Financial Hospitals: Defending the Fed's Role as a Market Maker of Last Resort

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I. INTRODUCTION

During the last financial crisis, what should the Federal Reserve (the Fed) have done when lenders stopped making loans, even to borrowers with sterling credit and strong collateral? Because the central bank is the last resort for funding, the conventional answer had been to lend freely at a penalty rate against good collateral, as Walter Bagehot suggested in 1873 about the Bank of England. Acting thus as a lender of last resort, the central bank will keep solvent banks liquid but let insolvent banks go out of business, as they should. The Fed tried this, but when the conventional wisdom did not work, it provided liquidity to new products and firms using authority enacted during the Great Depression to deal with financial emergencies—section 13(3) of the Federal Reserve Act (the Act).

It worked, but it came at a price—the Fed lost legitimacy in the eyes of many.⁴ The new emergency-liquidity programs, however, were needed to make Bagehot's rule relevant in a credit market where depositfunded loans now compete with credit-risk products originated by both banks and nonbanks,⁵ and where these products are traded actively. Once

^{1.} Christian A. Johnson, *Exigent and Unusual Circumstances: The Federal Reserve and the U.S. Financial Cycle*, Eur. Bus. Org. L. Rev. 28 (forthcoming) ("There is an enormous amount of assessment and analysis that needs to be done both with respect to the actions of the Fed during the financial crisis and the apparent expansion of its mission.").

^{2.} WALTER BAGEHOT, LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET (1873).

^{3.} This was the text of section 13(3) at the time of the crisis:

In unusual and exigent circumstances, the 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 357 of this title, to discount for any individual, partnership, or corporation, 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 for an individual or a partnership or corporation, the Federal reserve bank shall obtain evidence that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts for individuals, partnerships, or corporations shall be subject to such limitations, restrictions, and regulations as the Board of Governors of the Federal Reserve System may prescribe.

¹² U.S.C. § 343(a) (1991).

^{4. &}quot;An election year posse is being formed in Washington to try to round up the perpetrators of the Great Recession." Massimo Calabresi & Bill Saporito, *The Street Fighter*, TIME, Feb. 13, 2012, at 22–27 (covering Preet Bharara, U.S. Attorney for S.D.N.Y.); *see also* Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435, 437 (2011) ("The government's handling of the crisis provided widespread dissatisfaction because of its haphazardness, because of its lack of transparency, and because of the use of taxpayer dollars.").

^{5.} A minority of voices—none from the legal community—have strongly supported the Fed's emergency-liquidity efforts. PERRY MEHRLING, THE NEW LOMBARD STREET: HOW THE FED BECAME THE DEALER OF LAST RESORT 115 (Princeton Univ. Press 2011); R. Glenn Hubbard, Hal Scott & John Thornton, *The Fed Can Lead on Financial Supervision*, WALL ST. J., July 25–26, 2009, at A13 (criticizing Fed bashing and proposals to reduce its independence); Alex J. Pollock,

credit becomes a tradable commodity, you need "market makers" to make the trading go smoothly.⁶ This dynamic is apparent in the market for U.S. Treasury debt. Uncertain about the rate that the Treasury will have to pay, it announces its borrowing needs and holds an auction.⁷ The Treasury wants to ensure enough demand for its debt.⁸

Enter the "primary dealers"—firms that have promised to buy part of each new debt issue that the Treasury auctions. These nonbank firms are market makers in the primary market (where an instrument is first issued) because they promise to "take down" some of each auction's debt, boosting the debt's initial value by adding demand for the new is-

Fed Stretches Elastic Currency Mandate, AM. BANKER, Dec. 12, 2011, at 8 (arguing that Fed's efforts were justified based on its mandate to build an "elastic" currency); William H. Buiter & Anne C. Sibert, The Central Bank as Market Maker of Last Resort 1, Fin. Times BLog (Aug. 12, 2007), http://maverecon.blogspot.com/2007/08/central-bank-as-market-maker-of-last.html.

^{6.} This Article builds on a central insight from my decade as a market regulator: price discovery for financial products takes place against a background of enormous public, private, and mixed coordination that is usefully understood as "market making." This is especially true now that the credit market has been securitized. I saw this at the Office of the Comptroller of the Currency, where I worked on the dealer and trading activities of national banks. Working for two apex issuers of public debt securities—the World Bank and the U.S. Treasury—showed me how the borrowing needs of massive issuers like these could, effectively, drive market structure, including by creating new products. For example, the World Bank is credited with having pioneered the large-scale swap in 1981 to meet a foreign exchange need. Bruce S. Darringer, Swaps, Banks, and Capital: An Analysis of Swap Risks and A Critical Assessment of the Basle Accord's Treatment of Swaps, 16 U. PA. J. INT'L BUS. L. 259, 273 (1995); see also Kenneth D. Garbade, Why the U.S. Treasury Began Auctioning Treasury Bills in 1929, FRBNY ECON. POL'Y REV., July 2008. While at the U.S. Securities and Exchange Commission (Commission), I inspected the specialist function at the New York Stock Exchange (a self-regulatory organization), learning about market makers' affirmative and negative duties and seeing how exchanges could administratively redetermine certain price outcomes deemed inconsistent with a specialist's stabilization duties. At the Commission, I also participated in interagency surveillance of the repurchase market for primary dealers, my first contact with the collateral markets that became prominent during the last crash. Conventional notions of "market regulation" often address consumer protection and fraud, but not enough attention is paid to the varieties of market making that influence price. This is a crucial issue in an era like ours, in which the border between the state and the market is under review. For a good recent survey of the policy issues involved in public control over the economy, see generally VITO TANZI, GOVERNMENT VERSUS MARKETS: THE CHANGING ECONOMIC ROLE OF THE STATE (2011).

^{7.} For an example of how the refunding process works, see *Most Recent Quarterly Refunding Documents*, U.S. DEP'T OF TREASURY, http://www.treasury.gov/resource-center/data-chart-center/quarterly-refunding/Pages/Latest.aspx (last visited Nov. 18, 2012). Before the auction, the Treasury estimated that they would need about \$182 billion in debt to pay for maturing debt and for new expenses. Press Release, U.S. Dept. of Treasury, Treasury Announces Marketable Borrowing Estimates (Apr. 30, 2012), *available at* http://www.treasury.gov/press-center/press-releases/Pages/tg1556.aspx.

^{8.} Demand has fallen short at least twice. In March 1920, the Treasury's attempt to raise \$300–350 million netted only \$200 million, and in December 1922 an attempt to raise \$400 million raised only \$310 million. Garbade, *supra* note 6, at 31, 39.

^{9.} In doing so, the buyer is said to be adding "market liquidity" to the financial product. See José Gabilondo, Leveraged Liquidity: Bear Raids and Junk Loans in the New Credit Marker, 34 J. CORP. L. 447, 472 (2009).

sue.¹⁰ In the secondary market (all subsequent deals), market makers perform a similar function by using their own capital to trade against the trend—buying when the customer wants to sell and selling when the customer wants to buy.¹¹

Between March and December 2008, the Fed used its section 13(3) emergency powers to act like a market maker in the primary and secondary markets for credit products.¹² To tailor these efforts to the new credit market, the Fed created limited-liability companies and ran secured lending programs, especially for nonbank firms that had become active in the credit market.¹³ These companies and programs added liquidity to "structured finance," so called because these are assets created by rearranging

"Market maker" is a native term. It expresses the trader's sense that he creates the market by his own action. He stands at the center of the market mechanism. In continuous markets, such as stocks, bonds, and futures, there are specified trading hours. During trading hours the market maker is always available, offering to trade from his own inventory in response to market user's order flow. In a broader, collective sense, market makers have also been the market organizers. They establish and maintain the trading floors. They do this by standardizing terms of trade, by enacting and enforcing rules of conduct, and by creating institutions to ensure that all traders' obligations are met.

MITCHEL Y. ABOLOFIA, MAKING MARKETS: OPPORTUNISM AND RESTRAINT ON WALL STREET 6 (1996). There are many ways to arrange market-making systems. *See generally* YAKOV AMIHUD, THOMAS S.Y. HO & ROBERT A. SCHWARTZ, MARKET MAKING AND THE CHANGING STRUCTURE OF THE SECURITIES INDUSTRY 113 (1985).

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^{10.} When market makers are managing liquidity, prices adjust more slowly than they would otherwise because the market maker is applying gentle but steady price pressure in the opposite direction of a customer order that might otherwise go unmet. The liquidity boosts the value of the financial product because owners know that they can sell the product quickly without taking a "fire sale" discount. Having a steady flow of transactions helps other investors who own the product price their existing positions. Making it easier for a firm to convert the financial product into cash helps that firm's individual liquidity because if cash is needed for settlement, the product can be liquidated in a pinch. Because market-making liquidity stabilizes prices and mitigates breakdowns on either side of the market, both the issuer of a financial product and investors in that product benefit from the efforts of the market maker, who makes money by capturing a spread between what it buys and sells for.

^{11.} Here is a good description of how some market makers see their role:

^{12.} With the exception of one lending program, this Article considers only emergency-liquidity initiatives implemented by the Fed under section 13(3), primarily for nonbank firms. In addition to these initiatives, the Fed also used its section 13(3) authority to enter into a loan or a loss-sharing guarantee with Bear Stearns, Citigroup, and Bank of America. Johnson, *supra* note 1, at 14. Although these three transactions complemented the Fed's emergency liquidity programs, they are not examples of the market making that this Article examines. Moreover, these firms have paid exit fees and terminated these programs. *Id.* Similarly, though I draw on some documents related to the Troubled Assets Relief Program, this Article does not consider other bank liquidity programs established by the Treasury or Congress.

^{13.} These programs made assets more liquid insofar as they could be converted to cash quickly and easily. This kind of liquidity "speaks to the ease with which one can trade an asset (in this case, a loan) at its expected price. You can gauge market liquidity by measuring the difference between the sale price and the purchase price of a fungible commodity: the narrower this spread, the more liquid the market is said to be." Gabilondo, *supra* note 9, at 457 (internal citation omitted).

the cash flow from other financial instruments.¹⁴ Just as last resort lending made banks more liquid, these emergency programs made structured finance assets and their investors more liquid.¹⁵ By doing this, the Fed calmed down credit markets, was repaid on its emergency lending, and put taxpayers in a position where we stand to make even more money on these deals.¹⁶

As a magazine cover noted, however, "Ben Bernanke saved the global economy. So why does everyone hate him?" Rounding out the debate, this Article argues that the Fed's section 13(3) efforts were largely compelled by structural changes in the credit market. Once traditional banks had been overtaken by nonbank lenders and a capital markets-based model for financing themselves, the Fed had little choice but to become a market maker of last resort, stabilizing the credit market by adding liquidity, term, and price discovery. A separate article will examine the financial overhang to the Fed from these efforts.

^{14.} Johnson, *supra* note 1, at 7. He identifies six major activities: (1) tamping down the Fed funds rate; (2) discount window lending; (3) foreign-currency swaps with foreign central banks; (4) individualized lending to non-depository institutions; (5) general lending programs for non-depository institutions; and (6) large-scale purchases of mortgage-backed securities.

^{15.} A firm is liquid insofar as it can pay its debts as they become due. When asset liquidity dries up, a firm's liquidity can follow. These liquidity dynamics were especially acute in the interbank market. Gabilondo, *supra* note 9, at 456–60.

^{16.} The notion of "market maker of last resort" is an analogy to the lender-of-last-resort function. MARC LABONTE, CONG. RESEARCH SERV., RL 30354, MONETARY POLICY AND THE FEDERAL RESERVE: CURRENT POLICY AND CONDITIONS 2 (Aug. 3, 2012) ("Its financial stability function is as "lender of last resort" to the nation's financial system.").

^{17.} Roger Lowenstein, *The Hero/The Villain*, THE ATLANTIC, Apr. 2012, at 49. Indeed, the consensus in the legal community is also that the Fed got it wrong. Robert D. Auerbach, *The Fed's Backroom Bailout Policy*, 12 CHAP. L. REV. 535 (2009) (blaming the Fed's autonomy for alleged defects in its stabilizing activities); Timothy Chapman, *Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model*, 3 HARV. L. & POL'Y REV. 369, 391–96 (2009) (concluding that Fed's capture by banking interests drove its stabilizing activities); Chad Emerson, *The Illegal Actions of the Federal Reserve: An Analysis of How The Nation's Central Bank Has Acted Outside the Law In Responding to the Current Financial Crisis*, 1 WM. & MARY BUS. L. REV. 109 (2010) (concluding that the Fed exceeded its authorities and mission); Alexander Mehra, *Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis*, 13 U. PA. J. BUS. L. 221 (2010) (finding that some stabilizing transactions exceeded the Fed's statutory authority).

^{18.} Bruce Mizrach & Christopher J. Neely, *The Microstructure of the U.S. Treasury Market* 19 (Fed. Reserve Bank of St. Louis, Working Paper No. 2007-052B, 2008) ("A crucial issue in the market microstructure literature is *price discovery*. This is the process by which prices embed new information.").

^{19.} The Fed's emergency liquidity programs changed its financial structure such that it tripled in size, diversified its assets, got more leveraged as banks increased their reserves, and became more profitable. Trying to understand these changes and their regulatory implications induced this Article. As my research proceeded, however, so many unaddressed normative questions remained in the legal and policy literature about the trading that had been the predicate for these financial changes that I concluded that a more basic analysis of the Fed's trading (this Article) was needed to frame the

This Article focuses on the historical, legal, and policy justifications for the Fed's actions and concludes that the Fed's actions were readily defensible on several grounds. First, the Fed's recent efforts were just the latest expression of the Fed's open-ended authority to trade financial products for its own account, especially during credit emergencies. Second, the policy rationale for these efforts is that credit market dynamics had become influenced by a "shadow banking" sector that a traditional lender of last resort could not reach. To influence the contemporary version of the traditional credit function—borrowing short to lend long term—the Fed would have to expand its emergency liquidity facilities. Finally, the Fed's market making is congruent with the Fed's century-old symbiotic relationship with banks, so we should reconsider our naiveté about what has long been a corporatist relationship.

This argument has four steps. Part I is an argumentative history that emphasizes the Fed's past as a financial-products trader for its own account. The goal is to counter its more familiar—yet incomplete—incarnation as a traditional lender of last resort. As both author and regulator of a financial system, the Fed's authority was generative, unfolding as its target markets and its own responses evolved. Fruit of a difficult

genealogy of the Fed's balance sheet. In a separate article, I will address how the Fed's expanded trading activities financialized the Fed's asset, liability, and equity accounts.

