running and efficient post-trade services are a necessary precondition for the efficient functioning of financial markets.”¹⁸²

2. Central Clearing Parties (CCPs)

During the clearing period, “trades need to be processed, managed, monitored and ultimately prepared for settlement.”¹⁸³ If individual financial institutions do not handle the clearing process, it becomes the job of CCPs. CCPs are a subset of clearinghouses, which originally developed in the financial futures markets.¹⁸⁴ CCPs

178. NORDENBERG & LABONTE, *supra* note 176, at 6. For a more in-depth discussion of these systems, see *id.*

179. TINA P. HASENPUSCH, CLEARING SERVICES FOR GLOBAL MARKETS 2.1.2.1 (2009).

180. See Stephen G. Cecchetti, Jacob Gyntelberg & Marc Hollanders, *Central Counterparties for Over-the-Counter Derivatives*, BIS Q. REV., Sept. 2009, at 47–48, available at http://www.bis.org/publ/qrpdf/r_qt0909f.pdf. These two possibilities for the completion of post-trade processes are also evident in Dodd-Frank’s Title VIII because it implements reforms both for certain financial market utilities and for certain financial institutions engaged in “payment, clearing, or settlement activity.” See Dodd-Frank § 803(7).

181. Recent financial regulatory reforms, such as the mandates in Dodd-Frank’s Title VII that “standardized” over-the-counter derivatives be cleared through CCPs, aim to ensure that in the future, the majority of the trades in these markets use centralized CCPs. It remains unclear, however, what percentage of the over-the-counter derivative markets will actually use centralized clearing facilities in the future. In the tri-party repo markets, two clearing banks essentially act as default CCPs.

182. HASENPUSCH, *supra* note 179, at 2.

183. *Id.* at 18.

184. See generally 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 (1999). A derivative future is a financial contract in which parties agree to do something in the future. For example, with an oil future contract, parties will agree that one party, the buyer, will buy a certain amount of a certain type of oil at a specified date in the future for a specified price. The counterparty, the seller, will be responsible for the delivery of this oil at the specified time.

that clear securities and derivatives transactions are among the most significant types of CCPs.¹⁸⁵

CCPs provide a number of benefits, the most important of which is the minimization of counterparty credit risk—the risk that one’s counterparty will default or become insolvent prior to completing performance on the contract. Professor Randall S. Kroszner, a former Governor of the Federal Reserve System, suggests that a CCP can be viewed as a private market contractual and organizational innovation designed to ameliorate the problem of counterparty credit risk.¹⁸⁶

The CCP, an ingenious response to counterparty credit risk, has a long-standing, superb track record. CCPs’ history of success results from a combination of novation and an elaborately designed complex system of risk management. Through the legal process known as “novation,” the central clearing party effectively steps into the middle of the financial transaction. It becomes the buyer to the seller and the seller to the buyer. Upon completion of the novation process, each original party to the trade remains exposed only to the credit risk of the CCP.¹⁸⁷ And CCP design and risk management practices aim to make these entities rock-solid centers of credit risk management.¹⁸⁸

The credit strength of a CCP is based upon several layers of time-tested, highly robust risk management practices. These layers of risk management typically include requiring individual clearing members to maintain margin accounts,¹⁸⁹ mandating default fund contributions, and ensuring avenues by which CCPs can access additional funding¹⁹⁰ and then finally resort to the CCPs’ own capital.¹⁹¹ Because a CCP is on both sides of a financial trade, its market positions should net out. This means that a CCP’s “market risk”—its exposure to market price movements—should be neutral or flat.

A CCP is exposed to the credit risk of its counterparties, known as “clearing members,” for the duration of the payment, clearing,

185. NORDENBERG & LABONTE, *supra* note 176, at 5.

186. See Kroszner, *supra* note 184, at 601–02.

187. Professors Skeel and Jackson explain that a CCP “become[s] the true party in interest in the event a counterparty fails”; it is “more than just a middleman.” David A. Skeel, Jr. & Thomas H. Jackson, *Transaction Consistency and the New Finance in Bankruptcy*, 112 COLUM. L. REV. 152, 157 (2012).

188. See generally NORMAN, *supra* note 21.

189. Margin accounts hold collateral to decrease the negative impact of a potential default by a clearing member on its contractual obligations. See *id.* at 9 (section beginning with “Managing Risk”).

190. See *id.* These avenues include, for example, credit lines or the ability to make additional financial assessments of the clearing members.

191. BANK OF ENG., *supra* note 32, at 20.

and settlement process of each financial transaction. Because the length of the clearing process can be vastly different for securities, derivatives, and repurchase agreements (repos), the risks involved can be significantly different as well. For example, securities typically settle within three days once title is given to the buyer and payment to the seller (known as “Delivery versus Payment”).¹⁹² Consequently, CCPs involved in securities settlement are exposed relatively briefly to the default risk of their counterparties.¹⁹³

On the other hand, the payment, clearing, and settlement process for certain derivatives and repos can span days, months, years, or even decades.¹⁹⁴ Consequently, the CCP faces long-term exposure to the credit risk of each counterparty or clearing member. Not surprisingly, therefore, “derivatives clearing systems have far more complex risk management, margining, and collateral management systems.”¹⁹⁵

Because “it is more efficient to have one party collect the information and monitor the other parties rather than having all parties monitor each other,”¹⁹⁶ CCPs also improve economic efficiency by their ability to net the positions of clearinghouse members, reduce transaction costs by centralizing post-trade processes, and promote mutualized risk management.¹⁹⁷

As a neutral, third-party monitor, CCPs can also promote contractual performance.¹⁹⁸ Improved netting decreases counterparty credit risk and, in turn, reduces the amounts of margin that clearinghouse members must maintain.¹⁹⁹ Novation also promotes trading anonymity,²⁰⁰ which can potentially enhance market liquidity.

Despite their track record of success, however, CCPs themselves can be threatened in rare moments of extreme economic distress.²⁰¹ Because of their intense concentration of credit risk, a distressed CCP is not equivalent to a typical troubled bank or financial institution. International regulatory reform discussions have tended to view CCPs as a panacea, but their potential collapse could be

192. John McPartland, *Clearing and Settlement Demystified*, CHI. FED LETTER, Jan. 2005, at 2, available at http://www.chicagofed.org/webpages/publications/chicago_fed_letter/2005/january_210.cfm.

193. *Id.*

194. HASENPUSCH, *supra* note 179, at 18.

195. McPartland, *supra* note 192, at 2.

196. HASENPUSCH, *supra* note 179, at 45.

197. *Id.*

198. See Nosal, *supra* note 16, at 137.

199. See NORMAN, *supra* note 21, at 15 (section 2.6, “Netting Trades and Open Interest”).

200. HASENPUSCH, *supra* note 179, at 24.

201. See Bernanke, *supra* note 33.

“the financial equivalent of Chernobyl.”²⁰² It is important to remember that CCPs are not fail-proof financial market entities.²⁰³ As Professor John Coffee has noted, “[f]ew scenarios for financial destabilization are more frightening (or more plausible) than the prospect of a clearinghouse’s failure.”²⁰⁴

The CCP depends upon the performance of each clearinghouse member to assist in its completion of its own obligations. If a CCP failed to perform its obligations, it would almost certainly trigger additional clearinghouse member defaults. Consequently, a CCP could rapidly experience serious liquidity or solvency issues if it were sufficiently impacted by the default of a significantly large clearinghouse member or by the default of multiple clearing members.

CCPs could also become distressed or fail for additional reasons, such as “the default of an investment counterparty; business risk; the default of a payment bank; and the risk of extended operational disruption.”²⁰⁵ Moreover, many of the clearinghouse members at significant derivative market CCPs are also too-big-to-fail financial institutions and banks, whose distress would send serious systemic shocks into the banking system.²⁰⁶

Nevertheless, the CCP’s robust track record of success, even in the absence of explicit, direct access to liquidity from the Federal Reserve, can be attributed to the complex, multi-tiered layers of risk management that mutualize default risk among clearinghouse members. Because of traditional CCP risk sharing practices, clearinghouse members have historically been mutually responsible

202. Press Release, Comm. on Capital Markets Regulation, Hal Scott Releases Letter to CFTC Chairman Gensler Urging Major Federal Reserve Input to CFTC Rules on Conflicts of Interest in Derivatives Clearinghouses (Sept. 5, 2010), *available at* <http://capmktsreg.org/2010/09/gensler-letter-on-conflicts-of-interest-in-derivatives-clearinghouses/> (quoting Hal Scott).

203. BANK OF ENG., *supra* note 32, at 21. The report also noted that

[t]he likely impact of CCP distress or failure is greater now than in the past due to the expansion of central clearing to new products and markets. So robust arrangements are needed for managing losses while maintaining the continuity of clearing services. Most CCPs do not, however, have proven arrangements for managing losses that exceed their margin and other financial resources.

Id. at 52.

204. John C. Coffee, Jr., *Systemic Risk After Dodd-Frank: Contingent Capital and the Need for Regulatory Strategies Beyond Oversight*, 111 COLUM. L. REV. 795, 845 (2011).

205. BANK OF ENG., *supra* note 32, at 20. It is important to note that the European debt crisis has especially highlighted the risk involved in CCPs reinvesting resources such as a clearing members margin and default funds. *Id.*

206. Chairman Bernanke explains that “the same globally active banks participate in all of the major clearinghouses, and the major clearinghouses often rely on similar sets of banks for payment services, funding, settlement, and emergency liquidity.” Bernanke, *supra* note 33 (emphasis added).

for—or essentially required to fully internalize—their own risk-taking activities and those of their clients and other clearinghouse members. This shared financial responsibility creates important incentives for robust mutual monitoring.²⁰⁷ As discussed below, Title VIII's new last-resort lending authority risks weakening this private market risk mutualization, which could potentially impose significant costs on the public.