^{20.} The term "generative" refers to the way that Melvin Eisenberg describes adjudication by common law judges. See generally MELVIN EISENBERG, THE NATURE OF THE COMMON LAW (1991) (insisting that structural gaps exist in positive formulations of legal rules and that judges routinely act interstitially to complete the rule through particular decisions). Because credit markets can present the same variety and unpredictability that fact patterns do to a common law judge, the transactional means that the Fed has at its disposal must be equal to the task.

^{21.} ZOLTAN POZSAR ET AL., FED. RES. BANK OF N.Y., STAFF REPORT NO. 458, SHADOW BANKING (2010) (analyzing how the shadow banking sector funds itself).

^{22.} This is one of the defining functions of a bank. José Gabilondo, *So Now Who Is Special?*: *Business Model Shifts Among Firms That Borrow to Lend*, 4 MD. J. BUS. & TECH. L. 261, 265 & n.38 (2009). Doing so is fraught with peril. POZSAR ET AL., *supra* note 21, at 1 ("However, credit intermediaries' reliance on short-term liabilities to fund illiquid long-term assets is an inherently fragile activity and may be prone to runs.").

^{23.} Corporatism refers to "a system of social and political organization in which major societal groups or interests (labor, business, military, ethnic, clan or patronage groups, religious bodies) are integrated into the governmental system, often on a monopolistic basis or under state guidance, tutelage and control, to achieve coordinate national development." HOWARD J. WIARDA, CORPORATISM AND COMPARATIVE POLITICS: THE OTHER GREAT "ISM" 84 (1997).

^{24.} Not trained as an economic historian, I have rendered the past based on a contemporary understanding of how financial markets work. Professional historians continue to contest basic factual conclusions about the Fed's role in previous financial crises. Perhaps unlike a professional historian, I advocate a normative conclusion, informed by history.

^{25.} One example would be the statutory mandate that the Fed create a market for bankers' acceptances: "the provisions of the Act with respect to bankers' acceptances had as their objective the development of a market for what was considered a new type of commercial paper in the United States." HOWARD H. HACKLEY, LENDING FUNCTIONS OF THE FEDERAL RESERVE BANKS: A HISTORY 53 (1973).

birth, the Fed went from being a banker's bank in the Progressive Era to a market maker for Treasury securities, maturing into a real central bank only in the post-War period after its independence from the Treasury. Its trading authority has grown steadily, especially since the enactment of its section 13(3) emergency powers during the Great Depression.

When bad things happen to good assets, a central bank should lend until things get back to normal. As described in Part II, though, in 2008 the Fed lent against seemingly dubious collateral—structured finance—by setting up limited-liability companies and secured lending programs that extended the Fed's emergency liquidity protection beyond banks. These "financial hospitals" breathed value into moribund assets by holding them to maturity, making them liquid by exchanging them for cashequivalents, and providing price discovery by trading them when other firms did not want to. These financial hospitals represented the Fed's shift from just a lender of last resort to also a market maker of last resort.

Part III examines the impact of making this shift on the Fed's political legitimacy as a market actor. Did these expanded liquidity efforts interfere with market dynamics?³⁰ Quite the contrary. By replicating

^{26.} Otherwise, it can be the economy as a whole that suffers. Kevin Warsh, Governor, Fed. Res. Sys., Speech at the New York University School of Law Global Economic Policy Forum: Financial Turmoil and the Federal Reserve: The Plot Thickens (Apr. 14, 2008) (transcript available at http://www.federalreserve.gov/newsevents/speech/warsh20080414a.htm) ("The central bank's responsibility is not to individual firms but to financial markets, and only then, to the extent that financial market stresses affect the real economy.").

^{27.} From the perspective of credit quality, the worst deal was Maiden Lane III, which invested in asset-backed securities that were themselves collateralized not by a real cash flow but by other asset-backed securities. I explain this by analyzing the audited financial statements of the Fed's collateral deals. See infra notes 251–59 and accompanying text.

^{28.} MEHRLING, *supra* note 5, at 115 ("[T]he central lesson of the crisis is that the American system requires the Fed's support as dealer of last resort, not just in the money market . . . but also in the capital market, and not just for Treasury securities . . . but also for private securities."). Professor Steven Schwarcz has argued that financial markets need an entity to provide market liquidity because shifts in the credit market have increased the importance of new lenders and products. Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 248–57 (2009). Such an entity would invest against a bear cycle when falling prices were due to a panicky market. *Id.* at 248–49. This entity would buy "securities of artificially falling financial markets—markets in which the price of securities falls measurably below the intrinsic value of the assets underlying the securities (which might result from a panic)." *Id.* The Fed did a version of this.

^{29.} See MEHRLING, supra note 5, at 115 (arguing that the Fed became a dealer of last resort); Buiter & Sibert, supra note 5 (arguing that Fed should act as a market maker of last resort); Thorvald Grung Moe, Shadow Banking and the Limits of Central Bank Liquidity Support: How to Achieve a Better Balance Between Global and Official Liquidity 5–6 (Levy Econ. Inst., Working Paper No. 172, 2012) (calling for a "new Bagehot rule" for market maker of last resort role).

^{30.} One of the initial obstacles to understanding the Fed is that much of what it does amounts to trying to engineer price outcomes, blurring any bright-line distinction between the public and the private. José Gabilondo, *Sending the Right Signals: Using Rent-Seeking Theory to Analyze the Cuban Central Bank*, 27 HOUS. J. INT'L L. 483, 490 (2005) ("[A] central bank is perhaps the only gov-

market standards—including fair-value accounting and collateralization norms³¹—these efforts created a constructive market and jumpstarted trading in the secondary market. Were these efforts legal? Yes. They rested on statutory authority intended for just such emergencies. Did some of these efforts lack the transparency popularly associated with democratic oversight of the economy? I am afraid so, but it may be a price worth paying. When it comes to the financial sector, the Fed strikes an original balance between public and private interests with special benefits for both. Overall, this bargain makes sense, a point with which the antigovernment Right and the finance-phobic Left should jointly disagree.

Part IV recommends the repeal of a provision in the Dodd-Frank Act of 2010 that requires the Fed to get the Treasury's approval before doing such programs in the future.³² Hearkening to the Fed's past as a market maker hostage to the Treasury, this is a bad idea because it further politicizes the Fed's emergency liquidity programs.

II. THE FED'S HISTORICAL TRADING AUTHORITIES

For purposes of this Article, change gears by thinking of a lender as a borrower looking for funds to lend. This is called "funding" a loan.³³ Say you apply for a \$100,000 mortgage loan and—wanting predictability—prefer a fixed-rate loan with repayment spread out over thirty years. Assume that the lender lends to you at 5%. It looks for the best rate it can find in its funding market, say \$100,000 for one year at 1% payable at maturity. By borrowing at 1% for one year and lending at 5% for thirty

ernment actor that performs its regulatory functions on the market by transacting in the market again and again.").

^{31.} For a discussion of the accounting and collateral aspects of the Fed's programs, see infra notes 226-35, 240-59.

^{32.} See infra notes 444-59.

^{33.} Funding a loan means moving cash from the bank's financial backer through the bank and to its client. In an accounting sense, it means that the balance sheet for the bank reflects an asset based on the loan to the client, offset by some blend of liability and equity reflecting who the bank got the funds from. When its cost of funds is less than its return on those funds, the bank makes money. A recent analysis of net interest margins for national banks suggests how low interest rates can undermine bank profitability: "after three consecutive years of record low interest rates, banks are unlikely to realize further benefits from lower funding costs. Given a fairly static outlook for interest rates and loan growth in 2012, net interest margins will likely show little incremental improvement in the near term." OFFICE OF THE COMPTROLLER OF THE CURRENCY, SEMIANNUAL RISK PERSPECTIVE FROM THE NATIONAL RISK COMMITTEE 15 (Spring 2012); see also Office of the COMPTROLLER OF THE CURRENCY, COMPTROLLER'S HANDBOOK ON INTEREST RATE RISK (1998) (providing analysis and examination procedures for interest rate risk management in a national bank's credit portfolio) ("Interest rate risk is the risk to earnings or capital arising from movement of interest rates. It arises from differences between the timing of rate changes and the timing of cash flows . . . from changing rate relationships among yield curves . . . from changing rate relationships across the spectrum of maturities.").

years, the lender immediately becomes illiquid. Why? During the next year, it will receive a trickle of cash flow from its thirty-year asset (you), but not enough to repay its debt of \$100,000. So the lender must refinance at the end of the year.³⁴ Imagine if lenders did not do this—it would be you refinancing your mortgage or student loans every year or even more frequently.³⁵

This happens in the "funding" market, with which the Fed has always had an intimate relationship. The drafters wrote the Federal Reserve Act with banks in mind as the lenders.³⁶ The drafters saw that fragmented markets made it hard for banks to mobilize the funding needed to finance business conditions. They hoped that a decentralized system of regional lenders that could trade short-term debt would help banks fund themselves. Once the system was up and running, though, the Fed found that it was better to buy and sell government securities in the open market. It was the beginning of its career as trader.

A. Bank Funding Before the Fed

Paper money began in the American colonies during the seventeenth century.³⁷ This money included private debt instruments in the form of letters of credit and bills of exchange.³⁸ Also, private banks chartered under state law issued promissory notes that served as money.³⁹ The value of the notes fluctuated based on the issuing bank's reputation.

^{34.} Because the bank will have received one year's worth of interest and principal from its borrower, this time it will need to borrow less than \$100,000. And so on. Assuming that it refinances only with one-year loans, the bank will do this twenty-eight more times before the mortgage is paid off.

^{35.} It was when collateral markets froze up that the most acute episodes of the financial crisis took place. Donald L. Kohn, Speech at the Federal Reserve Bank of New York and Columbia Business School Conference on the Role of Money Markets: Money Markets and Financial Stability (May 29, 2008) (transcript available at http://www.federalreserve.gov/newsevents/speech/kohn20080529a.htm (explaining how securitization had made collateral markets a more central part of the credit market). Within this market, repurchase agreements emerged as particularly important. Peter Hördahl & Michael R. King, *Developments in Repo Markets During the Financial Turmoil*, BIS Q. REV., Dec. 8, 2008, at 37, 42–51 (emphasizing that risk management and operational risk in repo markets deserve more attention).

^{36.} I use the term "bank" to mean financial institutions that hold customer deposits. This includes firms that did universal banking before the Glass–Steagall Act of 1933 as well as those subsequently defined as "depository institutions" for purposes of federal banking regulation. By "non-bank" I mean not only broker–dealer investment banks but also other firms that borrow to lend in the "shadow banking" sector. POZSAR ET AL., *supra* note 21.

^{37. 1} JERRY W. MARKHAM, A FINANCIAL HISTORY OF THE UNITED STATES 48–49 (2002) (noting Virginia bill of exchange from 1668 and private letter of credit from 1718).

^{38.} *Id*.

^{39.} Because not all depositors will demand their money back at the same time, the bank gambles by loaning out its liquid funds for repayment over a longer term. Other than what the market will bear, there is no theoretical limit to how much money a bank can make by leveraging its demand deposits this way, unless a law or regulation provided otherwise.

Colonial governments also began to issue bills of credit to finance public expenditures.⁴⁰

As a financial system, this left a lot to be desired. Rather than a single dominant currency, private bank notes and other forms of money proliferated. Also, credit and money markets were fragmented, limiting their ability to respond flexibly to changes in business conditions.⁴¹

In particular, it was hard to solve a liquidity panic without a central authority to provide stopgap funding to stem a bank run. ⁴² If depositor requests for withdrawals were honored quickly and in an orderly manner, a panic would pass as depositors recovered confidence that their money would be safe with the bank. This method required a deep pocket to act as a lender of last resort to fund withdrawals until the panic passed. A central bank following Bagehot's policy for emergency liquidity could serve this role, but establishing a central authority in the United States would face many hurdles.

Alexander Hamilton saw the advantages of a more unified financial system. Alexander Hamilton saw the advantages of a more unified financial system. Alexander Regional markets would be linked, trade could increase, and more could be done to limit financial panics. The question of paper money was related to a unified system. In 1729 and again in 1767, Benjamin Franklin advocated for having more paper money because it would add to real wealth by boosting commodity prices and wages and encouraging manufacturing. Inspired by the Bank of England, Hamilton tried to establish a Bank of the United States in 1790, making southern planters

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^{40. 1} MARKHAM, supra note 37, at 50-51 (Benjamin Franklin had recommended their issue).

^{41.} MEHRLING, *supra* note 5, at 31 ("The inelasticity of the note issue, combined with the rigidity of required reserve ratios, meant that deposits could not so easily expand and contract as needed."). Disagreeing, some economic historians view early financial markets as more integrated. *See generally* HOWARD BODENHORN, A HISTORY OF BANKING IN ANTEBELLUM AMERICA: FINANCIAL MARKETS AND ECONOMIC DEVELOPMENT IN AN ERA OF NATION-BUILDING (2000) (arguing that antebellum financial markets were fairly well-integrated until the Civil War).

^{42.} Between 1873 and 1907, the banking system experienced five major panics when particular firms could not meet their obligations. Eugene White, *To Establish a More Effective Supervision of Banking: How the Birth of the Fed Altered Bank Supervision* (Nat'l Bureau of Econ. Research, Working Paper No. 16825, 2011), *available at* http://www.nber.org/papers/w16825. These liquidity crises would likely have been avoided by a lender of last resort. Michael D. Bordo & David C. Wheelock, *The Promise and Performance of the Federal Reserve as Lender of Last Resort 1914–1933*, FED. RES. BANK ATL., http:// www.frbatlanta.org/documents/news/conferences/10jekyll_bordo_pres.pptx (last visited Nov. 17, 2012) ("The recurrent instability of the National Banking Era was the principal motivation of the reform movement that led to the Federal Reserve Act."); *see also* White, *supra* at 26 ("Contemporary experts and most historians believe that a lender of last resort could have squelched most panics by providing credit to liquidity-constrained banks in the midst of a crisis.").

^{43.} See generally RON CHERNOW, ALEXANDER HAMILTON 344-61 (2004).

^{44.} *Id.*; 1 MARKHAM, *supra* note 37, at 50, 56 (mentioning Franklin's 1729 Modest Enquiry into the Nature and Necessity of A Paper Currency and his 1767 Remarks and Facts Concerning American Paper Money).

bristle.⁴⁵ In the end, Congress chartered the Bank of the United States, which operated from 1792 until the expiration of its charter in 1811.⁴⁶ A second Bank of the United States was attempted after the War of 1812, but it was abolished twenty years later.⁴⁷

Soon enough, the drawbacks of not having a central banking authority became apparent. Congress wanted to increase federal control over credit to promote a stable, uniform currency, make it easier for banks to fund themselves, and give the authorities a tool for adjusting the money supply. It started issuing paper money—United States notes—in 1862. 49

Congress also began considering the notion of bank reserve requirements. Banks created money because—except in a run—all of their depositors would not want to recover their deposits at the same time. ⁵⁰ So banks were able to issue liabilities that people used as money. Out of prudence, a bank had to keep some cash in its vault—its reserves—to satisfy the anticipated withdrawal requests of some depositors, but the bank could lend out the rest. ⁵¹ Reserves went to the heart of the incipient

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^{45.} Dependent on credit, they feared that the Bank would advantage the New England mercantile establishment, a protean version of today's financial sector. CHERNOW, *supra* note 43, at 349. ("Some central-bank critics thought the institution would aggrandize northern merchants at the expense of southern agrarians."). The conflict would draw lines in the sand that would later harden into the system of political parties that we recognize today. *Id.* at 351.

^{46. 1} MARKHAM, *supra* note 37, at 89. The Bank earned the enmity of competing state banks by helping the United States obtain a high credit rating. *Id.* at 122. By a close vote, its charter was not renewed in 1811. *Id.* at 126–27.

⁴⁷. David Wessel, In Fed We Trust: Ben Bernanke's War on the Great Panic 36 (2009).

^{48.} I use "money supply" to mean the sum generally of cash and credit in the economy. Because this Article spans periods during which different forms of money and credit existed, I do not use more recent measures of monetary aggregates. *See generally* R.W. HAFER, THE FEDERAL RESERVE SYSTEM: AN ENCYCLOPEDIA 258–62 (2005) (entry on "MONEY" summarizing its history and its empirical measurement by the Fed); Charles W. Calomiris & Gary Gorton, *The Origins of Banking Panics: Models, Facts, and Bank Regulation, in* FINANCIAL MARKETS AND FINANCIAL CRISES 109, 164 (R. Glenn Hubbard ed., 1991) (noting that "authors frequently used the terms 'money' and 'money market' loosely, sometimes meaning cash, sometimes credit').

^{49.} Legal Tender Act of February 25, 1862, 12 Stat. 345. These notes were redeemable in gold between 1879 and 1933.

^{50.} Joshua N. Feinman, Reserve Requirements: History, Current Practice, and Potential Reform, 79 FED. RES. BULL. 569, 569 (1993).

^{51.} A "reserve" is an amount of cash held in a bank's vault or in an account with the Fed from which it can draw to meet customers' demand for currency. From the point of view of an individual bank, keeping enough reserves avoids the unfortunate situation in which customers demand more cash than the bank has on hand, leading to a run. This insurance against a customer run on deposits did not come free, though, because until very recently, banks earned no money on reserves, meaning there was an opportunity cost in terms of foregone return from investing those reserves into loans or other investments. Hence a bank's goal was to keep as little in reserves as possible and to relend any reserves in excess of what was required by federal banking regulation.

credit system, influencing both sides of a bank's balance sheet.⁵² In time, states imposed reserve requirements to make sure that the bank had enough cash in the vault to honor a depositor's demands for cash.⁵³

Congress took a step towards federalizing the money supply with the National Bank Act of 1864, which offered a national bank charter.⁵⁴ The cost was that national banks had to hold a 25% reserve against their deposits and notes, more than the amount required by most states.⁵⁵ More would be needed, though, to create a national financial system.

B. The Banker's Bank (1913–1923)

One of the important ways that banks funded themselves was through short-term commercial paper. When a farmer needed credit to finance a crop or a merchant needed credit to buy goods, the farmer or merchant would borrow money from a bank and issue it a promissory note, typically for a short term and without security or collateral. The bank "discounted" the note, giving the borrower less than the face value, just as you do when lending to the federal government by buying a savings bond. When the borrower repaid the face value of the note, the lender captured the discount as interest, with higher discount rates resulting in more interest being paid.

^{52.} Decisions about which kind of asset to hold—for example, holding vault cash or making a loan—turned not just on a borrower's credit but on the bank's reserve position. This also affected a bank's liability structure because deciding to make a new loan from liberated reserves meant the bank could finance it with new borrowing, thus becoming more leveraged.

^{53.} To make sure that banks could honor the demands of their clients for cash, rules required banks to keep a certain amount of cash on reserve in their vaults. Cash on hand in excess of the required reserves could be lent out, although some would have to be held back to ensure that the new loan was backed by enough reserves. The strictest system would allow a bank to lend out only the amount that it had to spare assuming that all depositors were paid. In contrast, states used a fractional reserve system that let banks lend out a multiple of their demand deposits: the higher the reserve requirement, the lower the bank's ability to gross up its assets by making new loans. Initially, states did not require issuing banks to keep reserves on hand, although some banks did so to make their notes more attractive. Feinman, *supra* note 50, at 572. Some states imposed reserve requirements during the nineteenth century, but most states had no such requirements when the Civil War began in 1861.

^{54.} National Bank Act of 1864, 13 Stat. 99.

^{55.} Feinman, supra note 50, at 572.

^{56.} Timothy D. Rowe, *Commercial Paper*, in INSTRUMENTS OF THE MONEY MARKET 111–25 (Timothy Q. Cook & Timothy D. Rowe eds., 6th ed. 1986). This kind of debt is key because if the firm is not liquid enough to honor the debt, it becomes an issue of solvency.

^{57.} Because money is a commodity that has use value (it buys things and settles debts), a lender demands interest as compensation for parting with this use value over the life of a loan. These notes did not pay interest.

Relevant to funding, the commercial paper market also let the bank control its own liquidity.⁵⁸ It could pledge the discounted note to another bank, which would lend a smaller fraction of the note's face value by "rediscounting."⁵⁹ This gave banks in a funding pinch an alternative to selling their assets at a fire sale price.⁶⁰ The commercial paper market was fragmented, however, requiring concerted action by Congress to unify regional markets. Given the objections to central banking, this would be a tough sell in Congress.

The Panic of 1907 helped to make the case for a central bank.⁶¹ The 1907 crisis had been solved only through the collective action of private bankers led by J.P. Morgan.⁶² The following year, Congress established a national commission to analyze the Panic of 1907 and to propose a mechanism to avoid a recurrence of financial disruptions.⁶³ The commission concluded that only a central bank authority could effectively mitigate the risk of crises like the Panic of 1907.⁶⁴ The National Reserve Association proposed by the commission, however, involved a decentralized arrangement of regional banks that would be operated largely by private bankers.⁶⁵

This plan failed because, as seen by the Senate and the House, it gave large banks too much power. Also, some favored centralization while others favored the dispersal of power between regional reserve banks. After Woodrow Wilson became President, Virginia Representative Carter Glass took responsibility for shepherding the project. He introduced an alternative to the commission's bill that was eventually enacted as the Act after several compromises that balanced the reformist

^{58.} At the time, banks also entered into repurchase agreements to get short-term liquidity by pledging collateral. MEHRLING, *supra* note 5, at 34 (noting that the "asset structure" of banks included securities other than commercial loans that could be used as collateral for loans).

^{59.} HACKLEY, supra note 25, at 11.

^{60.} *Id*

^{61.} It involved the failure of the Knickerbocker Trust Company, which threatened to bring down other firms too. That time, private collection action coordinated by J. Pierpont Morgan stemmed the panic by investing against the trend. 2 MARKHAM, *supra* note 37, at 31–34.

^{62.} *Id*.

^{63.} The details of the plan emerged after a retreat at Georgia resort, Jekyll Island, owned by John D. Rockefeller and J.P. Morgan. *Id.* at 44–45 (analyzing origin of the Fed).

^{64.} *Id.* at 42 ("The Monetary Commission concluded that a central banking authority was needed to provide liquidity in times of stress.").

^{65.} Id. at 43 (analyzing origin of the Fed).

^{66.} TIM TODD, THE BALANCE OF POWER 11 (Bill Medley ed., 2009); see also 2 MARKHAM supra note 37, at 44.

^{67.} TODD, supra note 66, at 12–13.

^{68.} Id. at 12.

impulses of the Progressive Era with the preference of bankers for self-regulation.⁶⁹

The resulting Act created a central board in Washington and a loosely federated network of reserve banks with ties to their local economies. The system was expected to serve several goals. First, the Fed would support bank funding by creating liquidity facilities that would allow banks to convert their assets into cash or cash equivalents. These facilities could also serve the lender of last resort function to help manage panics like the one in 1907. Second, the Fed would also make the credit supply more responsive to the needs of business by making the currency "elastic," in that its size would fluctuate with business conditions. Third, the Fed would have authority both to lend money through discounting and to buy and sell some financial assets in the open market. Congress also gave the Fed "incidental powers" to carry out its activities.

These authorities were "generative" because the Fed was expected to both create money systems and regulate them. So, for example, in addition to rediscounting commercial paper, the Fed was charged with developing a market for banker's acceptances, a way to give banks another source of funding liquidity. The Fed was also expected to develop a national system for check clearing.

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^{69.} WIARDA, *supra* note 23, at 134 ("[T]he Progressives sought to rein in and regulate the largely unchecked capitalism of the time. Labor unions were also becoming stronger; the social question was coming to the fore.").

^{70.} The Act produced twelve reserve banks and a board in Washington to which the Secretary of the Treasury belonged ex officio. WESSEL, *supra* note 47, at 37. The board represented centralization while the reserve banks served proxies for the regions. TODD, *supra* note 66, at 13–14. During the early days of the Fed, the regional reserve banks were associated with private interests while the board was seen as closer to the government. 1 ALLAN H. MELTZER, A HISTORY OF THE FEDERAL RESERVE 467 (2003) (discussing proposals by incoming Fed chair Eccles to limit the power of the regional Reserve banks). The New York Federal Reserve emerged as the leader of the latter. TODD, *supra* note 66, at 19–22.

^{71. 2} MARKHAM, supra note 37, at 46-47.

^{72.} *Id.* at 9–12; HACKLEY, *supra* note 25, at 9–12.

^{73. 2} MARKHAM, supra note 37, at 46-47.

^{74.} The Act gave the Fed two separate grants of power relevant to financial markets. The Fed could enter into collateralized loans to its member banks by "discounting" certain financial assets. Federal Reserve Act, Pub. L. No. 63-43, § 13, 38 Stat. 251, 263 (1913). The Fed could also enter into "open market" transactions, which were purchase and sale transactions on a wider variety of assets with virtually any counterparty. *Id.* § 14, 38 Stat. at 264. This Article groups both discounting and open market transactions as "trading" by the Fed because—for purposes of my discussion—both share the same nucleus of investment risk and produce similar liquidity effects, for both the Fed and its counterparty. Combining the authorities this way is consistent with the modern approach of 12 U.S.C. § 412 to collateral for the issuance of Federal Reserve notes.

^{75. 12} U.S.C. § 341 (1913).

^{76. 2} MARKHAM, supra note 37, at 46-47.

^{77.} Id.

Rediscounting was central to liquidity, currency elasticity, and the lender-of-last-resort function because the Fed would pursue all three policies through its "discount window," the physical site of these deals. When a customer wanted dollars, the customer would tender a bill to the bank, and the bank would discount it. If the bank needed currency, it could present that bill at the Fed's window, which would rediscount it by giving the bank cash or, more likely, crediting its reserve ledger at the Fed. The cash (or the ledger adjustment) would leave the bank with more reserves than before the transaction, meaning that the bank now had fresh resources that it could lend or invest. Assuming a healthy profit interest on the part of the bank and demand for credit, the bank would make new loans. This made credit and money elastic because their supply would increase to fund growth. The same thing would happen in reverse. The Fed would later find other ways to influence reserves.

^{78.} Rediscounting would go to the heart of the Fed's mission, as suggested by the Act's preamble: "to furnish an elastic currency, to afford means of rediscounting commercial paper, [and] to establish a more effective supervision of the banking in the United States." Federal Reserve Act, 38 Stat. 251, 251; see also HACKLEY, supra note 25, at 9 (listing creation of commercial paper market as the first major purpose of the Act).

^{79.} HACKLEY, supra note 25, at 11.

^{80.} *Id.* at 3 (noting importance of rediscounting provisions to the House and Senate Banking and Currency Committees). The Act also introduced Federal Reserve notes to substitute for national bank notes. National banks were still allowed to issue circulating bank notes after the Fed was established, provided that they kept certain reserves and that they collateralized the issuance of these notes with United States bonds posted with the Treasury. That way, if called to redeem a national bank note, the Treasury could reimburse itself for the costs of doing so. National banks stopped issuing notes after 1935, although at least as of 1981, there were still outstanding notes.

^{81.} Id. at 11.

^{82.} As a customer paid off its commercial bill to the bank, the bank would settle with the Fed. Thus, the money supply would shrink as the original borrower paid off the bills. Since 1961, the Federal Reserve Bank of Chicago has published a superb workbook that explains how reserve adjustments impact both an individual bank and the national money supply. FEDERAL RESERVE BANK OF CHICAGO, MODERN MONEY MECHANICS: A WORKBOOK ON BANK RESERVES AND DEPOSIT EXPANSION (2011). To absorb cash from banks it must sell securities cheaply enough, and to add cash to bank balance sheets the Fed must pay enough to make banks sell their securities. There is one difference between reserve expansion through open market purchases by the Fed of government securities and reserve contraction through open market sales by the Fed. *Id.* at 12. When the Fed wants to shrink the money supply, banks must go through the serial liquidation of offsetting assetliability positions to bring down the amount of reservable liabilities to that amount that can be supported by the lower amount of reserves. *Id.* In contrast, when the Fed wants to expand the money supply, it is relying on the bank's goal of increasing financial return to engage in market transactions to relend the fresh deposits. *Id.* Now that the Fed pays interest on excess reserve balances, banks may have less of an incentive to leverage their excess reserves.

^{83.} Today, the Fed has several ways of influencing bank reserves. First, by rule the Fed can adjust the calculation of the reserve requirement to lower or raise the number directly. Second, the Fed can make it easier for banks to meet their reserve requirements by lending them money at the Fed's discount rate, an interest rate that is set by Board policy on certain collateralized loans. Giving banks access to cheap money through the discount window has the effect of relaxing reserve pressure on the banks. Third, the Fed can also make cheap money available to a bank by buying some of

The Fed was expected to make a uniform discount rate effective across the country. Because what would qualify for discounting as commercial paper was not clear, the Act gave the Fed discretion to make this determination. At first, discounting by the Fed was subject to strict limitations through the "real bills" doctrine, which restricted eligibility for discount to short-term instruments deemed to have little default risk. Restricting the kind of assets that could be pledged as collateral limited the ability of banks to get funding. Moreover, the Federal Reserve could issue notes only against collateral that was eligible for discount. These two restrictions limited how much "give" the credit supply had.