If a clearinghouse member defaults, a CCP should first use the defaulting member's margin to cover its obligations and attempt to sell the defaulting member's portfolio.²⁰⁸ However, this sale could take time depending upon the content of the defaulting members portfolio.²⁰⁹ Nevertheless, the CCP will be depending upon the defaulting member's payment to fulfill its own time sensitive obligations. Therefore, if the defaulting member's margin account is insufficient to cover this amount, the CCP will need to access additional layers of its risk management protections²¹⁰ or have alternative access to liquidity.²¹¹ The CCP's risk management protocol will likely include a default or guarantee fund composed of already paid-in contributions by its clearing members²¹² for use in such situations. Because this fund is composed of contributions by all clearing members, it "mutualizes" among all clearing members the risk of one clearing member's default.²¹³ This risk mutualization has been a traditional strength of CCPs because it creates an economic incentive for clearinghouse members to monitor each other.²¹⁴ The CCP might also have access to other credit lines.²¹⁵ It could also have the ability to make assessments on non-defaulting clearing members for additional funds.²¹⁶ This latter option, however, could prove problematic, especially in the case of systemically significant CCPs. First, this assessment could take time, and time sensitive payments might need to be made. Second, the CCP is unlikely to make additional emergency assessments of its clearinghouse members if

207. See, e.g., Kroszner, *supra* note 184, at 603 (discussing the structure of the Board of Trade Clearing Corporation).

208. See generally Nosal, *supra* note 16.

209. *Id.*

210. See generally *id.*

211. See generally Cecchetti, Gyntelberg, and Hollanders (noting that "[k]eeping a CCP liquid in the face of the failure of one or more participants requires that liquidity be available somewhere." at 55)

212. See Nosal, *supra* note 16.

213. See *id.*

214. See generally James T. Moser, *What is Multilateral Clearing and Who Cares?*, CHI. FED LETTER, no. 87 (Nov. 1994), available at http://qa.chicagofed.org/digital_assets/publications/chicago_fed_letter/1994/cflnovember1994_87.pdf.

215. See Norman, *supra* note 21, at 10. See also PHILLIP WOOD, *supra* note 38.

216. See Nosal, *supra* note 16.

such assessments would then put these clearinghouse members at risk of default. As noted above, many of these clearinghouse members will likely themselves be too-big-to-fail financial institutions. Therefore, a systemically significant CCP's sudden, but critical emergency credit or liquidity need would create a critical systemic risk.²¹⁷ Finally, a CCP has its own capital.²¹⁸

Importantly, if the CCP were to fail to make scheduled payments, this would risk triggering additional clearinghouse member defaults and further systemic liquidity problems.²¹⁹ Therefore, it is imperative that a CCP have timely access to the liquidity it needs to settle all schedule payments.²²⁰ The Federal Reserve's new last-resort lending authority is designed to potentially intervene in exactly this type of circumstance to prevent the materialization of systemic risk and, therefore, potentially great damage to financial markets and the larger economy. Whether a CCP would need to work through all of its risk management layers and/or declare insolvency before receiving the Federal Reserve's assistance is unclear from Title VIII.²²¹ This is one reason that the creation of policies and procedures for using this last resort lending authority—discussed in Part VI—is critical. In extreme but plausible market conditions, the Federal Reserve arguably might need to essentially “buy” the portfolio of a defaulting clearing member in exchange for last resort funding to ensure contractual performance (ultimately the role of the CCP itself) if the defaulting clearing member's portfolio cannot be quickly sold at a commercially reasonable price to market participants.²²² This risk could be especially high for portfolios of highly specialized OTC derivatives.²²³ Ideally, such portfolios would

217. See generally Anna L. Paulson & Kirstin E. Wells, *Enhancing Financial Stability: The Case of Financial Market Utilities*, CHI. FED LETTER, Oct. 2005, available at http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/2010/cfloctober2010_279.pdf.

218. See Norman, *supra* note 21, at 10.

219. See Paulson & Wells, *supra* note 217, at 1.

220. See *id.* at 3.

221. See Christian Chamorro-Courtland, *The Trillion Dollar Question: Can a Central Bank Bail Out a Central Counterparty Clearing House Which is “Too Big To Fail”?*, 6 BROOK. J. CORP. FIN. & COM. L. 433, 464 (2012).

222. This argument is plausible in light of market conditions and the Federal Reserve's actions in the recent financial crisis, particularly its loan/purchase surrounding Bear Stearns assets and its equity stake in AIG. Similar issues, concerns, and risks could arise in the case of a systemically important CCP.

223. This is suggested because

specialized OTC derivative contracts are much less liquid because their estimated value is subject to great variation and they are traded on a bi-lateral basis. Hence, it may be difficult to sell a large position of OTC contracts on short notice at a price that is at or near its estimated value.

consist of high quality, valuable assets, but the fundamental concern of those opposed to a market-maker of last resort is that in some cases, such portfolios might also contain toxic junk.

B. Title VIII

1. Background and Purpose

Title VIII is merely one of sixteen titles in the monumental and historic Dodd-Frank Wall Street Reform and Consumer Protection Act, which Congress passed in July 2010.²²⁴ Condensed from two-thousand-plus pages to a mere 848, Dodd-Frank's stated purpose is "[t]o promote the financial stability of the United States by improving accountability and transparency in the financial system, to end 'too big to fail,' to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes."²²⁵

At a mere twenty pages, Title VIII is short and sweet, but it packs a transformative regulatory punch.²²⁶ The objectives of Title VIII's financial market utility reforms are listed in Section 802, "Findings and Purposes" of Title VIII. First, it provides the Federal Reserve with the explicit statutory authority to promote uniform risk management standards and their supervision both for financial institutions engaged in critical payment, clearing, and settlement activities and for systemically significant financial market utilities.²²⁷ Many foreign central banks have long had clear supervisory authority over these systems.²²⁸ International banking regulators view supervision of payment, clearing, and settlement systems as a "core responsibility of central banks."²²⁹ In contrast, prior to Title VIII's enactment,

224. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) [hereinafter "Dodd-Frank"].

225. Preamble, 124 Stat. at 1376.

226. Title VIII's findings note that "[e]nhancements to the regulation and supervision of systemically important financial market utilities and the conduct of systemically important payment, clearing, and settlement activities by financial institutions are necessary" to "provide consistency," "to promote robust risk management and safety and soundness," "to reduce systemic risks," and "to support the stability of the broader financial system." Dodd-Frank § 802(a)(4).

227. See § 802 (findings and purposes of Dodd-Frank's Title VIII).

228. See NORDENBERG & LABONTE, *supra* note 176, at 15.

229. *Id.* Central banks are especially concerned with clearing systems: "Firstly, CCPs can enhance financial stability when they are working properly. Secondly, links between CCPs operating in different countries can foster financial integration across borders. Thirdly, because clearing houses use payment systems and other infrastructures operated by central banks to carry out their activities" HASENPUSCH, *supra* note 179, at 58.

the Federal Reserve had to rely upon a “patchwork of authorities, largely derived from [its] role as a banking supervisor, as well as on moral suasion.”²³⁰ As a result of Title VIII, however, the Federal Reserve now has enhanced statutory authority over these critical financial market systems. Second, it aims to strengthen “the liquidity of systemically important financial market utilities.”²³¹

2. Critical Definitions and Designations

Despite the brevity of its text, Title VIII’s foundational definitions and concepts are highly expansive and its application is far-reaching. Accordingly, this subpart reviews several critical definitions and concepts such as “financial market utility,” “financial transaction,” and “systemic importance” to illustrate the expansive impact and importance of Title VIII.

For example, Title VIII defines a financial market utility as “any person that manages or operates a multilateral system for the purpose of transferring, clearing, or settling payments, securities, or other financial transactions among financial institutions or between financial institutions and the person.”²³² This definition clearly includes financial market utilities such as CCPs.²³³ Because this definition is potentially expansive, it may also include financial institutions such as dealer banks in the OTC derivative markets and the two clearing banks in the tri-party repo markets²³⁴ to the extent that they perform certain payment, clearing, and settlement activities.²³⁵ For example, if bilateral counterparties do not use a CCP to

230. *Systemic Risks and the Financial Markets: Hearing Before the H. Comm. on Fin. Servs.*, 110th Cong. 11 (2008) (statement of Ben S. Bernanke, Chairman, Board of Governors of the Federal Reserve System), available at <http://www.gpo.gov/fdsys/pkg/CHRG-110hhr44900/pdf/CHRG-110hhr44900.pdf>.

231. Dodd-Frank § 802(b)(3).

232. § 803(6)(A).

233. The majority of the eight entities recently designated by the Financial Stability Oversight Council are clearinghouses. See U.S. Dep’t of the Treasury, *supra* note 35.

234. Note that banks, brokers, clearinghouses, and CCPs can all be involved in the clearing process. See HASENPUSCH, *supra* note 179, at 33.

235. My interpretation of the definition of “financial market utility” as including an individual financial institution other than what might explicitly be thought of as a “financial market utility,” such as a specific central clearing party, is reasonable based upon the exclusion of individual financial institutions—such as a broker or dealer—from the definition of “financial market utility” to the extent they are acting in certain, limited capacities. See Dodd-Frank § 803(6)(B)(ii). This exclusion would be unnecessary if it were clear that an individual financial institution such as a broker or dealer—financial institutions mentioned within this exclusion—could not possibly fall within the definition of “financial market utility.” The implication of this exclusion seems clearly to be that these individual institutions, if engaged in payment, settlement, or clearing activity or “critical risk management or processing

clear their OTC derivatives, then the transferring, clearing, and settlement of these transactions could occur within and between the financial institutions themselves.²³⁶ This would potentially enable a systemically important group of individual financial institutions to fit within Title VIII's definition of a "financial market utility." The definition of "financial market utility" is a critical concept because only "systemically significant" ones — as designated by the Financial Stability Oversight Council — can potentially be assisted by Title VIII's new last resort credit and liquidity authority. Consequently, Congress in Dodd-Frank has arguably granted the Federal Reserve the legal authority to assist an individual distressed nonbank financial institution in very limited, but possible, circumstances.

Another critical and expansive concept in Title VIII is "financial transaction."²³⁷ Because Title VIII leaves the term undefined, "financial transaction" potentially includes *any* private market security or financial asset in existence now or created in the future. As a Congressional Research Service Report explains,

In the future, new and evolving types of financial products, transactions and instruments could lead to new payment, clearing, and settlement systems and activities. It is notable that Title VIII does not consolidate or centralize authority for the approval of the formation of new utilities or PCS [payment, clearing, or settlement] activities within the Federal Reserve or any single regulatory agency.²³⁸

Consequently, Title VIII's financial market utility reforms could in the long run be relevant to a wide variety of future CCPs, financial market transactions, or payment, clearing, and settlement activities potentially even within individual financial institutions.²³⁹

functions" could potentially qualify as a designated "financial market utility." See generally Dodd-Frank § 803(6)(B)(ii).

236. See *supra* note 180.

237. The term "financial transaction" is only defined within and specific to the definition of "payment, clearing, or settlement activity" in Section 803(7)(b). See Dodd-Frank § 803(7)(b). The only specific exclusions from the definition of "financial transaction" are found in Section 803(6)(B). See § 803(6)(B).