Some Members of Congress had urged for the original statute to create a system that could lend directly to individuals. ⁸⁶ Congress rejected this idea, though, because the Fed was intended as a system of "bankers' banks" that would not compete with commercial banks in the retail credit market. ⁸⁷ Credit allocation to nonbanks was also seen as a political decision, better left to other parts of government in charge of fiscal spending. ⁸⁸

Nevertheless, Congress began expanding the Fed's lending authority almost immediately, starting with authority to provide credit through

the securities in a bank's investment portfolio. Called "open market" operations, these transactions are priced on market terms, instead of being priced administratively. As with the proceeds of discount window borrowing, the proceeds from selling securities can be deposited with the Fed as a reserve. Fourth, the Fed can reduce the cost to a bank of obtaining financial resources for meeting reserve requirements by participating in the federal funds market, an over-the-counter market where banks sell their excess reserves and buy those of other banks.

^{84.} The Fed will change the discount rate only in response to a request from a reserve bank. TIM TODD, UNDER PRESSURE: POLITICS AND THE FEDERAL RESERVE DURING THE 1990–1991 RECESSION 51 (Lowell C. Jones ed., 2011), available at http://www.kansascityfed.org/publicat/UnderPressure/UnderPressure.pdf.

^{85.} At first, eligibility for rediscounting depended largely on the "real bills" doctrine. Generally, this meant that a bill also had to be negotiable, have a term of not more than ninety days, and be endorsed by the member bank that had originally discounted the bill. HACKLEY, *supra* note 25, at 13–16, 22–24. The theory behind this doctrine (also known as the "commercial loan" doctrine) was a bank could limit its risk by lending only for activities that would generate a cash flow matching the terms of the loan repayment, i.e., "self-liquidating" paper. *Id.* at 191. Although advanced as a rule to limit risk, in hindsight it was understood to have contributed to economic cycles too, because an expanding economy would mean that there were more productive activities looking for financing. *See* Gabilondo, *supra* note 9, at 472 (arguing that the real bills doctrine illustrated Minsky's hedge financing). In 1963, the Fed began to urge Congress to abolish these technical requirements and, instead, let the reserve banks rediscount any commercial paper deemed by them to be sound. 1963 FED. RES. BD. ANN. REP. 198 (March 31, 1964) (recommending that technical requirements for collateral be eliminated). In 1970, the Board did away with the requirement that rediscounted bills be negotiable. 56 FED. RES. BULL. 444 (1970) (eliminating the requirement that discount window collateral be negotiable).

^{86.} HACKLEY, supra note 25, at 127.

^{37.} *Id*.

^{88.} Walker F. Todd, *FDICIA's Emergency Liquidity Provisions*, 16 ECON. REV. 1 (1993) (noting theoretical and policy limits on fiscal activities by central banks).

advances to its member banks.⁸⁹ In 1916, Congress gave the Fed authority to make fifteen day collateralized advances.⁹⁰ The collateral could include Treasury bonds, giving banks another way to get funded.⁹¹ In effect, Congress was allowing the Fed to issue notes against Treasury securities, as national banks had done.⁹² That same year, Congress also recognized the Fed's role in making U.S. dollars available in foreign markets by letting the Fed rediscount banker's acceptances for "dollar exchange," a way to promote U.S. dollar-denominated trade finance.⁹³

C. Market Making (1923–1951)

The son that the Act's drafters had wanted was a banker's bank to deal in private debt, that way helping banks fund themselves. Histead, the Fed found that trading government securities was a better way to influence credit conditions. This insight emerged out of the investment practices of the Reserve banks, which bought Treasury securities from commercial banks to boost their earnings. The selling banks would get cash, which would result in excess reserves, just as discounting commercial paper had. Because cash (like reserves) was fungible, banks could fund loan growth without needing to use the Fed's discount facilities. The worked in the other direction too.

It seemed, then, that by trading Treasury debt the Fed could influence bank reserves (and, hence, the money supply) just as discount window lending did. ⁹⁹ Trading was better than discounting, too, since it gave the Reserve banks more control over the purchases and sales. ¹⁰⁰ It also avoided the adverse selection risk implicit in discount window lending: banks with good credit tended not to use the discount window, which

^{89.} HACKLEY, supra note 25, at 83.

^{90.} Id. at 84.

^{91.} *Id*.

^{92.} Federal Reserve Act, ch. 461, 39 Stat. 752 (1916).

^{93.} HACKLEY, supra note 25, at 65.

^{94.} The Fed was to be a "banker's bank that would set discount rates and issue notes backed with gold reserves and commercial paper." 2 MARKHAM, *supra* note 37, at 43.

^{95.} MEHRLING, *supra* note 5, at 35 (concluding that the rediscounting system did not work as intended). The Fed discovered the power of open market operations in government securities by "cosmic accident." *Id.* at 37.

^{96.} Minutes, Fed. Res. Open Market Comm., Dec. 19, 1923, at 4–6 [hereinafter Dec. 19, 1923 Minutes]; *see also* 1 MELTZER, *supra* note 70, at 198–99 (explaining policy change in terms of serendipity).

^{97.} Dec. 19, 1923 Minutes, supra note 96.

^{98.} When Reserve banks sold Treasury securities to commercial banks, these open market operations soaked up the cash that banks had, leaving them with fewer resources with which to make loans. So banks looking for funds would then discount more bills. *Id.*

^{99.} Id.

would be used most enthusiastically by banks with lousy credit. So the Fed decided to convert open-market operations from a revenue source for Reserve banks into a tool for national credit policy. New York Federal Reserve Bank (NYFRB) President Benjamin Strong had been advocating since 1915 that open market trading could have counter-cyclical effects that promoted financial stability. History would prove him right, although it would take nearly a century.

During the Depression, Congress reconsidered the ban on Fed lending to individuals. In 1932, the Senate considered amendments to the Act that would give the Fed authority to lend in "unusual and exigent circumstances" not only to individuals but also to corporations. ¹⁰³ Initially, the Senate proposed granting this authority only temporarily for two years. ¹⁰⁴ The version of the authority that was finally signed by Herbert Hoover in 1932 as section 13(3) of the Act was broader, making the authority permanent and including partnerships as potential borrowers. ¹⁰⁵

Initially, these emergency powers imposed strict restrictions on the collateral eligible to be used for a section 13(3) loan, however, so relatively few loans were made during the Depression. The Fed asked Congress to relax the collateral requirement. Three years after enactment of the original authority, in what was styled as a "technical amendment," Congress liberalized this authority by beginning to relax the collateral requirements of section 13(3) by letting the Fed choose between requiring that credit be endorsed or secured.

In 1935, Congress also validated the Fed's policy shift towards trading government securities by statutorily establishing its Open Market

108. Banking Act of 1935, Pub. L. No. 74-305, § 322, 49 Stat. 684.

^{101.} The Fed adopted the policy "[t]hat the time, manner, character and volume of open-market investments purchased by Federal Reserve banks be governed with primary regard to the accommodation of commerce and business and to the effect of such purchases or sales on the general credit situation." Minutes, Federal Reserve Open Market Committee, Mar. 22, 1923, at 1 [hereinafter Mar. 22, 1923 Minutes]; *see also* 1 Meltzer, *supra* note 70, at 198–205 (explaining policy change in terms of serendipity).

^{102. 2} MARKHAM, supra note 37, at 189.

^{103.} HACKLEY, supra note 25, at 128.

¹⁰⁴ *Id*

^{105.} Emergency Relief and Construction Act of 1932, 47 Stat. 709; see also HACKLEY, supra note 25, at 128. Given how important this authority would turn out to be, this illustrates that President Hoover may deserve more credit for recognizing that the federal authorities had to intervene in the financial sector more broadly than they may have understood their role to be. Although history has credited Franklin Delano Roosevelt with many of the New Deal financial reforms, some of the proposals for them started as early as 1931 at the behest of Hoover. Walker F. Todd, FDICIA's Emergency Liquidity Provisions, 3 ECON. REV. 16, 17 (1993) (noting Hoover's attempt to expand the Fed's lending authority to insolvent banks),

^{106.} *Id.* at 18 (noting that between 1932 and 1936 only 123 loans for a total value of \$1.5 million were made under this authority).

^{107.} Id

Committee. 109 Trading credit had now become a structural element of the Fed. Soon thereafter, the Fed announced that it would "maintain orderly conditions in the money market." This signaled that the Fed was beginning to think of itself more as a market maker.

When the Fed had first started conducting open-market operations with government securities, the Treasury had objected, claiming that these deals interfered with its own issuance goals. However, open-market purchases lowered the Treasury's borrowing costs, especially during the Second World War. Changing its mind, the Treasury did not want to let go of this preferential financing arrangement when the War ended. Concerned about rising inflation, the Fed wanted to increase interest rates. The Fed also wanted to avoid crowding out private market makers from dealing in Treasury securities.

Unrelated to its trading functions, Congress in 1946 gave the federal government explicit responsibility for promoting adequate levels of employment. This mandate imposed contradictory obligations on the Fed, which would now have concurrent responsibilities to both control inflation and promote employment. The Fed would still be expected to promote price stability, accomplished through keeping inflation in check by making money "tight." It would also promote economic growth,

^{109.} WESSEL, *supra* note 47, at 45. The Federal Reserve Bank of Philadelphia has an excellent publication that explains how today's FOMC works. *See A Day in the Life of the FOMC*, FED. RES. BANK OF PHIL. (Nov. 19, 2012), http://www.philadelphiafed.org/education/teachers/resources/day-in-life-of-fomc/.

^{110.} MEHRLING, supra note 5, at 48.

^{111. 1} JANE W. D'ARISTA, THE EVOLUTION OF U.S. FINANCE, 122–23 (1994) (noting Treasury Secretary Mellon's opposition to the Fed maintaining a large portfolio of government securities).

^{112. 2} MARKHAM, *supra* note 37, at 299 (noting pressure from the Treasury and the President's Council on Economic Advisers to tamp down the government's borrowing costs) ("During World War II, Treasury officials decreed that interest rates would be kept at artificially low levels in order to reduce government funding costs."). Although current rates are lower, the Fed and the Treasury succeeded in keeping rates down. Three-month rates averaged 0.37% and long-term bonds averaged 2.3%. *Id.* at 261.

^{113.} *Id.* at 299. Professor Markham suggests that the Fed's poor management of the Great Depression made it easier for the Treasury to interfere in monetary policy.

¹¹⁴ Id

^{115.} MEHRLING, *supra* note 5, at 52. The Fed pursued independence from the Treasury because "the central idea was to support rebuilding of the dealer infrastructure of private capital markets." *Id.* at 54.

^{116.} The Employment Act of 1946 provides in pertinent part that "it is the continuing policy and responsibility of the Federal government to use all practicable means . . . to promote maximum employment, production, and purchasing power." Employment Act of 1946, Pub. L. No. 79-304, 60 Stat. 23 (codified as 15 U.S.C. \S 1021).

^{117.} MARC LABONTE, CONG. RES. SERV., R 41656, CHANGING THE FEDERAL RESERVE'S MANDATE: AN ECONOMIC ANALYSIS 2 (Mar. 13, 2012) (analyzing the policy and economic performance implications of serving mandate by targeting inflation).

^{118.} Raising interest rates tends to slow down the growth of the economy by limiting discretionary spending that is sensitive to interest rates. LABONTE, *supra* note 16, at 5.

making money "loose" as needed to encourage spending.¹¹⁹ How, exactly, the Fed was expected to serve God and Mammon was never made clear because tight and loose money represent antagonistic policies.¹²⁰ The Fed's conflicts with the political branches began to take root during this period.¹²¹

D. Independence (1951–2007)

Until well after the Second World War, the Fed had been a chimera with disparate elements held together by political horse trading. Only in 1951 would these elements quicken into a central bank through the Treasury–Federal Reserve Accord. This is not to suggest that wrangling with the political branches abated—quite the contrary. It did

120. 2 MELTZER, *supra* note 70, at 4–8 (presenting core Keynesian assumptions and the monetarist critique). During the 1970s, the U.S. economy suffered from high rates of both inflation and unemployment. In this environment, Congress helped usher the Fed into the age of impossible expectations by passing the Full Employment and Balanced Growth Act of 1978. Emerson, *supra* note 17, at 118–19. Expanding on the policies set down by the Employment Act of 1946, the 1978 law charged the Fed with promoting three goals: "maximum employment, stable prices, and moderate long-term interest rates." Federal Reserve Act of 1977, Pub. L. No. 95-188, 91 Stat. 1387 (codified at 12 U.S.C. § 225(a), § 2A). The entire mandate reads as follows:

The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregate commensurate with the economy's long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.

121. In 1948, President Truman pushed Chairman Marriner Eccles out of the chairmanship—but not the board—after he tried unsuccessfully to increase reserve requirements, which would have tightened the money supply. TODD, *supra* note 66, 27–28.

122. The contradictions reflected legislative compromises:

The Federal Reserve began operations in 1914 as a peculiar hybrid, a partly public, partly private institution, intended to be independent of political influence with principal officers of the government on its supervisory board, endowed with central banking functions, but not a central bank.

1 MELTZER, *supra* note 70, at 725–26. During this period, Chairman William McChesney Martin gave the Fed its contemporary shape, further increasing the power of the board over the FRBNY, resulting in a more cohesive structure. 2 MELTZER, *supra* note 70, at 35; *see also id.* at 43 ("The structure of the modern Federal Reserve is, in large part, Martin's creation.").

123. 2 MARKHAM, *supra* note 37, at 300.

124. During the 1950s, proposals from congressmen to change the Fed kept coming, although few prospered. 2 Meltzer, *supra* note 70, at 224. East Texan Representative Wright Patman saw the Fed as in cahoots with banks to keep interest rates high so as to exploit borrowers, especially farmers. TODD, *supra* note 66, at 35. So he peppered the Fed with requests for information and tried to bring it under tighter congressional control. *Id.* Presidents also pushed their preferences about monetary policy. Despite pressure from President Truman to keep long-term interest rates to 2.5%, the Treasury and the Fed agreed in 1951 that it would decide on monetary policy without interference by the Treasury. *Id.* at 33. Angered by the Fed's decision to increase interest rates in 1965, Lyndon B. Johnson tried unsuccessfully to push out Chairman William McChesney Martin. *Id.* at 37–38.

^{119.} Id.

mean that the Fed's decisions about monetary policy would no longer have to take into account the borrowing preferences of the Treasury. The Fed could instead raise rates immediately. 125

Vindicating the prescience of Benjamin Strong, open-market operations had come to replace the discount window as the key tool of credit policy. Concerned that it might be pressured to support longer-term borrowing by the Treasury ("quantitative easing" in today's euphemisms), the Federal Open Market Committee (FOMC) voted to concentrate its portfolio on the short end of the yield curve. It became known as the "bills only" doctrine. Focusing on short-term debt—mostly Treasury bills—meant that making markets for longer term securities would be left to private firms.