238. NORDENBERG & LABONTE, *supra* note 176, at 7.

239. For example, the reforms could be relevant for CCPs created to clear highly risky OTC derivatives, "repos," or other types of financial assets. Note that the Federal Reserve Bank of New York solicited comments regarding whether "implementation of a central counterparty [would] be desirable in this [the tri-party repo] market." See THE FED. RESERVE BANK OF N.Y., TRI-PARTY REPO INFRASTRUCTURE REFORM 19 (2010), available at http://www.newyorkfed.org/banking/nyfrb_triparty_whitepaper.pdf.

“Systemic importance,” is yet another key concept because Title VIII’s financial market utility mandates only apply to entities so designated by the Financial Stability Oversight Council.²⁴⁰ In essence, “systemically important”²⁴¹ financial market utilities are those whose distress risks triggering serious credit or liquidity disruptions in financial market plumbing, potentially creating catastrophic financial market instabilities.²⁴² However, in defining this critical concept, Title VIII’s language is highly expansive, providing a broad list of factors for the Council to consider in making such designations, including the sums involved, the aggregate risk exposures, interdependencies, and potential negative externalities, as well as “[a]ny other factors that the Council deems appropriate.”²⁴³

Designating a financial market utility as “systemically important” generally requires the Council to provide advance notice to the financial market utility and an opportunity for a hearing.²⁴⁴ Title VIII waives this advance notice requirement in emergency circumstances, provided that at least two-thirds of the Council members, including the Secretary of the Treasury, vote for this designation.²⁴⁵ The importance of the possibility of an emergency designation is

240. The Financial Stability Oversight Council (Council) is responsible for designating financial market utilities that are “systemically important” or of “systemic importance” via a prescribed voting procedure. See *Authority to Designate Financial Market Utilities as Systemically Important*, 76 Fed. Reg. 44,763, 44,763–76 (July 27, 2011) (to be codified at 12 C.F.R. ch. 13 and pt. 1320), available at <http://www.gpo.gov/fdsys/pkg/FR-2011-07-27/pdf/2011-18948.pdf>. The Council very recently made its first such designations and termed eight financial market utilities as “systemically important.” See Press Release, Dep’t of the Treasury, Financial Stability Oversight Council Makes First Designations in Effort to Protect Against Future Financial Crisis (July 18, 2012), available at <http://www.treasury.gov/press-center/press-releases/Pages/tg1645.aspx>.

241. Dodd-Frank defines both terms—“systemically important” and “systemic importance”—as

a situation where the failure of or a disruption to the functioning of a financial market utility or the conduct of a payment, clearing, or settlement activity 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 of the United States.

Dodd-Frank § 803(9).

242. See § 804(a)–(b) (requiring “a vote of not fewer than 2/3 of members then serving [on the Council], including an affirmative vote by the Chairperson of the Council [the U.S. Treasury Secretary]” for this designation or its rescission). Note that Dodd-Frank also provides a procedure for emergency designations. § 804(c)(3). Additionally, Title VIII also provides opportunities for consultation, notice, and hearing in regard to such designation. See § 804(c).

243. § 804(a)(2). Before designating a financial market utility as “systemically important,” the Council must generally provide for advance notice and an opportunity for hearing. § 804(c).

244. Dodd-Frank § 804(c)(1)–(2).

245. § 804(c)(3).

that during a financial crisis, financial market utilities such as CCPs or potentially even individual financial institutions not previously designated as “systemically important” (and, therefore, not subject to heightened regulatory supervision as a result of such designation) could receive Title VIII’s last resort lending assistance (emergency credit and liquidity) without first incurring its burdens (additional supervision and regulation) although they should be regulated accordingly in the future.

3. Supervision and Risk Mangement

A key purpose of Title VIII is to grant financial regulators—the CFTC, SEC, and the Federal Reserve²⁴⁶—authority to prescribe risk management standards for and enhanced supervisory authority over designated financial market utilities and payment, clearing, and settlement activities.²⁴⁷ Section 805 of Dodd-Frank provides both the “objectives and principles” of such supervision: (1) promote robust risk management; (2) promote safety and soundness; (3) reduce systemic risks; and (4) support the stability of the broader financial system.²⁴⁸ The “scope” of such standards is extensive, encompassing considerations such as “risk management policies and procedures,”²⁴⁹ “capital and financial resource requirements for designated financial market utilities,”²⁵⁰ and even including “other areas that are necessary to achieve the [aforementioned] objectives and principles.”²⁵¹

Title VIII mandates that designated financial market utilities comply with the risk management standards set by the financial regulators.²⁵² The Federal Reserve recently approved a final rule “establishing risk-management standards for certain financial market utilities (FMUs) designated as systemically important.”²⁵³

246. This responsibility will lie in the first instance with the financial regulator primarily responsible for such entity’s supervision.

247. See §§ 805, 807.

248. § 805(b).

249. § 805(c)(1).

250. § 805(c)(5).

251. Dodd-Frank § 805(c)(6).

252. § 805(f).

253. See Press Release, Bd. of Governors of the Fed. Reserve Sys., Federal Reserve System Announces Final Rule Establishing Risk-Management Standards for Financial Market Utilities (FMUs) Designated as Systemically Important by the Financial Stability Oversight Council (July 30, 2012), available at <http://www.federalreserve.gov/newsevents/press/bcreg/20120730a.htm>.

4. The Federal Reserve's New Last-Resort Lending Authority

Section 806 of Title VIII contains several critical new legal changes that significantly expand the explicit reach of the federal safety net. First, the Federal Reserve is now authorized to provide certain services such as Fedwire to designated financial market utilities.²⁵⁴

Second, the Federal Reserve “may authorize a Federal Reserve Bank to establish and maintain an account for a designated financial market utility.”²⁵⁵ At the Federal Reserve’s discretion, any account balances held by a designated financial market utility in a Federal Reserve Bank (Reserve Bank) are eligible to receive “earnings on balances . . . in the same manner and to the same extent as . . . a depository institution.”²⁵⁶ But the Federal Reserve can also exempt these accounts from the mandated reserve requirements applicable by statute to all depository institutions.²⁵⁷ Account and payment services for financial market utilities represent a “substantial change from current law, which restricts the use of Reserve Bank accounts and payments services to depository institutions . . . and certain other institutions.”²⁵⁸ These changes largely harmonize the U.S. system with international standards.²⁵⁹ As argued in Part IV, mandated reserves or some type of collateral requirements should also be applicable to designated financial market utilities.

Third, and perhaps most critically, Section 806 grants the Federal Reserve the authority to provide credit or liquidity assistance (i.e., to provide last resort lending) to designated financial market utilities in “unusual or exigent circumstances.”²⁶⁰ Before providing this assistance, the Federal Reserve must: 1) consult with the Treasury Department, 2) obtain approval by the majority of the Board of Governors of the Federal Reserve, and 3) find that the financial market utility “is unable to secure adequate credit accommodations

254. Dodd-Frank § 806(a). The relevant services are delineated in 12 U.S.C.A. § 248a(b) (West 2012).

255. Dodd-Frank § 806(a).

256. § 806(c).

257. § 806(d).

258. Paulson and Wells, *supra* note 217, at 2 n.8.

259. *See id.* at 3. The authors explain that “[a] system of settlement through central bank accounts to eliminate credit or liquidity risk is in line with international standards set by the Bank for International Settlements and the International Organization of Securities Commissions and recent recommendations from the International Monetary Fund.” *Id.*

260. Dodd-Frank Section 806(b).

from other banking institutions.”²⁶¹ Additionally, the Board of Governors may create any “other limitations, restrictions, and regulations”²⁶² that it deems appropriate.

Title VIII does not define what constitutes such “unusual or exigent” circumstances. Given the robust history and systemic importance of CCPs, almost any type of financial disruption or distress could arguably constitute at least an “unusual,” if not “exigent” circumstance—in other words, any circumstance other than business as usual. By describing the requisite circumstances required to trigger Title VIII’s last resort lending disjunctively, using “or” rather than “and” (“unusual or exigent circumstances”), the statutory text permits a potentially expansive interpretation of what constitutes the requisite circumstances. This effect is underscored by the fact that when the words “unusual” and “exigent” are used together elsewhere in banking regulation, such as in the Federal Reserve’s 13(3) emergency statutory authority discussed above, they are instead generally joined by the conjunctive “and.”²⁶³

Senate draft financial reform proposals suggested providing “CCPs with routine access to the Federal Reserve’s discount window.”²⁶⁴ Title VIII’s use of the disjunctive “or” rather than “and” suggests that Dodd-Frank somewhat moves in the direction of implementing this objective.²⁶⁵ A contribution of this Article is to

261. *Id.* (“The Board of Governors may authorize a Federal Reserve Bank . . . to provide to a designated financial market utility discount and borrowing privileges only in unusual or exigent circumstances, upon the affirmative vote of a majority of the Board of Governors then serving . . . after consultation with the [Treasury] Secretary, and upon a showing by the designated financial market utility that it is unable to secure adequate credit accommodations from other banking institutions.”). In the event that a reduced number of the members of the Board of Governors are available to vote, then 12 U.S.C. § 5465(b) directs that voting procedures in 12 U.S.C. § 248(r) be followed. *See* 12 U.S.C.A. § 5465(b) (West 2012).

262. Dodd-Frank § 806(b).

263. The phrase “unusual and exigent” is used in 12 U.S.C. §§ 248, 343, 355 (2006). The phrase “unusual or exigent” is used in 12 U.S.C. § 5465(b), which is Title VIII’s new emergency authority. *See* 12 U.S.C. § 5465(b). Note that 12 U.S.C. § 5612 (“Emergency financial stabilization”) uses the language “unusual and significant,” 12 USC §1820 (administration of FDIC) uses the language “emergency or under other exigent circumstances,” 12 USC § 1715z-9 (“Co-insurance of eligible mortgage, advance, or loans”) uses the language “unusual or catastrophic,” and 12 U.S.C. § 1795 (definitions relevant to a central liquidity facility in context of credit unions) uses the language “unusual or emergency.”

264. *See* Jeremy C. Kress, *Credit Default Swap Clearinghouses and Systemic Risk: Why Centralized Counterparties Must Have Access to Central Bank Liquidity*, 48 HARV. J. ON LEGIS. 49, 88 (2011).