During the 1960 presidential campaign, Democrats criticized the bills only doctrine because they saw it as an obstacle to lower long-term rates, thought to be capable of stimulating spending. Nudged by President Kennedy, the Fed began to invest in longer-term Treasury securities. The theory was that the Fed could directly influence long-term interest rates as well as short-term ones, a policy to which we have returned today. Called Operation Twist after the dance of its day, it would consist of the Fed extending the term of its Treasury portfolio by selling short-term securities and buying long-term ones.

One of the more controversial decisions of the Fed during this period was to start dealing in foreign exchange. ¹³⁴ Again, the push for this came from the Kennedy Administration. ¹³⁵ The Fed disagreed internally about whether it had authority for these trades, with some preferring that Congress pass enabling legislation to do so. ¹³⁶ By a majority vote of the

^{125. 2} MARKHAM, supra note 37, at 299.

^{126. 1} MELTZER, *supra* note 70, at 744.

^{127. 2} MELTZER, *supra* note 70, at 35 ("To free itself from pressures to support the market for long-term debt, the Federal Reserve adopted a bills-only policy."); *see also id.* at 59 (describing the terms of the FOMC's unanimous vote in favor of the bills only policy).

^{128.} By affecting the amount of liquidity that dealers could get through repurchase agreements, the Fed's actions in the short-term money market would have an indirect influence on the price of long-term assets. MEHRLING, *supra* note 5, at 102.

^{129.} *Id.* at 54 ("Thenceforth the Fed would maintain orderly conditions at the short end, and rely on arbitrage and private dealers to bring orderly conditions to the long end.").

^{130. 2} MELTZER, supra note 70, at 315-16.

^{131.} Id. at 316.

^{132.} *Id.* at 317 (discussing Heller's memorandum to Kennedy asserting that the Fed could influence long term rates).

^{133.} Titan Alon & Eric Swanson, *Operation Twist and the Effect of Large-Scale Asset Purchases*, FEDERAL RESERVE BANK OF SAN FRANCISCO ECONOMIC LETTER (2011) (comparing the original Operation Twist with quantitative easing).

^{134. 2} MELTZER, supra note 70, at 348-58.

^{135.} Id. at 348 (citing objections of Congressmen Reuss, Multer, and Patman).

^{136.} Id. at 350.

Board, though, the Fed decided to authorize these foreign currency trades under its authorities to buy cable transfers, which involve claims to foreign exchange. ¹³⁷ Nevertheless, several congressmen accused the Fed of exceeding its statutory authorities. ¹³⁸

In 1966, Congress further expanded the Fed's authority over open-market operations by letting it buy and sell the direct obligations of any government agency. The same year, the FOMC adopted a trading modality that would become a stable transaction—reverse repurchase agreements. These agreements let the Fed absorb banks' excess reserves by entering into short-term loans collateralized by Treasury debt from the Fed's portfolio. Fed staff objected that because this amounted to a cash loan by a bank to the Fed, it might not be legal, and it might cast doubt about the Fed's own solvency. In the end, the FOMC approved the technique, which has gone on to become a staple of the Fed's market-making activities.

Skirmishes continued between the Fed and the political branches. ¹⁴⁴ To not overstate my argument, let me note that Congress narrowed the Fed's freedom of action at least once: the Federal Reserve Reform Act of

^{137.} Id. at 352 (citing objections of Congressmen Reuss, Multer, and Patman); id. at 349.

^{138.} Id. at 348 (citing objections of Congressmen Reuss, Multer, and Patman).

^{139.} Id. at 661.

^{140.} *Id.* at 464. In an ordinary repurchase transaction, the Fed made liquidity available to a bank by buying some of its Treasury securities and simultaneously entering into a future sale of those same securities back to the bank. By adjusting the original purchase price and repurchase price, the Fed could arrive at a notional rate of interest to be paid by the bank. A reverse repo followed the same mechanics but served the opposite policy of provisionally shifting some liquidity from the private banking system onto the Fed's balance sheet. *Id.* at 464. Again, the price difference between the two offsetting trades would establish a notional rate of interest, but this time it would be on a hypothetical loan from the bank to the Fed. *Id.*

^{141.} PARKER B. WILLIS, THE FEDERAL FUNDS MARKET: ITS ORIGINS AND DEVELOPMENT 27 (1970) (describing use of "matched sale-purchase-contract" to absorb bank reserves).

^{142. 2} MELTZER, supra note 70, at 464.

^{143.} Indeed, reverse repurchase agreements are one of the main ways that the Fed may use to pull back drain inflationary liquidity. Deborah Levine, *Fed Says Testing Reverse Repos for Future Use*, MARKET WATCH (Oct. 19, 2009) (noting that Fed officials have discussed using reverse repo to offset monetary easing).

^{144.} In 1978, Jimmy Carter coaxed William Miller out of the chairmanship position after only one year by making him Secretary of the Treasury. TODD, *supra* note 66, at 40–41. In 1988, Alan Greenspan complained before Congress about a Reagan official's attempt to influence the deliberations of the FOMC. *See* TODD, *supra* note 84, at 3; *see also* Art Pine, *Greenspan Discloses Attempt to Prod Fed to Ease Policy*, L.A. TIMES, Feb. 25, 1988. In 1986, Senator John Melcher unsuccessfully sued the Fed in district court arguing that appointing presidents of the regional Federal Reserve banks without congressional approval violated the Constitution. TODD, *supra* note 66, at 47–48. In 1988, another Texas congressman, Henry Gonzalez, used his chairmanship of the House Banking Committee to urge the Fed to disclose more about what it does. *Id.* at 49–50. Rep. Lee Hamilton introduced a bill in 1989 to put the Secretary of the Treasury on the Fed Board again. *Id.* at 49. In 1991, Senator Paul Sarbanes proposed a bill that would have kept the presidents of the regional Federal Reserve banks from voting on the FOMC. *Id.*

1977 required the Fed to report to Congress on a variety of policy matters. The trend line is clear though—alluvial growth of trading authority by statutory enactment and expansive statutory construction by the Fed. For example, in 1980 Congress gave the Fed authority to conduct open-market operations with foreign public debt. 146

A particularly important expansion of the Fed's emergency liquidity powers came in 1991. That year, Congress reformed the federal government's mechanism for resolving failed and failing banks with the Federal Deposit Insurance Act. The goal was to limit the federal government's exposure to financial risk from failing banks, sometimes magnified by discount window lending. When it came to the Fed's emergency powers under section 13(3), however, the statute went in the opposite direction by expanding the kind of collateral that the Fed could accept. It would presage the emergency liquidity efforts of 2008.

Since the Fed's founding, nonbank firms had had little practical access to the Fed's emergency credit because they tended not to have the kinds of assets that qualified as eligible collateral, first for the discount window and then for emergency lending under section 13(3). Much as the Panic of 1907 had encouraged Congress to revisit the issue of a central bank, the stock market crash of October 1987 persuaded Congress that the Fed's emergency liquidity powers should be broadened so that it could lend to a wider set of actors that could pledge different kinds of collateral. Although not framed in so many words, this was an implicit recognition of an incipient shadow banking sector.

Congress accomplished this objective by striking the language in section 13(3) that had limited collateral to the kinds of assets that were already eligible for discount. The practical effect of this change was to

^{145.} Emerson, *supra* note 17, at note 49 (conceding that the Federal Reserve Reform Act is a rare exception to the trend of expansion of authorities).

^{146.} Depository Institutions Deregulations and Monetary Control Act of 1980, Pub. L. No. 96-221.

^{147.} Federal Deposit Insurance Corporation Improvement Act of 1991, Pub. L. No. 102242, 105 Stat. 2236; *see also* M. MAUREEN MURPHY, CONG. RES. SERV., FDIC IMPROVEMENT ACT OF 1991 (PUB. L. 102242): A SUMMARY (1992).

^{148.} Walker F. Todd, *FDICIA's Discount Window Provisions*, ECON. COMMENT., Dec. 15, 1992, at 16 ("Congress felt compelled to address discount window administration in FDIC1A because of its concern that, under certain circumstances, discount window advances to troubled institutions could unnecessarily increase taxpayers" cost when the firms were eventually closed and liquidated, or sold by the FDIC.").

^{149.} Federal Deposit Insurance Corporation Improvement Act of 1991 § 473; see also Todd, supra note 105 at 16-23.

^{150.} Todd, supra note 105, at 22 (noting legislative history of collateral expansion).

^{151.} What this means is that "FDICIA expanded emergency discount window access for non-banks of all types, not merely securities firms, because any satisfactory assets (not just marketable

allow nonbank lenders and other kinds of entities to borrow under section 13(3), making this the Fed's most expansive permanent discount. This authority would lay dormant until used to help Bear Stearns (an investment bank) in 2008. Ironically, the sponsor of the 1991 collateral expansion was Senator Christopher Dodd, later responsible for the Dodd–Frank Act, which would go on to abridge this authority. 152

Congress increased the Fed's emergency lending authority again after September 11, 2001. Since its enactment during the Depression, the authority under section 13(3) had required a majority vote based on a quorum of five Fed Governors. Aware that some crises called for agility, Congress in 2002 lowered the quorum from five to two and required that all available Governors agree unanimously on the need for this kind of authority. In this situation, a written determination by the participating Governors would be needed, later transmitted to the Chairmen of the Senate Committee on Banking and the House Committee on Financial Services.

When archeologist Heinrich Schliemann excavated Troy, what he found was seven different cities, one on top of each other. The Fed's roles were similarly layered—it was at first a banker's bank, and then a market maker, and finally it became a trustee for Congress's impossible expectations imposed in a mixed mandate over both inflation and employment. Market exigencies were about to create a new Fed.

securities, for example) may be pledged to secure the borrower's own note." Todd, *supra* note 148, at 18.

^{152.} Todd, supra note 105, at 20 (1993) (quoting Sen. Dodd from the Congressional Record).

^{153.} Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, § 301, 116 Stat. 2340 (amending the Federal Reserve Act and adding § 11(r), 12 U.S.C. §248(r)). That same year, the Fed also adopted a regulation clarifying how credit under section 13(3) was to be extended:

Emergency credit for others. In unusual and exigent circumstances and after consultation with the Board of Governors, a Federal Reserve Bank may extend credit to an individual, partnership, or corporation that is not a depository institution if, in the judgment of the Federal Reserve Bank, credit is not available from other sources and failure to obtain such credit would adversely affect the economy. If the collateral used to secure emergency credit consists of assets other than obligations of, or fully guaranteed as to principal and interest by, the United States or an agency thereof, credit must be in the form of a discount and five or more members of the Board of Governors must affirmatively vote to authorize the discount prior to the extension of credit. Emergency credit will be extended at a rate above the highest rate in effect for advances to depository institutions.

⁶⁷ Fed. Reg. 67,786 (Nov. 7, 2002).

^{154.} Terrorism Risk Insurance Act § 301.

^{155.} Susan Heuck Allen, Finding the Walls of Troy: Frank Calvert and Heinrich Schliemann at Hisarlík 147 (1999).

III. FINANCIAL HOSPITALS: AN EXPANDED ROLE FOR THE FED

As the opening hypothetical from Part I shows, lenders are expected to borrow short and lend long.¹⁵⁶ This works so long as funding markets let them refinance. From the perspective of stewarding funding markets, the crisis became acute when lenders could not roll over their short-term debt. This was when the Fed morphed into a market maker of last resort.¹⁵⁷ Section A sets up the crisis by explaining how the rise of new funding products and nonbank lenders had changed the Fed's theater of operations. Since the Fed's establishment, a shift had occurred towards "capital market-based finance" and away from traditional lenders like banks.¹⁵⁸ This was not entirely a surprise, after all, because Congress's expansion in 1991 of collateral eligibility for section 13(3) had nodded to these trends.

Accordingly, between March and December 2008, the Fed expanded its secured lending to nonbank firms and funding vehicles, which were allowed to post a wide range of collateral.¹⁵⁹ The expansion operated on two liquidity tracks—limited-liability companies linked to particular firms, and programs that directed support to particular asset classes or intermediaries. Section B examines the limited-liability companies, called "Maiden Lane" after the street address of the NYFRB. Section C examines the programs.

A. Interbank Funding

Beginning late in the twentieth century, funding markets had undergone important changes, with important implications for both the asset-side and the liability-side of lender balance sheets. First, on the assetside, banks had begun to face competition from nonbank lenders in the

^{156. &}quot;A classic function of banking [is]... increasing the supply of long-term and fixed-rate credit available to borrowers, which a bank can do by borrowing at shorter terms and at both fixed and floating terms and then professionally managing the risks of term and rate mismatches on its balance sheet." Gabilondo, *supra* note 22, at 265 & n.38.

^{157.} An analysis by the Congressional Research Service lists twenty-six potential causes of the 2007 financial crisis. MARK JICKLING, CONG. RES. SERV., R 40173, CAUSES OF THE FINANCIAL CRISIS (Apr. 9, 2010). The Fed has direct or indirect responsibility for half of them, e.g., housing bubble, shadow banking, failure of bank risk management systems, Community Reinvestment Act, and systemic risk. *Id.* at 5–10.

^{158.} State Street, Securities Lending, Liquidity, and Capital Market-Based Finance, in SECURITIES FINANCE: SECURITIES LENDING AND REPURCHASE AGREEMENTS 40 (Frank J. Fabozzi and Steven V. Mann eds., 2005) ("Capital markets in [the United States and the United Kingdom] have, in fact, replaced banks as the dominant source of corporate finance.").

^{159.} See, e.g., Isabella Kaminska, A Tale of Two Collateral Markets, FIN. TIMES (Dec. 19, 2011), http://ftalphaville.ft.com/blog/2011/12/19/793211/a-tale-of-two-collateral-markets/.

"shadow banking" sector. 160 These shadow banks included securities firms, hedge funds, money market mutual funds, and special purpose vehicles designed to raise funds. 161 Bank-dominated lending had given way to markets in which banks, nonbank financial institutions, and other firms originated and traded credit. Not subject to regulation as depository institutions, these nonbank firms lacked access to the Fed's last resort funding.

Second, the funding model for lenders—addressing the liability-side of the balance sheet—had changed. Demand deposits—a traditional source of lendable funds—decreased as customers moved their funds into other types of financial institutions. Around 1961, commercial banks had begun to issue large certificates of deposit. As part of this process, banks looked for substitute funding not only from securitization but also from other wholesale lenders and financial markets. In effect, both depository institutions and other lenders had adopted a new funding model to serve their traditional roles.