265. As noted, use of Title VIII’s last resort lending assistance does require consultation with the U.S. Treasury, a requisite vote by the Board of Governors, and a finding that market alternatives are not available. Dodd-Frank Section 806(b). These prerequisites do not apply to depository institutions with routine access to the Federal Reserve’s discount window. On the other hand, routine access by depository institutions to the Federal Reserve’s discount window does not entail the transparency and accountability requirements now made applicable by Dodd-Frank in the use of the Federal Reserve’s 13(3) emergency power, but not in the use of the Federal Reserve’s Dodd-Frank Title VIII lending authority. To the extent that Title

highlight Title VIII's use of the textual disjunction and to argue that, as a result, Title VIII's new last resort lending authority could grant designated financial market utilities such as CCPs non-emergency access to the Federal Reserve's discount window (assuming that all of the other prerequisites to its use, which were noted above, were met).

Another reason that Title VIII somewhat inches in the direction of providing bank-like discount window access to certain financial market utilities is because the statutory text authorizes the Federal Reserve "to provide . . . discount and borrowing privileges only in unusual or exigent circumstances" under "section 10B of the Federal Reserve Act (12 U.S.C. 347b)."²⁶⁶ The statutory text further states that "[a]ccess to discount and borrowing privileges under section 10B of the Federal Reserve Act as authorized in this section does not require a designated financial market utility to be or become a bank or bank holding company."²⁶⁷ Section 10B generally addresses "[a]dvances to individual member banks."²⁶⁸ In contrast, the statutory text of the Federal Reserve's 13(3) emergency authority uses the word "discount,"²⁶⁹ but not "privileges." And it refers only to "section 14, subdivision (d)"²⁷⁰ of the Federal Reserve Act, not to section 10B. When the differences noted above between the Federal Reserve's 13(3) emergency power and its new Title VIII last resort lending authority are combined with 1) the possibility of designated financial market utilities having accounts at the Federal Reserve and of using certain Federal Reserve services, 2) the possibility of such accounts receiving "earnings on balances" as in the case of depository institutions, and 3) the possibility of being exempted from reserve requirements applicable to all depository institutions, Title VIII's last resort lending authority appears to lie somewhere between the Federal Reserve's 13(3) emergency authority and depository institution access to the discount window. Finally, unlike in the case of its 13(3) emergency authority, the Federal Reserve will already have some supervisory and enforcement powers ex-ante—in

VIII also does not entail such transparency and accountability mandates, the Federal Reserve's new Title VIII last-resort lending authority seems to occupy a hybrid position between routine discount window access and the Federal Reserve's 13(3) emergency authority.

266. § 806(b).

267. *Id.*

268. See 12 U.S.C.A. § 347b (West 2012), which is entitled "Advances to individual member banks on time or demand notes; maturities; time notes secured by mortgage loans covering one to four family residences."

269. See 12 U.S.C.A. § 343 (West 2012). Section 14, subsection (d) is entitled "Establishment of rates of discount."

270. See 12 U.S.C.A. § 343 (West 2012).

the absence of an emergency designation—over designated financial market utilities.²⁷¹ All of these considerations also strengthen the argument in Part III that Title VIII’s new last-resort lending authority transforms the Federal Reserve’s last-resort role.²⁷²

Finally, an ambiguity in Title VIII’s new last resort lending authority is its potential conflict with Section 716 of Dodd-Frank. Section 716 prohibits Federal assistance “to any swaps entity with respect to any swap, security-based swap, or other activity of the swaps entity.”²⁷³ However, Title VIII seems to allow for the possibility of Federal assistance to a financial institution that could potentially be categorized as both a “financial market utility” and as a “swaps entity.” Congress should clarify this ambiguity.

In sum, when Title VIII’s new last-resort lending authority is combined with its related extension of Fedwire and account services to designated financial market utilities, these changes constitute a potentially significant, explicit expansion of the federal safety net. This expansion could significantly increase potential moral hazard in the financial system,²⁷⁴ which could in turn distort the pricing of financial risk, lead to excessive risk-taking, and eventually culminate in another financial crisis.

As CCPs and their robust risk management practices evolved in part to protect against the materialization of “tail risk”—the small probability of a potentially catastrophic occurrence²⁷⁵—it is imperative that the moral hazard incentives introduced by this new potential government backstop not reverse the lauded history of CCP risk management practices. This is particularly important in regard to their long-standing practice of mutualization of risk among clearing members, which promotes strong mutual monitoring incentives among clearing members. Thus, additional reforms, such as those proposed in Part IV, are needed to minimize this risk.

271. See generally Dodd-Frank §§ 805, 807.

272. Dodd-Frank § 806(b).

273. § 716(a).

274. Federal Reserve Chairman Ben Bernanke has remarked in a speech that “[a]s is well understood, the existence of emergency credit facilities for financial market utilities could give rise to moral hazard (for example, in the form of insufficient attention by clearinghouses to establishment of private-sector liquidity arrangements in advance of a crisis).” Bernanke, *supra* note 33.

275. Tail risk is the risk that AIG was insuring by selling credit protection via credit default swaps to the market-based credit system. See generally RAJAN, *supra* note 45, at ch. 7.

5. Examination and Enforcement Authority

Title VIII also provides financial regulators²⁷⁶ with heightened examination and enforcement authority over designated financial market utilities and accords emergency enforcement powers to the Federal Reserve.²⁷⁷ Many of these supervisory, regulatory, and enforcement authorities resemble those the Federal Reserve has in regard to certain banking institutions. This section also delineates procedures financial market utilities must follow should they wish to make any “changes to rules, procedures, or operations,” including in emergency circumstances.²⁷⁸ The purpose of this additional authority is to provide regulators with the ability to ensure that designated financial market utilities are strictly adhering to robust risk management practices. Compliance with these exacting standards is essential to minimizing the moral hazard that could result from Title VIII’s expansion of the federal safety net.

Title VIII also grants the Financial Stability Oversight Council the authority to request information, reports, and records from designated financial market utilities.²⁷⁹ It also permits the dissemination of “confidential supervisory information and other information obtained under” Title VIII to a variety of domestic and international regulators—including foreign finance ministers—if deemed appropriate and “reasonable assurances” of confidentiality are made by the recipients of this information.²⁸⁰ Finally, Title VIII exempts such confidential supervisory information and also “any materials prepared by the Board of Governors, the Supervisory Agencies, or the Council regarding their assessment of the systemic importance of financial market utilities” from disclosure under 12 USC § 552, the Freedom of Information Act.²⁸¹

276. The financial regulators involved here are the Commodities Futures Trade Commission (CFTC), the Securities Exchange Commission (SEC), and the Federal Reserve. Some designated financial market utilities will be registered with the CFTC, others with the SEC, and if registered with neither of these two, then the Federal Reserve will be its primary supervisor. *See* Dodd-Frank §§ 803(8), 805. In such cases, the Federal Reserve will primarily play a back-up supervisory role. *See* Dodd-Frank §808(e).

277. Dodd-Frank § 807(f).

278. § 806(e).

279. § 809(a)(1).

280. § 809(e).

281. § 809(g).

6. Summary

Through Dodd-Frank's Title VIII, Congress has implemented several important legal changes regarding financial market utilities. In addition to providing financial regulators with new supervisory, examination, and enforcement powers, it grants the Federal Reserve the authority to provide account services, Fedwire, and possibly last resort lending to financial entities designated as systemically significant financial market utilities by the Financial Stability Oversight Council. These changes significantly expand the explicit scope of the federal safety net.

In sum, Title VIII implements many measures to promote financial market stability. Absent from Title VIII, however, are reform measures sufficient to minimize the potential moral hazard and mispricing of financial risk that could be created by these stability-oriented reforms. Title VIII does not mandate that designated financial market utilities, such as systemically significant CCPs, make any type of insurance payment or pay a risk premium for the potential catastrophic insurance assistance Title VIII could provide such institutions. Nor does Title VIII restrict the types of financial market transactions that systemically significant financial market utilities may clear. It also lacks any provisions that require the valuation of, or that place restrictions on, the types of collateral acceptable to secure Title VIII's credit and liquidity assistance, except that it be "secured to the satisfaction of"²⁸² the Federal Reserve. Moreover, Title VIII does not implement sufficient transparency or accountability measures to accompany its use.

III. THE FEDERAL RESERVE AS MARKET-MAKER OF LAST RESORT

The purpose of this Part is to argue that through Title VIII's grant of a new last resort lending authority to the Federal Reserve, Congress has permanently transformed the Federal Reserve's last-resort role to not only include lender of last resort, but also to include market-maker of last resort.²⁸³ First, Title VIII's last resort

282. See 12 U.S.C.A. § 347b (West 2012).

283. In 2009, Willem Buiter wrote, "In view of the problems created by the opaque over-the-counter markets in certain kinds of derivatives (e.g., credit default swaps (CDS)), centralized trading platforms, perhaps with a market-maker of last resort, and with transparent clearing, settlement and custodial services—providing rules and arrangements will have to be created for many of these derivatives." Willem Buiter, *Too Big to Fail Is Too Big*, WILLEM BUITER'S MAVERECON (June 24, 2009, 3:03 AM), <http://blogs.ft.com/maverecon/2009/06/too-big-to-fail-is-too-big/#axzz23NUpEPZN>. Trading platforms have no need of a market-maker of last resort. It is the clearing of these trades via central clearing parties that seems to

lending authority potentially institutionalizes the Federal Reserve's rescue and backstop of AIG, an institution which assumed a pre-crisis role of private market-maker of last resort in the market-based credit system.²⁸⁴ In rescuing AIG,²⁸⁵ "[t]he Fed was beginning to do, in its own small way, what AIG had been doing in a much bigger way. It was beginning to act as dealer of last resort to the capital market."²⁸⁶

To prevent "future AIGs," Dodd-Frank's Title VII OTC derivative market reforms²⁸⁷ mandate that "standardized" OTC derivatives, including credit default swaps, use CCPs to strengthen risk management practices and to increase regulatory transparency. Yet it is unclear that AIG's CDS were actually "clearing eligible,"²⁸⁸ and it seems likely that the lax risk management practices involved in its story stemmed at least in part from counterparties' comfort in a deep-pocketed parent guarantor armed with an impeccable credit rating. When the Federal Reserve rescued AIG, this formerly private backstop became a public backstop. Title VIII's new last resort lending power potentially institutionalizes this role. It risks replicating this "guarantor dynamic" by potentially replacing one deep-pocketed guarantor (AIG) with another (the U.S. government in the form of the Federal Reserve).

Second, because Title VIII contains no restrictions on the types of financial transactions handled by systemically significant financial market utilities, it likely expands the variety of private market assets which will be available to collateralize any discount window

suggest why a market-maker of last resort is arguably necessary if a CCP requires emergency liquidity.

284. See generally MEHRLING, *supra* note 1, at 132–34.

285. In September 2008, AIG Financial Products Group (AIGFG) faced imminent financial collapse as its credit-default swap (CDS) counterparties demanded collateral payments it could not meet. Its parent, AIG, had guaranteed these obligations. A credit default swap is an insurance-like financial contract in which a protection "buyer" pays a premium to a protection "seller" to receive a certain payout if a credit event occurs for a designated entity. These same counterparties had previously relaxed their risk management practices and rested secure in guarantees provided by AIGFG's parent, AIG. Without emergency government financial assistance, AIG itself would have collapsed. See generally William K. Sjostrum, Jr., *The AIG Bailout*, *Washington & Lee Law Review* (2009).

286. MEHRLING, *supra* note 1, at 132.

287. See Dodd-Frank, Pub. L. No. 111-203, §§ 801–814, 124 Stat. 1376, 1802–22 (2010).

288. Finance experts such as Professor Darrell Duffie note that AIG's problematic CDSs were not "standardized," so a CCP "solution" would have been inapplicable in AIG's case. See Darrell Duffie, *How Should We Regulate Derivatives Markets?* (PEW Fin. Reform Project, Briefing Paper No. 5, 2009), available at http://www.pewfr.org/project_reports_detail?id=0017. Note that what percentage of the OTC derivative markets will ultimately be sufficiently standardized and, therefore, "clearing eligible" remains unclear.

assistance. In an “unusual or exigent” circumstance, it is foreseeable that the collateral available to secure discount window assistance to such entities is likely to be a broad variety of financial transactions or private market securities. To see why this could be the case, it is important to understand what would happen in the event that a systemically important CCP were to become distressed.

A systemically significant CCP will most likely face financial distress as a result of default by one or more clearing members who are unable to perform their obligations.²⁸⁹ While the CCP has recourse in its ability to sell the defaulting member(s)’ portfolio(s), market liquidity conditions may force it to do so at a significant price discount. This is exactly when a market-maker of last resort would likely step in to provide a price floor to the portfolio’s assets. Therefore, it is foreseeable that the distressed CCP could offer the defaulting clearing member’s portfolio as collateral to secure discount window funding.

Third, Title VIII’s last-resort lending authority is specifically targeted to assist financial market utilities such as CCPs. As discussed in Part II, although one important function of a CCP is to increase market liquidity. Systemically significant CCPs can be expected to play a particularly important role in promoting market liquidity. Therefore, the legal authority in “unusual or exigent circumstances” to provide liquidity to designated, systemically significant institutions promoting market liquidity makes the Federal Reserve an important potential last resort liquidity provider.

Fourth, Title VIII’s credit and liquidity authority can potentially be used to backstop many components of the market-based credit system. One example is the repurchase agreement markets. The market-based credit system primarily consists of repurchase agreements collateralized by securitized assets.²⁹⁰ Discussions about reforms of the repurchase agreement markets often consider the use of CCPs.²⁹¹ The two clearing banks in the tri-party repo markets are essentially default CCPs that could fit within Title VIII’s definition of “financial market utility.” In both cases, the Federal Reserve could potentially use its new last-resort lending authority to ameliorate any critical disruptions in these markets, assuming proper designations and fulfillment of prerequisite requirements. As noted in

289. Technically, a CCP could face distress for other reasons, such as operational issues.

290. See generally Gary B. Gorton, *supra* note 3.

291. See, e.g., JEFF PENNEY, OUT OF THE SHADOWS: CENTRAL CLEARING OF REPURCHASE AGREEMENTS 56–57 (2011), available at http://hosting.mckinsey.com/client-service/Financial_Services/Knowledge_Highlights/Recent_Reports/~/_media/Reports/Financial_Services/CIB_Repo.ashx.

Part II.B.2, Title VIII does not limit the types of private market securities or assets that are able to potentially receive its assistance.

Though Title VIII's new last-resort lending authority and the market-maker of last-resort role it creates for the Federal Reserve might appear to be merely a repositioning of the Federal Reserve's pre-Dodd-Frank 13(3) emergency authority, several critical differences exist between these two powers as discussed in the previous Part. Additionally, Title VIII's credit and liquidity authority is created specifically for financial market utilities, especially those providing financial market liquidity. Unquestionably, therefore, its role is to provide last-resort market liquidity to systemically important financial market utilities. Based upon the Financial Stability Oversight Council's initial designations of systemically important financial market utilities, the immediate intended target of Title VIII's reforms, including its new credit and liquidity authority appears primarily to be CCPs.

Finally, if Title VIII's last resort lending authority merely replicates the Federal Reserve's traditional 13(3) emergency power, Congress could simply have noted in the statutory language that the Federal Reserve's 13(3) power may also be used to assist certain financial market utilities. Congress could have provided an exemption for designated financial market utilities in Dodd-Frank's amendments to the Federal Reserve's 13(3) emergency authority, which now require that the 13(3) power only be used for "programs or facilities." As argued in Part II, it is unclear whether Title VIII's credit and liquidity authority is actually restricted to emergency circumstances. It is for use in "unusual or exigent circumstances," but not subject to the more restrictive "unusual and exigent circumstances" as in the case of the Federal Reserve's 13(3) emergency authority. Unless and until Congress harmonizes this difference, a significant legal difference will exist between these powers based upon this fact alone. Therefore, in practice, Title VIII's expansive definitions, concepts, and sweeping legal reforms result in a significant, permanent, new expansion of the last-resort role of the Federal Reserve.

This transformation is particularly notable because of the importance of normative questions about the proper scope of the Federal Reserve's last-resort role and its discount window policy. The purpose of this Article is not to settle normative questions about whether the Federal Reserve *should* be a market-maker of last resort or the proper discount window policy, but rather to delineate the financial utility reforms in Dodd-Frank's Title VIII and to argue that

these reforms in practice importantly transform the role of the Federal Reserve. Because the Federal Reserve's new last resort role is here to stay, at least for the foreseeable future, the aim of the next Part is to propose additional reforms Congress fell short of implementing that are necessary to accompany those it did implement in Title VIII in order to promote the congressional objectives underlying Dodd-Frank.

IV. REFORMS NEEDED TO ACCOMPANY THE FEDERAL RESERVE'S NEW TITLE VIII ROLE OF MARKET-MAKER OF LAST RESORT

Opposition to the idea of a central bank acting as a market-maker of last resort rests primarily in concerns about moral hazard, decreased market discipline, and the potential for the mispricing of financial risk. In the recent financial crisis, mispricing of financial risk likely resulted from inadequate understandings of various financial risk-taking activities²⁹² and widespread financial market assumptions that governments would not allow financial institutions to fail whose failure could have significant negative externalities on the financial system and broader economy.²⁹³ Importantly, Title VIII risks both strengthening such assumptions and inadvertently contributing to the further mispricing of liquidity risk. Therefore, Congress should implement additional reforms, such as those proposed in this Part, to counterbalance these risks and promote the objectives of Dodd-Frank.

Banking law, regulation, and policy have traditionally accepted, as the social "price" of a robust, solvent banking system, a tradeoff between the creation of a certain amount of moral hazard, the related mispricing of financial risk, and federal stabilization of the traditional banking system. The traditional banking system is heavily regulated. Because of the presence of the federal safety net, traditional banking institutions have always grappled with an implicit tension between prudent risk management and shareholder profit. This is one reason banks are heavily supervised and regulated. Now that the federal safety net has been potentially extended to systemically important financial market utilities such as certain CCPs, these institutions will likely also struggle with this same tension.

292. Coffee, *supra* note 204, at 822-23.

293. See generally RAJAN, *supra* note 45, at 160.

Accordingly, this Part proposes additional reforms to accompany those in Title VIII. These proposed reforms are designed to counterbalance the moral hazard and related pricing distortions that Title VIII's existing reforms could potentially create. These reforms also aim to further promote stringent risk management practices. Accordingly, Congress should implement reforms that include (1) additional financial mandates, including required reserve balances for any accounts at the central bank and the payment of a systemic liquidity risk "insurance" premium; (2) increased disclosure and accountability surrounding the use of Title VIII's last resort lending authority; (3) infrastructure reforms of financial markets and institutions where Title VIII's last resort lending authority is most likely to be used; and (4) increased second-to-last-resort private market sources of liquidity.²⁹⁴

A. Additional Financial Requirements

By providing a staggering amount of emergency liquidity to financial markets during the financial crisis,²⁹⁵ governments potentially contributed to the further mismanagement and underpricing of liquidity risk.²⁹⁶ This is because such actions reinforced financial market expectations of central bank intervention. Title VIII's new last resort lending authority risks similarly reinforcing financial markets' anticipation of Federal Reserve assistance, especially if it is not an emergency authority.²⁹⁷ Few financial market participants likely believe that a too-big-to fail bank would be allowed to fail. Even fewer likely believe this in the case of a systemically important CCP. Therefore, given the inescapable tension between financial

294. A 1994 Chicago Federal Reserve Letter noted that "[a]t this date, attention has focused on the operating procedures [of clearinghouses] with little recognition of the power brought to bear when loss-sharing arrangements cause private firms to have loss exposures stemming from systemic problems." James T. Moser, *What is Multilateral Clearing and Who Cares?*, CHI. FED LETTER, Nov. 1994, at 3, available at http://qa.chicagofed.org/digital_assets/publications/chicago_fed_letter/1994/cfnovember1994_87.pdf. One reason CCP risk management practices have been historically robust is precisely because of private market risk sharing through the practice of risk mutualization. See generally NORMAN, *supra* note 21. The potential of public assistance to certain CCPs risks weakening private market participants' long standing monitoring incentives stemming from this risk mutualization.

295. See INT'L MONETARY FUND, *supra* note 59, at 76.

296. See RAJAN, *supra* note 45, at 159–60.

297. If Title VIII's new credit and liquidity authority is not an emergency authority, but rather provides designated financial market utilities with access to the discount window in non-emergency circumstances—as in the case of depository institutions—then such designated entities should be supervised and regulated similarly to depository institutions. In this case, the language in Title VIII stating that systemically significant financial market utilities need not be a bank or a bank holding company should be removed. See § 806(b).

market stability and the creation of moral hazard, the best solution is likely to implement measures to minimize pricing distortions.²⁹⁸ The optimal way to implement such solutions is with reforms designed to “reprice” relevant financial transactions. This is the objective of the reforms proposed in this subpart.