For example, money market mutual funds had become the single largest investor of commercial paper, used by firms to finance their short-term credit needs. ¹⁶⁵ Often this meant using a limited-liability company. For example, a company set up to issue asset-backed commercial paper would issue short-term commercial paper collateralized by asset-backed securities created from long-term mortgages. ¹⁶⁶ This arrangement solved the classic funding challenge faced by lenders of borrowing short (through commercial paper) and lending long (through the underlying mortgages), but it worked only if the commercial paper could be refinanced upon maturity at the same interest rate.

162. Comptroller of the Currency, Liquidity: Comptroller's Handbook 1–2 (2012) (discussing risk implications to banks of shrinking deposit base).

^{160.} POZSAR ET AL., *supra* note 21, at 1 ("Over the past decade, the shadow banking system provided sources of funding for credit by converting opaque, risky, long-term assets into money-like, short-term liabilities.").

^{161.} *Id*.

^{163.} Rob J.M. Willemse, *Large Certificates of Deposit*, *in* Instruments of the Money Market, *supra* note 56, at 39.

^{164.} STEVEN L. SCHWARCZ, BRUCE A. MARKELL & LISSA LAMKIN BROOME, SECURITIZATION, STRUCTURED FINANCE AND CAPITAL MARKETS 1-3 (2004) (tracing the growth of securitization from the 1970s).

^{165.} Adrian et al., *The Federal Reserve's Commercial Paper Funding Facility*, FRBNY ECON. POL'Y REV., May 2011, at 25, 28, *available at* http://www.newyorkfed.org/research/epr/11v17n1/1105adri.pdf; *see also* Timothy Q. Cook & Jeremy G. Duffield, *Money Market Mutual Funds and Other Short-Term Investment Pools*, in INSTRUMENTS OF THE MONEY MARKET, *supra* note 56, at 156, 157 (discussing the growth of money market mutual funds since 1972).

^{166.} Adrian et al., supra note 165, at 26.

Funding came to be understood as an "interbank" phenomenon, with new opportunities and risks. ¹⁶⁷ In the old world of a deposit-funded loan held to maturity, a liquidity panic would have started when depositors made a run on a bank's deposits. ¹⁶⁸ Federal deposit insurance mitigated the risk of a panic, but in the unlikely event of one nonetheless the lender-of-last-resort function would come into play; the solvent but illiquid bank could borrow from the Fed on eligible collateral until the panic passed. In a world of nonbank lenders and fickle trading markets, though, stabilizing a run was more complicated. ¹⁶⁹ One wholesale lender's risk assessment of a borrower could cause a panic if other lenders followed suit. ¹⁷⁰ Moreover, the secondary market for credit made it easy for price signals to travel anonymously and quickly. So it was not enough to worry about a firm's liquidity—the whole markets mattered now.

As suggested by Part I, lender funding had been the Fed's problem since its establishment.¹⁷¹ Not only did these markets promote bank liquidity, they were also where the Fed pursued monetary policy, expecting that changing bank reserves would influence the credit supply and longer-term interest rates.¹⁷² In particular, the Fed had stewarded the money market.¹⁷³ This included participating in markets for commercial paper,¹⁷⁴ bankers' acceptances,¹⁷⁵ and the call-loan market, where inves-

^{167.} Not surprisingly, new risk management products developed. In 1968, short-term interestrate futures entered the market. Anatoli Kuprianov, *Short-Term Interest Rate Futures*, *in* INSTRUMENTS OF THE MONEY MARKET, *supra* note 56, at 168–69. The following year, options on short-term interest rate futures followed. *Id.* at 193–206.

^{168.} Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* 1 (Yale Int'l Ctr. for Fin., Working Paper 09-14, Nov. 9, 2010) ("A traditional-banking run is driven by the withdrawal of deposits, while a securitized-banking run is driven by the withdrawal of repurchase ("repo") agreements.").

^{169.} These were the risks that the last crisis put on display:

A bank's reliance on the financial markets for funding, however, can also increase the level, uncertainty, and complexity of a bank's liquidity risk profile . . . funding from financial markets also exposes a bank to heightened systemic liquidity risk [due to] the volatility of global and domestic funds supply and demand, unexpected disruptions in normal market trading and pricing, settlement and operational interruptions, and pronounced adjustments in a market's risk pricing and acceptance.

Id. at 18.

^{170.} *Id.* (arguing that "securitized banking" funded by repurchase agreements came to substitute for "traditional banking" funded by deposits).

^{171.} See supra notes 78–83, 94–102.

^{172.} Craig Furfine, *The Interbank Market During a Crisis* 1 (Bank for Int'l Settlements, Working Paper No. 99, 2001) ("[I]t is in [interbank] markets that central banks actively intervene to guide their policy interest rates.").

^{173.} Historically, we divide financial markets into a money market with instruments of one year or less and a capital market with instruments of longer than one year. *See generally* INSTRUMENTS OF THE MONEY MARKET, *supra* note 56.

^{174.} David L. Mengle, *The Discount Window*, in Instruments of the Money Market, supra note 56, at 23, 31.

tors borrowed money from stock brokers to purchase stock on margin. 176 When the Treasury began offering short-term Treasury bills in 1929, the Fed's open-market operations supported their liquidity. ¹⁷⁷ The Fed also supported self-sustaining money markets where banks could fund themselves. One example was the federal funds market, a trading mechanism that let banks with excess reserves sell them to banks in need of reserves. 178

The Fed had also contributed to the repurchase (repo) sector, which would assume primordial importance in the interbank funding model.¹⁷⁹ During the 1950s, private dealers had begun financing their inventories of Treasury debt through repo agreements in which the seller of the security promised to buy it back. 180 Though structured as back-to-back purchases, these transactions were, in effect, secured loans using Treasury debt as collateral. Repo let firms get cheap credit by pledging Treasuries as collateral for short-term cash loans, reducing both the firm's cost of holding Treasuries and the federal government's cost of issuing them.¹⁸¹ The borrowed cash could be profitably reinvested before repayment.

^{175.} Eric Hill, Bankers Acceptances, in INSTRUMENTS OF THE MONEY MARKET, supra note 56, at 126, 132.

^{176.} Both the U.S. government and foreign governments began to borrow heavily during World War I, however, making it harder for brokers to fund their margin loans to customers. 2 MARKHAM, supra note 37, at 80. To respond to the concern that shortages of short-term call money would disrupt both the stock market and the Treasury's own market for government securities, a Money Committee was formed with the FRBNY chief and New York banking officials. Id. at 80-81. The Committee dissolved itself after two years, but it presaged the Fed's future role in regulating margin credit. Id. Margin credit contributed importantly to the speculation leading to the Great Crash. See id. at 150 (noting that banks could borrow from the Fed at 3.5% and relend in the call money market at 10%).

^{177.} Timothy Q. Cook, Treasury Bills, in INSTRUMENTS OF THE MONEY MARKET, supra note 56, at 81; see also Garbade, supra note 6.

^{178.} WILLIS, supra note 141, at 4. Before its rise, banks short of cash could finance their reserve requirement through the Fed's discount window, but banks wanted other ways to manage their reserves. Some banks had excess reserves looking for investment. In the early 1920s, banks realized that they could trade these excess reserves, giving banks short on reserves an option to the discount window. Id. Initially, the Fed did not encourage the funds market because it deprived the Fed of information about the financial condition of banks, as reflected in the factors that influence their reserve position. Id. at 5. The market took off nonetheless. It would become one of the central ways that the Fed conducted monetary policy.

^{179.} Stephen A. Lumpkin, Repurchase and Reverse Repurchase Agreements, in INSTRUMENTS OF THE MONEY MARKET, supra note 56, at 65, 73-74.

^{180.} WILLIS, supra note 141, at 22-24.

^{181.} Formally, the deal includes a pair of offsetting contracts—for example, a spot agreement to sell a security matched by a forward agreement to buy back the security. It is in substance a collateralized loan.

Broker-dealers relied on this kind of overnight funding more than commercial banks did. 182

Developments in repo were symptomatic of what was happening in the funding market in general. A repo bubble had developed, as the market increased seven-fold since 1994. Although repo had tended to be confined to government securities, collateral markets now developed for repoing other kinds of assets too. Moreover, the percentage of overnight deals had increased, shortening the average term of these deals. 185

These developments had weakened the Fed's grip on its policy role because funding was taking place in markets in which the Fed neither discounted nor traded. Though the locus of funding had changed, it still mattered for the same reasons. For example, the imminence of funding transactions made them important as liquidity signals—if a firm could not pay its overnight debt, its long-term solvency was in peril. Price moves in interbank deals could also first reflect more permanent differences in the trading value of credit assets. It was a critical node, then, one that could send early warnings about the financial sector. Because it involves direct financial links (both on and off the balance sheet) between financial firms, it could signal systemic risk. So it was natural that the Fed would take an interest in the growing influence of interbank mechanisms.

^{182.} See Adrian et al., The Federal Reserve's Primary Dealer Credit Facility, 15 CURRENT ISSUES ECON. & FIN., no. 4, 2009, at 1–10, 2 (finding that repo deals for 2007 made up 38% of the short-term liabilities of broker-dealers but only 10% of those for commercial banks).

^{183.} *Id.* at 2 (noting that the market increased from \$450 billion to \$3 trillion).

^{184.} See Adrian et al., supra note 182, at 2 (noting a variety of financial instruments financed by repurchase arrangements).

^{185.} See id. at 3 (noting that the proportion of overnight deals increased from 50% to 75% of overall market).

^{186.} As Perry Mehrling points out:

It is in the daily operation of the money market that the coherence of the credit system, that vast web of promises to pay, is tested and resolved as cash flows meet cash commitments. The web of interlocking debt commitments, each one a more or less rash promise about an uncertain future, is like a bridge that we collectively spin out into the unknown future towards shores not yet visible.

MEHRLING, supra note 5, at 3–4.

^{187.} Even small changes in the estimates of this risk—as measured by the terms that overnight lenders impose—may be significant indicators of how the market is seeing an instrument's long-term prospects.

^{188.} Christian Upper, Using Counterfactual Simulations to Assess the Danger of Contagion in Interbank Markets (Bank for Int'l Settlements, Working Paper No. 234, 2007) (examining the role of interbank links in spreading financial contagion). Risk can be expressed in terms of the proportion of a bank's assets that consist of loans to other banks. Id. at 2. Bank regulators pay special attention to accounts that banks have with other banks. See also COMPTROLLER OF THE CURRENCY, COMPTROLLER'S HANDBOOK ON DUE FROM BANKS (1998) (providing analysis and examination procedures for bank deposits in other banks).

The scope of the interbank market, however, was no longer clear. 189 In its narrowest sense, it meant only credit exposures between federally insured depository institutions, namely, banks. ¹⁹⁰ It could also include the discount window, federal funds, and repurchase agreements. 191

Given the rise of nonbank lenders and funding vehicles, we should define the interbank sector broadly, capturing any mechanism used to shift or transfer short-term credit risk between financial firms. 192 This would incorporate the trader's sense that the interbank sector refers to a variety of secured and unsecured credit—both term and overnight—used by financial firms other than depositary institutions. 193 A broad definition would also include swaps, options, futures, and money market mutual funds insofar as they relate to the debt of a lender. 194 As academics

^{189.} A broader definition makes sense because it is not clear anymore what counts as a "bank." It is not only banks that intermediate maturity but also other firms and financing vehicles. This idea draws on John Maynard Keynes's notion from the 1930s about the priority of the financial sector, Hyman Minsky's work from the 1980s on financial instability, and Ben Bernanke's efforts to study the "financial accelerator." See Gabilondo, supra note 9, at 447; see also supra notes 125-39. Bernanke is widely understood to favor central bank support during a credit crisis, but this idea rests largely on the premise that the financial sector is a crucial part of the economy, an insight not appreciated during the Depression. WESSEL, supra note 47, at 44.

^{190.} See 12 C.F.R. § 206 (2003). Sometimes even more narrowly it refers to unsecured lending between banks. Joao F. Cocco et al., Lending Relationships in the Interbank Market, 18 J. FIN. INTERMEDIATION 24 (2007), available at http://faculty.london.edu/fgomes/cgmart.pdf.

^{191.} Repurchase agreements also provide central banks with a mechanism to influence the credit supply and with information about major financial institutions. COMM. ON THE GLOBAL FIN. SYS. OF THE CENTRAL BANKS OF THE GRP. OF TEN COUNTRIES, BANK FOR INT'L SETTLEMENTS, PUB. NO. 10, IMPLICATIONS OF REPO MARKETS FOR CENTRAL BANKS 1 (1999) ("Repos are useful to central banks both as a monetary policy instrument and as a source of information on market expectations.").

^{192.} You can see securitization as a way of externalizing what would otherwise count as interbank claims, say through whole-loan exposures to other financial intermediaries. A functional definition of interbank funding should, therefore, recognize the economic similarity between an explicit interbank asset (like a loan to another financial firm) and a bank's ongoing exposure to securitized assets that can morph into de facto interbank assets. Take the purchaser of an asset-backed tranche from a special-purpose vehicle. Assuming that a true sale has occurred, the purchaser has no ongoing relationship to the vehicle's sponsor or the originator of the receivables purchased by the vehicle. But if the purchaser later ends up with a claim against the sponsor or originator through moral recourse or to a third party that has provided some kind of liquidity backing, then some new de facto interbank relationships have been created from the purchaser to these other parties. This might happen if the bank is providing a liquidity guarantee to an asset-backed commercial paper conduit or a structured-investment vehicle, both of which proliferated during the bubble. Xavier Freixas, Antoine Martin & David Skele, Bank Liquidity, Interbank Markets, and Monetary Policy (Eur. Banking Ctr. Discussion, Working Paper No. 2010-08S, 2010) (pointing out the contingent liquidity risk of banks that had issued liquidity guarantees).

^{193.} In Europe, the Wholesale Markets Brokers Associations promotes indices to track interbank lending. See WHOLESALE MARKETS BROKERS' ASS'N, http://www.wmba.org.uk/pages/in dex.cfm (last visited July 4, 2012).

^{194.} See Felix Salmon, Money Markets Are the New Interbank Markets, REUTERS BLOG (June 27, 2012), http://blogs.reuters.com/felix-salmon/2012/06/27/money-markets-are-the-new-interbankmarkets/. For example, rates on the overnight indexed swap (OIS) are often used as a benchmark to

mulled over these admittedly intriguing questions, the Fed was beginning to face the prospect of major organ failure in the financial system. ¹⁹⁵ In the end, the Fed would sweep up new sectors of the interbank market through the financial hospitals analyzed in sections B and C.