1. Required Reserve Balances

Historically, the ability to maintain Federal Reserve bank accounts and to access Federal Reserve services has been limited to traditional depository institutions.²⁹⁹ This has also been the case with non-emergency access to the discount window. Title VIII “substantial[ly] change[d]” the law by permitting the Federal Reserve to allow financial market utilities both to have accounts at Federal Reserve banks³⁰⁰ and to utilize Federal Reserve services such as Fedwire, a component of the federal safety net.³⁰¹

However, Title VIII does not mandate reserve requirements for designated financial market utilities as federal law does in the case of all depository institutions. Yet CCPs can default for many reasons, including “the default of an investment counterparty.”³⁰² Instead, Title VIII states that the Federal Reserve “may exempt a designated financial market utility from, or modify any, reserve requirements . . . applicable to a designated financial market utility.”³⁰³ Congress should remove this exemption. Required reserves seem especially reasonable since the Federal Reserve “may pay earnings on balances maintained by or on behalf of a designated financial market utility in the same manner and to the same extent as the Federal Reserve Bank may pay earnings to a depository institution.”³⁰⁴ If designated financial market utilities are eligible to receive many of the benefits of traditional depository institutions, they should also share parallel regulatory burdens. One reason reserve requirements are mandated is because of liquidity risk and

298. See generally RAJAN, *supra* note 45, at 159 (arguing that “[t]he concerns during the recent crisis centered primarily on the underpricing of risk. Once again, it would be tempting but wrong to blame competition between banks. The right approach would be to reduce the various distortions to the pricing of risk that stem from actual and potential government intervention, as well as from herd behavior.”)

299. See Paulson & Wells, *supra* note 217, at 2.

300. *Id.* (emphasis added).

301. See *supra* note 89.

302. See *supra* note 205.

303. Dodd-Frank § 806(d).

304. § 806(c).

traditional depository institutions' access to the federal safety net.³⁰⁵ Although not their only function,³⁰⁶ mandated reserve requirements bolster the liquidity position of depository institutions. Similarly, the liquidity positions of systemically significant financial market utilities should be as robust as possible. Required reserves could promote this objective. Accordingly, Congress should remove this potential exemption.

Depository institutions not subject to reserve requirements have also traditionally not had access to the discount window.³⁰⁷ In fact, certain types of banks "voluntarily" agree to maintain reserve requirements in exchange for discount window access.³⁰⁸ But just as depository institutions are vulnerable to bank runs, so also are some types of financial market utilities such as CCPs. And the potential consequences of a systemically significant CCP experiencing a liquidity shortfall or run are much more worrisome than in the case of a traditional banking institution.

A reserve requirement for systemically significant financial market utilities would accomplish at least three purposes. First, it would create an extra liquidity cushion for designated financial market utilities in times of financial distress. Second, any excess reserve account balances at the central bank of designated financial market utilities could also be traded among systemically significant financial market utilities to meet any funding shortages. This would create an important second-to-last private market backstop that should be implemented. A similar interbank market exists in which banks trade excess reserve balances with each other.³⁰⁹

Third, a mandated reserve requirement would begin to establish the foundation for a key domestic (and eventually international) financial market infrastructure component: an international private-market, second-to-last resort, publicly overseen backstop mechanism for systemically significant CCPs. For example, the establishment of central bank liquidity swap lines between central banks and CCPs has been proposed as a way to meet foreseeable future last-resort liquidity needs by international CCPs.³¹⁰ Of

305. See generally Alan Greenspan, Subsidies and Powers in Commercial Banking, Remarks at the Annual Conference on Bank Structure and Competition 10–11 (May 10, 1990), available at http://fraser.stlouisfed.org/docs/historical/greenspan/Greenspan_19900510.pdf.

306. As noted in Part II, required reserves also play a role in monetary policy.

307. FED. RESERVE BD., *supra* note 80, at 49.

308. *Id.*

309. The unsecured, overnight interest rate that banks charge one another in this market is known as the federal funds rate. *Id.* at 16.

310. See generally Colleen Baker, The Federal Reserve's Use of International Swap Lines (working paper) (on file with author). See also Michael Watt, *How the CCP Location Debate*

course, only the Federal Reserve is in a position to act as an international dollar lender of last resort. Rather than rely upon central bank last-resort lending in the first instance, pressure should be placed on the private market, which originally developed the CCP, to focus additional resources upon developing second-to-last-resort international private market liquidity backstops.

Being a “lender of last resort” makes the Federal Reserve the “bank” of last resort. Similarly, being a market-maker of last resort makes the Federal Reserve in certain important respects the “central clearing party of last resort.” With its central bank liquidity swap lines, the Federal Reserve has become the international dollar lender of last resort.³¹¹ If the Federal Reserve were to be called upon and actually provide last-resort dollar funding to foreign-located CCPs, then it would truly have become the last resort.³¹²

Because the Federal Reserve in its new role could potentially assume certain important functions of a CCP, it should also internally implement some of CCPs traditional risk management practices that have worked so well for so long in protecting the capital of private market CCPs.³¹³ Consequently, the Federal Reserve’s own last-resort funding—which parallels a private CCP’s capital—should only be tapped once all other risk management layers and possibilities had been exhausted. Within this framework, CCP central bank accounts with mandated reserves or similar liquidity or collateral requirements would parallel clearinghouse members’ required margin accounts at individual private market CCPs.

Many CCPs also have default funds that are tapped once the individual margin account of a defaulting clearing member is

Helped Split the EU, RISK.NET (Jan. 10, 2012), <http://www.risk.net/risk-magazine/feature/2134744/ccp-location-debate-helped-split-eu> (“Central banks already funnel liquidity to their counterparts [via swap lines] when an injection of a given currency is needed, and some regulators argue similar swap lines between central banks could be set up to support CCPs in the event of a crisis.”).

311. *Id.*

312. The reasonableness of this future possibility is suggested by 12 U.S.C. § 248(s)(4)(B), which defines the term “covered transaction” for purposes of Federal Reserve lending transactions that must be generally disclosed within a two-year period. *See* 12 U.S.C.A. § 248(s)(2)(B), (4)(B) (West 2012). Included within the definition of “covered transaction” is “any open market transaction with a nongovernmental third party conducted under the first undesignated paragraph of section 14 [12 U.S.C. § 353].” This statutory provision—12 U.S.C. § 353—is a primary component of the Federal Reserve’s swap line authority. *See generally* Colleen Baker, *The Federal Reserve’s Use of International Swap Lines* (unpublished article) (on file with author).

313. This solution is proposed based on existing regulatory reforms, not necessarily on what would be the ideal reform solution.

exhausted.³¹⁴ This risk management mechanism could be replicated within the central bank by pooling the required reserves of non-defaulting CCPs to create a default fund of private market emergency credit and liquidity assistance, available at a penalty rate to financially distressed, systemically significant CCPs. The CCP could make *ex ante* arrangements among its clearing members to absorb the cost of this assistance. As part of this central bank-supervised, second-to-last-resort private rescue, it would be helpful for CCPs and other industry players to agree beforehand on a mechanism for rescuing or buying a defaulting CCP's portfolio if necessary.³¹⁵ Finally, as part of this risk management arrangement, financial regulators should ensure that all systemically important CCPs publicly disclose enough information to financial markets about their financial condition to enable robust market monitoring and the creation of a market for CDS on CCPs as discussed below.

At least two considerations are highly relevant to implementing a reserve requirement for designated financial market utilities. First, providing central bank credit and liquidity threatens to decrease or obviate traditional private market risk-sharing or mutualization practices that have long characterized CCP design. Risk management was a fundamental motivation behind the private market's original development of CCPs.³¹⁶ Replicating these layers of risk management at the central bank, which in some respects would be a counterparty of last resort, could reinforce this private market risk management mechanism.

Second, requiring the use of a CCP to clear complex OTC derivatives and other financial transactions physically localizes global financial market trading activity in a particular jurisdiction. This could shift a disproportionate amount of the potential "rescue costs" of international financial markets to certain jurisdictions. Furthermore, this could allow one corporation owning CCPs in different jurisdictions to possibly arbitrage regulatory differences. Clearly, it is essential to recognize both the inevitable international linkages among CCPs and the likely potential risk of international "runs" on CCPs in the future. The United States should lead international regulatory efforts to counteract these potential threats. This leadership should take the form of implementing reserve or liquidity requirements for systemically significant financial market

314. See generally NORMAN, *supra* note 21.

315. See generally Nosal, *supra* note 16, at 137.

316. See generally Kroszner, *supra* note 24,

utilities that can be aggregated into a super default fund at the central bank to provide domestic, and eventually international, second-to-last-resort private market backup liquidity and credit assistance.

In November 2011, the Federal Reserve provided last-resort dollar liquidity to central banks around the world to help stabilize the European debt crisis through central bank liquidity swaps.³¹⁷ The Federal Reserve continues to provide this support. The Bank of England's December 2011 Financial Stability report warned that disruptions in markets for sovereign debt could threaten the stability of central clearing parties.³¹⁸ A related issue is the threat to financial market stability that could be caused by *any* serious instability—due to sovereign debt or other issues—of any international CCPs requiring U.S. dollars.³¹⁹ One method of stabilizing such a situation would be for the Federal Reserve to step into a more expansive international last-resort dollar liquidity role, as suggested above.³²⁰ Mispricing and mismanagement of liquidity risk lay at the heart of the financial crisis. These challenges will likely continue in international financial markets. It is highly foreseeable that systemically significant financial market utilities could also mismanage and misprice their liquidity needs. The Federal Reserve's new market-maker of last resort role could unintentionally increase this risk. Market participants will likely resist mandated reserve or liquidity requirements. However, such measures should ensure that the burden of backstopping systemically significant financial market utilities first falls on the financial industry itself. The industry is in the best position to enforce market discipline and is the "public" that most directly benefits from this highly risky activity.

317. See Press Release, Bd. of Governors of the Fed. Reserve Sys., Coordinated Central Bank Action to Address Pressures in Global Money Markets (Nov. 30, 2011), available at <http://federalreserve.gov/newsevents/press/monetary/20111130a.htm>.

318. BANK OF ENG., *supra* note 32, at 20.

319. To see the significance of such issues, one only needs to reflect upon the controversy in Europe over CCP location and central bank liquidity provision. See Michael Watt, *Conservatives Take CCPs to Heart After UK/EU Split*, RISK MAG. (Jan. 4, 2012), <http://www.risk.net/risk-magazine/news/2134996/conservatives-ccps-heart-uk-eu-split>. France's central bank has stated that

[g]iven the growing systemic importance of CCPs, if a CCP clears a significant volume of euro-denominated contracts, we feel it is vital for it to have access to Eurozone central bank liquidity in times of crisis. If Eurozone central banks are going to provide liquidity to CCPs, they will require direct oversight of these institutions, hence the request for such infrastructures to be located within the Eurozone. There will be no change from our side on this matter.

Id. (quoting Philippe Troussard, Head of Payments and Market Infrastructures Oversight at the Banque de France).

320. See generally Colleen Baker, *The Federal Reserve's Use of International Swap Lines* (unpublished article) (on file with author).

2. Liquidity Risk Premium

At a minimum, Title VIII's new last resort power potentially provides catastrophic liquidity risk insurance to designated financial market utilities. As discussed above, however, it could conceivably also provide liquidity assistance in non-emergency but "unusual" circumstances. This new lending authority, in combination with other Title VIII reforms, creates a significant expansion of the federal safety net. Therefore, a liquidity risk insurance premium should be appropriately valued to "reprice" any liquidity risk that could be mispriced by introducing this potential government backstop.³²¹

In various financial market contexts, several scholars have proposed charging a risk premium to systemically risky financial institutions likely to benefit from a government safety net.³²² Alan Greenspan, for example, commented that expansion of the federal safety net likely requires "additional market-simulating ways of limiting moral hazard" such as insurance premiums.³²³ This Article proposes that systemically significant financial market utilities be charged an appropriately priced liquidity risk premium.

The purpose of such premiums would be at least two-fold. First, they would encourage proper pricing of the financial risks involved in the relevant financial market activity.³²⁴ CCP risk-sharing practices are designed to insure against risk. Title VIII's last-resort lending authority could unintentionally, but potentially, put some of this risk instead to the central bank. This potential put should be paid for because the central bank risks essentially functioning as an insurer of last resort.³²⁵ Therefore, the proposed liquidity risk premium would be similar to an insurance premium. Second, such

321. Congress could assign this task to the new Office of Financial Research created in Dodd-Frank. See Dodd-Frank § 152.

322. For example, Gordon and Muller propose a standby "systemic emergency funding authority" that would be partially pre-funded by industry and available to the broad financial system. Gordon & Muller, *supra* note 101, at 2. They propose an initial \$1 trillion dollar facility, which would be funded by "risk-adjusted assessments on all large financial firms, who benefit from systemic stability." *Id.* This facility would be subject to ongoing monitoring, congressional review of fund use, and other possible legislative oversight aimed to maintain legitimacy and accountability. *Id.* Thus, risk mutualization would be part of the plan and fund losses would be recovered from industry. *Id.* A general "ex-ante guarantee fund" for central counterparties has also been suggested. See Julia Lees Allen, Note, *Derivatives Clearinghouses and Systemic Risk: A Bankruptcy and Dodd-Frank Analysis*, 64 STAN. L. REV. 1079, 1107 (2012).

323. Greenspan, *supra* note 305, at 13.

324. The aim of this insurance premium is to implement a tax on such transactions that is sufficient to remove any pricing subsidy resulting from Title VIII's potential catastrophic liquidity insurance.

325. See *supra* note 135.

premiums could augment the central bank default fund (the second-to-last-resort fund discussed above).

Dodd-Frank's Title VIII mandate to clear standardized OTC derivatives using CCPs should increase the systemic importance of CCPs and the volume of transactions they clear. Given the widespread underpricing of liquidity risk in the financial crisis, it seems particularly important to focus on measuring the systemic liquidity risk of designated CCPs and appropriately pricing a catastrophic liquidity risk insurance premium.³²⁶ Congress should therefore amend Title VIII to mandate an assessment of this fee in addition to mandating required reserve balances or reserve liquidity for systemically significant CCPs. This assessment could take many forms, such as "a macroprudential capital surcharge, fee, tax, insurance premium," an alternative charge,³²⁷ or even a combination of these options.

B. Additional Accountability and Disclosure

In many important respects, Title VIII's last-resort lending authority somewhat parallels the Federal Reserve's traditional, recently circumscribed 13(3) emergency power that had not been used since the Great Depression era. As discussed, however, important differences also exist. Dodd-Frank mandated additional disclosure and accountability requirements in the use of the Federal Reserve's 13(3) emergency authority. These reforms, discussed in Part I, responded to widespread concerns about the Federal Reserve's expansive use of its 13(3) emergency power during the recent financial crisis. Although important similarities exist between these two discount window lending authorities, Dodd-Frank did not fully mandate similar disclosure and accountability requirements for Title VIII's last-resort lending authority. For example, the Federal Reserve merely needs to "consult" with the Treasury Department, not necessarily obtain its approval,³²⁸ in using Title VIII's credit and liquidity authority.³²⁹ Dodd-Frank does not require the Federal Reserve to develop policies and procedures for the use of

326. Finance scholars have increasingly focused on measuring the benefits provided by the government safety net. *See, e.g.*, Edward Kane, Redefining and Containing Systemic Risk (May 8, 2010) (working paper), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1603323.

327. INT'L MONETARY FUND, *supra* note 59, at 75.

328. Seeking U.S. Treasury approval could risk Federal Reserve independence, so this Article does not advocate that Congress make this a requirement.

329. "Consultation" rather than "approval" as in the case of the Federal Reserve's 13(3) is arguably the preferable course.

this authority, to follow prescribed collateral valuation policies, to ensure that all Title VIII borrowers are solvent, or to make specific reports to Congress about its use. Congress should require all four, especially because Title VIII's last resort lending authority could potentially be used even more expansively than the Federal Reserve's 13(3) emergency authority.

Congress should enact collateral, solvency, accountability, and transparency requirements for Title VIII's lending authority that appropriately parallel those that now govern the Federal Reserve's 13(3) emergency authority. Congress should also require that the Federal Reserve develop policies and procedures for its use. The purpose of the discount window is to provide temporary, last-resort liquidity to certain solvent but illiquid financial institutions. Historically, however, insolvent financial institutions have sometimes received assistance, even for prolonged periods of time.³³⁰ Therefore, there is a risk that a distressed CCP could similarly receive discount window funding for a sustained period of time. This risk is likely heightened in the case of a systemically significant financial market utility as substantially greater risk and uncertainty could be expected to surround the potential insolvency of a distressed CCP.

Although an insolvent, systemically significant financial market utility should theoretically be resolved under Dodd-Frank's new orderly liquidation authority, the use of this authority is ultimately left to regulatory discretion.³³¹ Given the likely complexity of resolving an insolvent, systemically significant financial institution such as a CCP, regulators could have strong incentives to forbear³³² from resolution.³³³

In order to counteract the tension potentially presented by countervailing regulator interests, Congress should require appropriate accountability, collateral valuation, solvency, and disclosure requirements in the use of Title VIII's last resort lending authority. These accountability and disclosure requirements should, at a minimum, include policies and procedures for the use of Title VIII's last resort lending authority. Such policies and procedures should be designed to guard against assistance to insolvent designated financial market utilities (though such distinctions will be difficult, if possible at all), to disclose details of the collateralization of discount window funding, to require that collateral accepted to secure

330. See generally Schwartz, *supra* note 102, at 59.

331. See Title VII of Dodd-Frank.

332. See generally Richard Scott Carnell, *A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991*, 12 ANN. REV. BANKING L. 317, 317-18 (1993).

333. See generally Allen, *supra* note 322, at 1099.

discount window funds be assigned a value, and to require timely reports to Congress while such last resort lending is outstanding.

The congressional reporting requirement should be at least as comprehensive as that mandated for the Federal Reserve's 13(3) emergency authority.³³⁴ This Article recommends more timely reporting requirements. For example, within seventy-two hours, initial disclosures should be made to the appropriate congressional committees.³³⁵ Disclosure within one year should be made to the general public instead of the currently mandated two-year time-lag.³³⁶ Such mandates should not be problematic for temporary, emergency uses of Title VIII's last-resort lending authority. Timely public disclosure will act as an important countervailing pressure to any potential financial industry pressures.³³⁷

Of utmost importance is that collateral disclosure and valuation requirements similar to those mandated by Dodd-Frank in the use of the Federal Reserve's 13(3) emergency power also be mandated for Title VIII's last-resort lending authority. Currently, the only collateral restriction on Title VIII's credit and liquidity authority is that the Federal Reserve must deem such collateral acceptable,³³⁸ as in the case of the Federal Reserve's 13(3) emergency power pre-Dodd-Frank. Therefore, the Federal Reserve should disclose details and comprehensive valuations of the collateral accepted to secure Title VIII lending within both its reports to Congress and to the public. This requirement is critical because the Federal Reserve's collateral acceptance policy is at the heart of its new role as market-maker of last resort. Shortages of high-quality collateral can exist.³³⁹ Regulatory initiatives focused on central clearing have put even more stress on this supply, resulting in shortages.³⁴⁰ Consequently,

334. See 12 U.S.C.A. 343(C) (West 2012).

335. These committees are the Banking, Housing, and Urban Affairs of the Senate and the Committee on Financial Services of the House of Representatives.

336. Any use of Title VIII's discount window lending authority must be disclosed within two years. See 12 U.S.C.A. § 248(s)(2)(B) (West 2012).

337. Professor Rajan explains that, from a general perspective, "[i]f the gathered information [regarding specific financial risks] were made public . . . it could offer a measure of public oversight over supervision Public exposure can reduce tail risk taking in its early stages, for tail risk is of significant value to management at that stage only if the public is unaware of the extent of the company's exposure to risk." RAJAN, *supra* note 296, at 166–67. CCPs are primarily designed to manage tail risk. Therefore, appropriately designed public disclosure mandates are a particularly important risk management measure.

338. See 12 U.S.C.A. § 343 (West 2012)

339. See generally Telis Demos, *CME to Accept Corporate Bonds as Collateral*, FIN. TIMES, Feb. 9, 2012, <http://www.ft.com/intl/cms/s/0/2e21b2e6-533b-11e1-950d-00144feabdc0.html#axzz23TMPZeog>.

340. See *id.*

these regulatory measures are imperative because designated central clearing parties are increasingly accepting a broader array of collateral,³⁴¹ ultimately increasing the risk of central banks “rescuing fools.”