The liquidity predicate for the crisis had started during the Greenspan years, when loose money fed a credit bubble. This would begin to change in July 2007 as indicators suggested rising credit risk. Worsening during the summer, that August a French bank stopped redeeming some of its funds after concluding that it could not value some securities backed up by U.S. subprime mortgages. Soon the overnight rate that London banks paid for uncollateralized funds—the London Inter-Bank Offer Rate (LIBOR)—began to increase, rising substantially in comparison with its U.S. cousin, the federal funds rate. Borrowers in the LIBOR market are viewed as having sterling credit, so it was noteworthy when the market expressed increasing concern about these borrowers' creditworthiness.

evaluate rates on repo deals. Hördahl & King, *supra* note 35, at 42. The OIS contract is a variation of the "vanilla" fixed-for-floating swap. A fixed-rate payer receives the average of overnight rates during the term of the swap. *Id.* at 37. Net settlement happens at the end of the swap. *Id.*

195. These are economic models that evolve based on new economic theory. Mark Whitehouse, *Crisis Compels Economists to Reach for New Paradigm*, WALL ST. J., Nov. 4, 2009, at 1 (examining Yale economist John Geanakoplos's work on how collateral markets impact leverage cycles). Central bank researchers have already begun to consider this issue. For example, in 2001, the Bank for International Settlements published a study examining the role of central banks in collateral markets. Working Grp. on Collateral, Comm. on the Global Fin. Sys., Bank for Int'l Settlements, Pub. No. 17, Collateral in Wholesale Financial Markets: Recent Trends, Risk Management and Market Dynamics (2001), *available at* http://www.bis.org/publ/cgfs17.htm. The study was precipitated by the fear—ironic today—that budget surpluses in the United States and other borrower nations would lead to a shortage in government debt collateral. *Id.* at 12. The report noted that central banks had little effect on the private collateral market because central bank lending was small relative to the overall debt market, although private parties might prefer to hold collateral deemed by a central bank to be eligible for secured lending by it. *Id.* at 17.

196. Alan Greenspan served as chair of the Federal Reserve from 1987 to 2006. At the time, he was seen as having contributed to great prosperity, although, in hindsight, some see many of the economic gains from that time as illusory. WESSEL, *supra* note 47, at 50–66. Initially, Bernanke kept Greenspan's monetary policies. *Id.* at 84 ("Greenspan had been steadily raising the Fed's key interest rate for years; Bernanke continued to do so and indeed left many of his predecessor's monetary policies untouched.") The stock market would keep rising until October 2007, when the Dow Jones Industrial Average broke 14,000 for the first time. *Id.* at 92.

^{197.} Stephen G. Cecchetti, *Crisis and Response: The Federal Reserve in the Early Stages of the Financial Crisis*, 23 J. ECON. PERSPECTIVES 51, 57 (2009) (noting that spreads on certain credit products had begun to widen).

^{198.} *Id*.

^{199.} *Id.* at 57–59 (noting that usual ten basis point spread between LIBOR and Fed funds widened to between 25 and 106 basis points through the fall of 2007).

^{200.} The LIBOR was rocked by its first major scandal in July 2012 when Barclay's admitted that it had deliberately underestimated its borrowing costs.

By mid-2007, the repo sector began to show signs of these stresses. 201 Lenders had become willing to make only shorter term loans. 202 This meant that borrowers had to refinance more frequently. 203 Corporate debt and structured finance products could no longer be financed by repo as lenders sought higher quality collateral. 204 Moreover, an increasing number of lenders were refusing to return their collateral, meaning that the second leg of the paired transaction—the original purchase and the subsequent repurchase—did not occur, leading to settlement failures. 205 Banks could borrow longer than overnight, but only with collateral, which increased demand for Treasury securities. By March 2008, the par value outstanding of securities that were being used as collateral shrank from \$4.5 trillion to \$2.5 trillion. 207 These were unsettling trends.

This time, the challenge facing the Fed—too much integration of financial markets—was the opposite of the fragmented commercial paper market from the previous century. Textbook Bagehot, the Fed went into the lender-of-last-resort mode, opening the liquidity floodgates to banks with traditional collateral eligible for emergency lending. The Fed started with its traditional tools—lowering the discount rate and the federal-funds target. Utting the discount rate by 0.5%—a large move—temporarily reduced pressure. This rate would eventually drop from 5.25% in August 2007 to zero, leaving the Fed with none of its traditional options for increasing the credit supply.

The Fed also made it easier for banks to get traditional funding by extending the term of discount window lending and letting banks pledge a wider range of collateral.²¹² It was a cautious step towards acting as a

^{201.} Cecchetti, supra note 197, at 51-75, 61-62 (noting that the repo rate fell).

^{202.} Hördahl & King, *supra* note 35, at 37 ("Despite the presence of collateral, repo markets were quickly affected by the turmoil . . . repo transactions were increasingly restricted to short maturities and against only the highest-quality securities.").

^{203.} Id. at 43.

^{204.} Id.

^{205.} Id. at 37, 46.

^{206.} Krishna Guha, Fed's Eyes Foray into Unsecured Loans, FIN. TIMES, Oct. 6, 2008 (analyzing Fed's options in the nonbank interbank market).

^{207.} See Adrian et al., supra note 182, at 2.

^{208.} See id at 5.

^{209.} Johnson, *supra* note 1, at 7; *see supra* note 14 (discussing the six major activities that Johnson identifies).

^{210.} Saskia Scholtes & Joanna Chung, *Many Question Fed's Move*, FIN. TIMES, Sept. 19, 2007 ("Initial reactions to these cuts have been positive, say traders, but they caution that conditions remain far from normal.").

^{211.} WESSEL, *supra* note 47, at 242–47 (describing the dilemma caused in a zero interest rate policy—"ZIRP"—environment).

^{212.} The Term Discount Window Program and the Term Auction Facility extended the term of some discount window lending and broadened the kinds of securities that commercial banks could post as collateral for loans. Johnson, *supra* note 1, at 10–11; Press Release, Fed. Reserve, Federal

market maker of last resort, but it only benefitted banks—the Fed's traditional liquidity clients.²¹³ More radical steps would be needed to reach the shadow-banking sector, whose exact dimensions—hazy during the bubble—would emerge more clearly during the crash one deal at a time. The Fed was confronting the regulatory gap that had led to the 1991 relaxation of collateral requirements for emergency lending: markets would also have to be made on behalf of nonbank firms holding unorthodox collateral. Luckily, section 13(3) and its serial liberalization had put the Fed in a position to address this gap more actively than it had during the Depression.²¹⁴ As a Fed governor quipped, "[t]he script was rewritten so that product innovation flowed, but this time from the public authorities."²¹⁵

B. Inpatient

Using section 13(3), the Fed established three limited-liability companies to make a market for structured finance assets that had become stranded on the balance sheets of Bear Stearns and AIG, two non-bank firms. Once established, the Fed started trading out of its position. By June 2012, the Fed had been repaid in full with interest for all of its loans to these entities. Although consolidated on to the Fed's balance sheet, each company was separately capitalized, so I discuss each in turn. ²¹⁷

1. Maiden Lane I (Repurchase Markets)

The first major sign (to financial markets and, indeed, to itself) that the Fed was broadening its market-making role was the deal done for

Reserve and Other Central Banks Announce Measures Designed to Address Elevated Pressures in Short-Term Funding Markets (Dec. 12, 2007), available at http://www.federalreserve.gov/monet arypolicy/20071212a.htm. Short-term rates did lower after the announcement of the TAF and other measures, although it is not clear how much the TAF had to do with it. David C. Wheelock, Another Window: The Term Auction Facility, Monetary Trends (Mar. 2008), available at http://research.stlouisfed.org/publications/ mt/20080301/cover.pdf.

^{213.} Krishna Guha, Fed to Overhaul Provision of Market Liquidity, FIN. TIMES, Dec. 13, 2007 (noting the goal of the programs was "making dollar liquidity more readily available in both the onshore and offshore funding markets"); Krishna Guha, Fed Moves to Ensure There Is Enough for the New Year, FIN. TIMES, Nov. 27, 2007 (noting year-end demand of banks for liquidity).

^{214.} WESSEL, *supra* note 47, at 40 ("The institution was still in its adolescence when it confronted and failed its biggest test: misstep after misstep on the Fed's part turned a bad late-1920s recession into the Great Depression.").

^{215.} Warsh, supra note 26.

^{216.} Press Release, Fed. Res. Bank of N.Y., New York Fed Announces Full Repayment of its Loans to Maiden Lane LLC and Maiden Lane III LLC (June 14, 2012) (on file with author).

^{217.} The Fed includes financial information about the Maiden Lane transactions in its weekly release of its own financial condition. *H.4.1 Factors Affecting Reserve Balances*, FED. RES., http://www.federalreserve.gov/releases/ h41/current/ (last visited Nov. 12, 2012).

Bear Stearns, an investment bank beyond the charmed circle of the Fed's liquidity clients. Bear's financial problems had started in a sector that had attracted relatively little attention before the crisis—the repo market. Borrowing short and investing long during the repo bubble, Bear had been acting like a commercial bank, with one key difference—it lacked the liquidity safety net provided by the federal government to encourage banks to mismatch their assets and liabilities. For Bear, the music stopped in March 2008, when its secured-repo lenders refused to roll over their overnight loans. 220

It was now that the Fed turned to section 13(3). Because Congress had steadily broadened the kinds of collateral and firms that qualified for emergency assistance and relaxed the quorum requirement for action, the Board was able to act quickly.²²¹

To that end, it established a limited-liability company, Maiden Lane. The Fed lent to the vehicle, which purchased assets associated with Bear Stearns' mortgage unit. Half of these assets were mortgage-backed securities (MBS) guaranteed by government-sponsored entities. The other assets included whole mortgage loans (both commercial and residential) that were performing at the time of the purchase. The vehicle also bought swaps and forward contracts related to Bear's mortgage business. By keeping Bear viable, Maiden Lane obviated the need for Bear's collateralized lenders to sell their collateral, which would have further depressed prices in the interbank market.

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^{218.} In 1982, Federal Reserve official Jerry Corrigan identified three functional features that made banks "special," in the sense that they justified their unique access to liquidity support from the government. E. Gerald Corrigan, *Are Banks Special?*, in FED (1983), available at http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=684. These three features were that banks provide transaction accounts for consumers and firms, that they stand ready to provide backup liquidity in moments of market crisis, and that the Federal Reserve uses the banks for monetary policy. Disintermediation away from depository institutions made other firms "special" too

^{219.} See Gabilondo, supra note 22, at 265–66 (adding maturity mismatch as an element to Jerry Corrigan's model of what made banks special).

^{220.} See Gabilondo, supra note 9; supra notes 109-12 and accompanying text.

^{221.} See supra notes 147-51 and accompanying text.

^{222.} The Federal Reserve Bank of New York has established a website with comprehensive information about these transactions. *Maiden Lane Transaction*, FED. RES. BANK OF N.Y., http://www.newyorkfed.org/markets/maidenlane.html (last visited Nov. 12, 2012)

^{223.} These MBS amounted to about \$13 billion. Press Release, Fed. Res. Bank of N.Y., Summary of Terms and Conditions Regarding the JPMorgan Chase Facility (Mar. 24, 2008).

^{224.} Fed. Res. Bank of N.Y., Annex II Portfolio Overview (itemizing composition of Maiden Lane), available at http://www.newyorkfed.org/newsevents/speeches/2008/AnnexII.html.

^{225.} *Id.* All the investment-grade securities were rated BBB- or higher by at least one of the major credit rating agencies. *Id.*

^{226.} This is because part of the value of the asset serving as collateral depended on leveraged liquidity. Gabilondo, *supra* note 9, at 466–67. A reduction in the leverage that had underwritten demand for the asset would effectively reduce the value of the asset.

Although much of the collateral was public, its quality was uneven. Maiden Lane's audited financial statements for 2008 (its first year) do not specify whether any of these were sub-investment grade assets, but at the time, at least 3% of the fair value of the securities had ratings no higher than BB+, which is the lowest investment-grade rating. This suggests that some of these assets were of relatively low quality. Their credit quality declined substantially over the life of Maiden Lane, such that in 2011 over one-half of its fair value was made up of securities rated no higher than BB+.

The Fed adhered to the fair-value standards of the Financial Accounting Standards Board when establishing its financial hospitals.²²⁹ These standards create a valuation hierarchy for assets, which are categorized into one of three levels based on whether active trading markets exist for the asset or its proxy.²³⁰ A Level 1 asset is one for which there is an active market that provides directly observable price and quote infor-

^{227.} MAIDEN LANE LLC, CONSOLIDATED FINANCIAL STATEMENTS FOR THE PERIOD MARCH 14, 2008 TO DECEMBER 31, 2008 AND INDEPENDENT AUDITOR'S REPORT 18 (2008), available at http://www.newyorkfed.org/aboutthefed/annual/annual08/MaidenLanefinstmt2009.pdf (dividing type of security by credit rating on March 14, 2008).

^{228.} MAIDEN LANE LLC, CONSOLIDATED FINANCIAL STATEMENTS AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2011 AND 2010, AND INDEPENDENT AUDITOR'S REPORT 21 (2011), available at http://www.federalreserve.gov/monetarypolicy/files/BSTMaidenLaneLLCfinstmt2011.pdf.

^{229.} Although generally accepted accounting rules would have required Maiden Lane to report its value yearly, the Fed began publishing quarterly valuations of Maiden Lane. Federal Reserve Bank of New York, Annex II Portfolio Overview (itemizing composition of Maiden Lane), available at http://www.newyorkfed.org/newsevents/speeches/2008/AnnexII.html. The following quarter, the Fed claimed that the value of the portfolio had remained essentially unchanged. See H.4.1 Factors Affecting Reserve Balances, FED. RES. (July 3, 2008), http://www.federalreserve.gov/releases/ h41/20080703/; Michael Mackenzie, Fed Values Bear Stearns Assets at \$29bn, FIN. SERVICES (July 4, 2008), http://www.ft.com/intl/cms/s/0/50cf74a6-494c-11dd-9a5f-000077b07658.html. In April 2010, the Fed revealed more details about the assets that Maiden Lane had acquired, including their values and CUSIP number. See Press Release, Fed. Reserve Bank of N.Y., New York Fed Releases Additional Information on Maiden Lane Portfolios (Mar. 31, 2010), available at http://www.ny.frb.org/newsevents/news/markets/2010/ ma100331.html; see also Craig Torres, Bob Ivry & Scott Lanman, Fed Reveals Bear Stearns Assets Swallowed to Get JPMorgan to Rescue Firm, BLOOMBERG (Mar. 31, 2010), http://www.bloomberg.com/news/2010-04-01/fed-reveals-bearstearns-assets-swallowed-to-get-jpmorgan-to-rescue-firm.html. This data was raw rather than very processed, so analysts and critics began to do their own analysis of the Fed's data disclosure. David Merkel, Thoughts on Maiden Lane II, ALEPH BLOG (Apr. 4, 2010), http://alephblog.com/ 2010/04/04/thoughts-on-maiden-lane-iii/.