C. Restructuring Vulnerable Financial Markets

The effectiveness of financial mandates and heightened accountability, disclosure, and collateral requirements must be reinforced by restructuring vulnerable financial market infrastructures (such as the tri-party repo markets) that potentially lie within the scope of Title VIII’s credit and liquidity authority.³⁴² Robust market infrastructures should decrease the potential need for last-resort public market liquidity assistance. A contribution of this Article is to note that Title VIII’s last-resort lending authority could be used to manage future disruptions in the bilateral or tri-party repo markets, or to support a distressed CCP that clears repos. The repo markets, particularly the tri-party repo³⁴³ markets, are an important example. Dealer banks use this market, which needs structural reform,³⁴⁴ to finance their securities.³⁴⁵ Disruptions in the tri-party repo markets during the financial crisis were highly problematic,³⁴⁶ and financial

341. *Id.*

342. This possibility is reasonable considering the critical disruptions that occurred in these markets during the financial crisis. As has been noted, these markets have not been significantly restructured since the financial crisis, so it is reasonable to think that future repeats of such disruptions are possible. Financial regulators have reportedly even considered designating these markets as “systemically significant.” For this last point, see Jon Hilsenrath & Liz Rappaport, *Heat’s on Triparty Repos*, WALL ST. J., May 3, 2012, <http://online.wsj.com/article/SB10001424052702303877604577382511925598298.html>.

343. The Financial Stability Oversight Council’s report suggests that “the regulatory community should exert its supervisory authority over the industry’s reform efforts to ensure that the Tri-Party Repo Infrastructure Reform Task Force meets its commitments as promptly as possible.” FIN. STABILITY OVERSIGHT COUNCIL, 2011 ANNUAL REPORT 13 (2011), available at <http://www.treasury.gov/initiatives/fsoc/Documents/FSOCAR2011.pdf>.

344. Gillian Tett, *Repo Needs a Backstop to Avoid Future Crises*, FIN. TIMES, Sept. 23, 2010, <http://www.ft.com/intl/cms/s/0/692d4184-c72d-11df-aeb1-00144feab49a.html#axzz23TMPZeog>.

345. Adam Copeland, Darrell Duffie, Antoine Martin & Susan McLaughlin, Policy Issues in the Design of Tri-Party Repo Markets 1 (2011) (unpublished manuscript), available at http://www.darrellduffie.com/uploads/working/CopelandDuffieMartinMcLaughlin_Working_July%2023_2011.pdf.

346. See, e.g., Henny Sender & Michael Mackenzie, *Fed to Shake Up Repo Markets in Wake of Lehman Brothers Failure*, FIN. TIMES, June 22, 2009, <http://www.ft.com/intl/cms/s/0/5a615b6c-5ec5-11de-91ad-00144feabdc0.html#axzz23TMPZeog>.

regulators have increasingly focused their attention on these markets.³⁴⁷

A Financial Stability Oversight Council Annual Report (Report) warns that “the weakness in the tri-party repo market are most likely to amplify current risks”³⁴⁸ and notes that it was

[a] notable exception to the smooth operation of payment, clearing, and settlement systems [during the financial crisis]. The weaknesses in the settlement infrastructure in this market and the attendant flaws in the risk management practices of borrowers, lenders, and the two clearing banks significantly amplified market instability.³⁴⁹

The Report warns that “[t]hese weaknesses, if they are not addressed, will continue to have the potential to exacerbate volatility in the overall financial system during times of stress.”³⁵⁰ Were this to happen, Title VIII’s last-resort lending authority could be necessary to forestall “runs.” Private market task forces are working to address tri-party repo market infrastructure reform.³⁵¹ While this work is necessary, helpful, and likely to generate some of the most productive ideas for reforms—as in the case of the over-the-counter derivative markets—these potential solutions might be insufficiently implemented unless mandated by Congress. Among the considerations in repo market reform efforts is the question of whether greater use should be made of central clearing parties in the repo markets.³⁵² AIG’s financial collapse was an important impetus behind Dodd-Frank’s OTC derivative market reforms to require greater use of CCPs.³⁵³ Likewise, Bear Stearns and Lehman Brothers’ collapses, which caused disruptions in the tri-party repo markets, probably should have been an important impetus for parallel structural reforms in the tri-party repo markets.³⁵⁴ These continuing vulnerabilities are likely one important motivation behind the creation of Title VIII’s new last resort lending authority.

347. See generally, e.g., BANK FOR INT’L SETTLEMENTS, STRENGTHENING REPO CLEARING AND SETTLEMENT ARRANGEMENTS (2010), available at <http://www.bis.org/publ/cpss91.pdf>; FED. RESERVE BANK OF N.Y., TRI-PARTY REPO INFRASTRUCTURE REFORM (2010); PAYMENTS RISK COMM., TASK FORCE ON TRI-PARTY REPO INFRASTRUCTURE (2010).

348. FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 343, at 144 (emphasis added).

349. *Id.* at 94.

350. *Id.*

351. See generally PAYMENTS RISK COMM., *supra* note 351, at 3.

352. See generally Duffie, *supra* note 7.

353. See Dodd-Frank Act, Pub. L. No. 111-203, §§ 701–774, 124 Stat. 1376, 1641–1802 (2010).

354. See Sender & Mackenzie, *supra* note 346.

The current path of tri-party repo market reform followed by the private market resembles that originally pursued by the private market in the OTC derivative market.³⁵⁵ This approach ultimately proved inadequate and did not prevent the failure of AIG. The OTC derivative markets experienced many of the same issues that continue to concern regulators in the tri-party repo markets, such as counterparty credit risk. Many of the rationales behind Dodd-Frank's requiring that standardized OTC derivatives be cleared using CCPs, such as lack of transparency, market infrastructure weaknesses, counterparty credit risk, and systemic risk creation, remain important concerns in the tri-party repo market.³⁵⁶ The Report specifically listed three primary areas of reform: liquidity risk management, preventing runs, and managing dealer insolvency.³⁵⁷

All three of these concerns could be mitigated by the use of a third-party, neutral CCP in the repo markets to enforce robust risk management practices, improve handling of potential participant defaults, and lessen counterparty credit risk for market participants. These measures would possibly decrease the incentive for the withdrawal of funds in times of market crisis. A CCP could also minimize collateral risk³⁵⁸ and improve market transparency. This should strengthen risk management practices generally, which in turn should minimize the need for public credit and liquidity backstops³⁵⁹ such as Title VIII's last-resort lending authority.

D. Additional Private Market Backstops

Finally, as noted by a 1994 Chicago Fed Letter,³⁶⁰ private market "loss-sharing arrangements"³⁶¹ for central clearing parties can be particularly effective. Such loss-sharing arrangements should align private and public risk management incentives more effectively than public backstops alone. Title VIII's last-resort lending authority not only risks decreasing market discipline, but also decreasing private market incentives to create innovative private market risk

355. For example, prior to Congress's Dodd-Frank reforms, private industry groups such as The Counterparty Risk Management Policy Group focused on industry reforms. See *Counterparty Risk Management Group*, COUNTERPART RISK MANAGEMENT GRP., <http://www.crmpolicygroup.org/> (last visited Nov. 3, 2012).

356. See generally FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 343.

357. See *id.*

358. INT'L MONETARY FUND, *supra* note 59, at 75.

359. *Id.*

360. Moser, *supra* note 294.

361. *Id.*

management solutions. A possible private market solution, in addition to replicating CCP risk-management layers within the central bank to create a second-to-last private market layer of emergency liquidity,³⁶² is a credit default swap (CDS) market for CCPs.³⁶³

In the past, some CCPs have had insurance, but there has been a general “withdrawal of providers from the market.”³⁶⁴ A developed CDS market for CCPs could provide several important benefits. First, CDS generally provide the best estimate of an entity’s credit risk. Although credit rating agencies evaluate the credit risk of central clearing parties, these ratings can have shortcomings. Second, a market estimate of the credit risk of a CCP could also facilitate a more accurate pricing of the systemic liquidity risk premium discussed in Part IV.A. Third, and most importantly, providing CDS protection against CCP default would remind financial markets and the public that CCPs can fail. Fourth, the credit risk information conveyed by CDS would counterbalance industry pressures for regulatory forbearance that financial regulators could encounter when considering a regulatory response to a financially distressed CCP.

CDSs have been controversial. And suggesting a CDS market on CCPs is likely also to be controversial for some of the very reasons that it could be helpful. CDSs on CCPs could be highly problematic. But the primary benefit of this suggestion lies ultimately in the ability of CDSs to highlight potential problems, such as safety and soundness concerns about systemically significant CCPs, which could otherwise receive too little attention. CDSs on CCPs would remind the market that designated financial market utilities are not risk-free, that they too can face distress or even fail. Finally, CDS on CCPs would also vividly tease out many of the public-private policy complexities present when private market “legal devices”³⁶⁵ are used by governments for public policy purposes.

CONCLUSION

This Article seeks to contribute to legal scholarship on one of the world’s most important and powerful institutions, the U.S. Federal

362. See Part IV.A.

363. Financial market commentators have also mentioned this possibility. See, e.g., Kevin McPartland, *Reinventing the Credit Default Swap: CDS on CCP*, TABB FORUM (Oct. 15, 2010), <http://tabbforum.com/opinions/reinventing-the-credit-default-swap-cds-on-ccp>.

364. NORMAN, *supra* note 21, at 10.

365. See generally Joanne P. Braithwaite, *Private Law and the Public Sector’s Central Counterparty Prescription for the Derivatives Markets 1* (London Sch. of Econ. Legal Studies, Working Paper No. 2, 2011), available at <http://ssrn.com/abstract=1791740>.

Reserve. Although normative questions regarding whether central banks should act as market-makers of last resort remain unresolved, the financial market utility reforms in Dodd-Frank's Title VIII have propelled the Federal Reserve into this new role on a permanent basis.

This new last-resort role raises serious moral hazard concerns and may contribute to further mispricing of financial risk, particularly liquidity risk, in financial markets. Ironically, these very issues are among those that led to the financial crisis and the enactment of Dodd-Frank in the first place. To counteract the mispricing of financial risk likely to be associated with Title VIII's new last resort lending authority, it is imperative that Congress implement additional reforms such as increased financial mandates, bolstered transparency and accountability measures, solvency mandates, and robust collateral valuation requirements. Congress must also require restructuring of financial markets most likely to require the assistance of a market-maker of last resort. By bolstering financial regulation in these ways, Congress can balance the potential need for the Federal Reserve's new last-resort financial market stability role with the moral hazard and increased financial market instability this new role itself could create.