^{230.} See FIN. ACCT. STANDARDS BD., STATEMENT NO. 157, FAIR VALUE MEASUREMENT: DETERMINING THE FAIR VALUE OF A FINANCIAL ASSET WHEN THE MARKET FOR THAT ASSET IS NOT ACTIVE (2008), available at http://www.fasb.org/cs/BlobServer?blobkey=id&blobwhere=1175820925446&blobheader=application%2Fpdf&blobcol=urldata&blobtable=MungoBlobs (interpreting fair value for inactive markets); see also Tammy Whitehouse, When Bear Stearns Rammed into Fair Value, Compliance Wkly., Apr. 8, 2008 (noting the difficulty of applying FAS 157 when trading liquidity dries up); Richard J. Herring, Fair Value Accounting, Disclosure and Financial Stability: Does How We Keep Score Influence How the Game Is Played? (Wharton Fin. Inst. Ctr., Working Paper No. 11-72, 2011).

mation.²³¹ A Level 2 asset is one without an active market but with a proxy market in which price information about a similar asset can be observed directly.²³² A Level 3 asset has neither an actual nor a proxy market.²³³ It is priced based on the investor's own assumptions, often using a proprietary valuation model.

None of the assets purchased by Maiden Lane (the first collateral deal) had an active market; hence, all of the purchased assets were initially classified as Level 2 or 3.²³⁴ By the end of 2009, however, the trading markets for many of these assets had increased such that some assets moved higher up on the valuation hierarchy to Level 1. By 2012, Maiden Lane had repaid the loan from the Fed in full, although the Fed stands to make more money after other subordinated investors have been repaid.²³⁵

2. Maiden Lane II (Securities Lending)

As 2008 unfolded, the Fed began to see that Bear was not alone in terms of collateral problems. The next Maiden Lane responded to AIG, an insurance company. Insurance companies do not ordinarily suffer liquidity problems of this type, but AIG began experiencing a serious liquidity crisis due to its securities lending activities (discussed here) and its unregulated dealing in credit derivatives (discussed below in the context of Maiden Lane III). The firm's liquidity problems had begun to emerge in 2007 and had worsened in the spring of 2008 after a credit downgrade. The firm's liquidity problems had begun to emerge in 2007 and had worsened in the spring of 2008 after a credit downgrade.

In securities lending, AIG would lend out some of its securities, receive cash collateral, and then invest that collateral in investment-grade

^{231.} Herring, supra note 230, at 6

^{232.} Id.

^{233.} Id.

^{234.} MAIDEN LANE LLC, supra note 227.

^{235.} Press Release, Fed. Res. Bank of N.Y., New York Fed Announces Full Repayment of its Loans to Maiden Lane LLC and Maiden Lane III LLC (June 14, 2012), *available at* http://www.new.yorkfed.org/newsevents/news/markets/2012/an120614.html.

^{236.} For an excellent analysis of the transactional structure of the AIG deal, see William K. Sjostrom, Jr., *The AIG Bailout*, 66 WASH. & LEE L. REV. 943 (2009). The article tacitly accepts the Fed's characterization of its liquidity support for AIG. *Id.* at 976; *see also* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-975, TROUBLED ASSET RELIEF PROGRAM: STATUS OF GOVERNMENT ASSISTANCE PROVIDED TO AIG 16 (2009).

^{237.} CONG. OVERSIGHT PANEL, THE AIG RESCUE, ITS IMPACT ON MARKETS, AND THE GOVERNMENT'S EXIT STRATEGY 71 (2010), available at http://www.gpo.gov/fdsys/pkg/CPRT-111JPRT56698/pdf/CPRT-111JPRT56698.pdf ("Maiden Lane II (ML2) was set up by FRBNY to address the liquidity problems AIG was encountering in early November 2008 in its securities lending program.").

^{238.} See also U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 236. One hundred years to the month after the Knickerbocker Trust crisis of 1907, the AIG crisis led Congress to pass a plan to support the banking sector by giving the Treasury wide discretion over \$700 billion, an appropriation equal to almost 8% of the then-outstanding public debt of the United States.

assets that were backed by subprime mortgages.²³⁹ As these assets dropped in value, AIG found that it could not return the cash collateral to its securities-lending counterparties. After AIG's position became critical in the fall of 2008, Maiden Lane II paid AIG for the assets that it had bought with the cash collateral from its securities lending.²⁴⁰ These assets were backed by the riskier tranches of mortgage-backed securities.²⁴¹ Maiden Lane II acquired this portfolio at a discount below the par value of these securities, paying about fifty cents on the dollar.²⁴² With the money from the sale to Maiden Lane II, AIG could settle its obligations to its securities-lending counterparties.²⁴³

As with the Bear deal, the Fed priced Maiden Lane II at fair value, this time based on a valuation by the investment management company BlackRock.²⁴⁴ Although the deal would not close until December, the date at which fair value was assessed was October 31, 2008.²⁴⁵ Almost certainly, some of these assets were below investment grade because almost 20% of the fair value was made up of securities rated no higher than BB+.²⁴⁶ And two-thirds of these were backed by subprime assets.²⁴⁷ More so than with the first Maiden Lane, the credit quality of these assets deteriorated quickly and substantially such that one year later less than 25% of the fair value²⁴⁸ was in securities rated more than BB+, and by 2011²⁴⁹ the threshold had dropped to 15%. AIG has since resumed its securities lending operations.²⁵⁰

^{239.} Miles Weiss, AIG to Absorb \$5 Billion Loss on Securities Lending (Update 3), BLOOMBERG, June 27, 2008 (describing how AIG's insurance units had invested cash collateral in subprime assets). The operations were centralized through AIG Securities Lending Corp.

^{240.} AIG RMBS LLC Facility: Terms and Conditions, FED. RES. BANK OF N.Y. (Dec. 16, 2008), http://www.newyorkfed.org/markets/rmbs terms.html.

^{241.} They included ALT ARM and Option ARM products. *Maiden Lane II LLC (Non-Agency RMBS) Asset Composition by Fair Value*, FED. RES. BANK OF N.Y., http://www.newyorkfed.org/images/ml/ml2-large1.gif (last visited Nov. 17, 2012).

^{242.} Maiden Lane Transactions, FED. RES. BANK OF N.Y., http://www.newyorkfed.org/mar kets/maidenlane.html#transactionoverview2 (last visited Nov. 17, 2012) ("As of October 31, 2008, the ML II LLC portfolio of assets had an estimated fair value of \$20.5 billion and a par value of approximately \$39.3 billion.").

^{243.} CONG. OVERSIGHT PANEL, supra note 237, at 87.

^{244.} Maiden Lane II LLC, Financial Statements for the Period October 31, 2008 to December 31, 2008 and Independent Auditor's Report 8, 11 (2008).

^{245.} Id. at 11.

^{246.} Id. at 15.

^{247.} Id.

^{248.} Id. at 16.

^{249.} Id.

^{250.} Serena Ng & Erik Holm, AIG Is Resuming Securities Loans, WALL ST. J., Nov. 4, 2011.

3. Maiden Lane III (Credit Default Swaps)

Maiden Lane III also responded to a collateral problem—this time the issue was that AIG could not honor collateral calls caused by obligations under credit-default swaps. This time the remedy would be to buy assets from counterparties of AIG with respect to which it had written credit-default swaps through the insurance company's financial products unit. The assets were collateralized-debt obligations based on high-grade and mezzanine-grade asset-backed securities, and on commercial real estate. These assets consisted of second-generation asset-backed securities, in other words structured finance that started not with whole loans but with previously structured financial products, hence "double-securitized." On November 25, 2008, Maiden Lane III paid for them by forfeiting cash collateral to these counterparties and offering additional cash consideration. The collateral cash consideration.

Initially, all of the assets purchased in 2008 by Maiden Lane III were classified as Level 3 for fair-value accounting. The 2009 audited financial statements for Maiden Lane III revised the fair value classification for 2008 to reflect some Level 1 and Level 2 assets as well. Compared with the other Maiden Lanes, this one started out with assets of lower credit quality, such that almost one-third of its original portfolio was rated no more than BB+. Within one year it had deteriorated so that only 25% of the securities were rated more than BB+. By 2011, the quality had dropped further, such that only 4% of the securities were rated more than BB+.

^{251.} OFFICE OF THE SPECIAL INSPECTOR GEN. FOR THE TROUBLED ASSET RELIEF PROGRAM, SIGTARP-10-003, FACTORS AFFECTING EFFORTS TO LIMIT PAYMENTS TO AIG COUNTERPARTIES 7 (2009) [hereinafter OFFICE OF THE SPECIAL INSPECTOR GEN.], available at http://www.sigtarp.gov/Audit%20Reports/Factors_Affecting_Efforts_to_Limit_Payments_to_AIG_Counterparties.pdf ("[L]iquidity issues resulted largely from its obligation to post collateral in connection with its credit default swaps.").

^{252.} Essentially, Maiden Lane stepped into AIG's short put position on these swaps by performing on the swaps.

^{253.} Press Release, Fed. Reserve Bank of N.Y., AIG CDO LLC Facility: Terms and Conditions (Dec. 3, 2008), *available at* http://www.newyorkfed.org/markets/aclf_terms.html.

^{254.} Id.

²⁵⁵. Maiden Lane III LLC, Financial Statements for the Period October 31,2008 to December 31,2008 and Independent Auditor's Report 11 (2008).

^{256.} Id

^{257.} MAIDEN LANE III LLC, FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2009, AND FOR THE PERIOD OCTOBER 31, 2008 TO DECEMBER 31, 2008, AND INDEPENDENT AUDITORS' REPORT 14 (2010).

^{258.} Id. at 17.

^{259.} Maiden Lane III LLC, Financial Statements for the Years Ended December 31, 2011 and 2010, and Independent Auditor's Report 19 (Mar. 20, 2012).

C. Outpatient

The Fed also used section 13(3) to set up five emergency-liquidity programs that "backstopped the shadow banking system." With one exception, all of these programs targeted nonbanks, including securities firms, corporations, money market mutual funds, and other investors. The Fed also established a securities-lending facility (based on other authorities) that complemented these emergency-liquidity efforts by letting firms swap bad collateral for good collateral. These programs were premised on the same financial logic as the Maiden Lane deals: reviving the interbank-funding market would mean accepting a variety of collateral from nonbank firms. Only this way could the Fed stabilize three key sectors of the interbank market that had begun to experience interbank "runs"—repurchase agreements, commercial paper, and money market mutual funds. Used heavily during the worst part of the financial crisis, several of these programs had temporary loan balances of between \$100–350 billion.

At roughly the same time that the Fed created the first Maiden Lane, the repo market for the Treasury's primary dealers became the initial focus of these programs. ²⁶⁵ These programs operated like a discount window for primary dealers, who, like banks, could now borrow against a wide range of collateral. ²⁶⁶ Conditions in the repo market got worse after Lehman's collapse in September 2008, during which the volume of settlement fails increased thirty-fold compared to conditions before the

^{260.} These were the Primary Dealer Credit Facility, the Asset-Backed Money Market Fund Liquidity Facility, the Commercial Paper Funding Facility, the Money Market Investors Funding Facility, and the Term Asset-Backed Securities Loan Facility. Forms of Federal Reserve Lending, FED. RES. BANK OF N.Y., http://www.newyorkfed.org/markets/Forms_of_Fed_Lending.pdf (last visited Dec. 1, 2012); see POZSAR ET AL., supra note 21, at 24 ("The Federal Reserve's 13(3) emergency lending facilities that followed in the wake of Lehman's bankruptcy amounted to a backstop of all the functional steps involved in the shadow credit intermediation process.").

^{261.} The Asset-Backed Money Market Fund Liquidity Facility was open primarily to depository institutions, bank holding companies, and U.S. branches of foreign banks.

^{262.} This was the term Securities Lending Facility. Forms of Federal Reserve Lending, supra note 260.

^{263.} Gary Gorton & Andrew Metrick, Securitized Banking and the Run on Repo (Yale Int'l Ctr. for Fin., Working Paper No. 09-14, 2010) available at http://papers.ssrn.com/sol3/papers.cfm? abstract_id=1440752 (arguing that "securitized banking" funded by repurchase agreements came to substitute for "traditional banking" funded by deposits). Essentially, this entire market began to face a run. Because similar runs happened with asset-backed commercial paper, structured-investment vehicles, and money market mutual funds, we should understand these as runs on interbank funding generally. Id.; see also The Fed and Libor, Fin. TIMES, Sept. 7, 2007.

^{264.} Johnson, supra note 1, at 29 (listing high balances for the collateral programs).

^{265.} These were the Primary Dealer Credit Facility (PDCF) and the Term Security Lending Facility (TSLF). *Id.* at 21–22.

^{266.} See Adrian et al., supra note 165, at 32.

crisis.²⁶⁷ In response, the Fed expanded its liquidity support by making non-investment-grade securities and equities eligible as collateral for lending.²⁶⁸ The Fed also let its members swap private mortgage-backed securities, which lenders no longer wanted to hold as collateral for loans, for Treasury securities that could still serve as good collateral for repo.²⁶⁹ This help did not come cheaply because the rate was high enough to encourage firms to shift to private financing as soon as the market could provide a better rate.²⁷⁰ Dealers borrowed extensively from these facilities, which probably had a role in the improvement of the credit ratings of these dealers.²⁷¹

Three other liquidity programs related to commercial paper and money market mutual funds, market sectors that overlapped somewhat with each other. The risk premium for investment-grade commercial paper issued through asset-backed vehicles had been increasing. As a result, corporations that got short-term financing through commercial paper were having difficulty placing their paper, even with mutual-market funds that often invested in high-quality commercial paper. The volume of commercial paper shrank by one-third. This meant that issuers of commercial paper had to refinance more often and had to face rising interest rates.

In response, the Fed set up a dealer facility to support the market by buying commercial paper.²⁷⁵ The facility bought both secured and unsecured paper, but the latter was subject to an additional fee to compensate the Fed for the increased risk.²⁷⁶ To add term to the market (by increasing the duration of instruments), the facility focused on paper with a maturity

^{267.} Hördahl & King, *supra* note 35, at 46 (noting increase in September 2008 to nearly \$2.7 trillion from \$90 billion average during previous two years). At around this time, the Fed extended the PDCF to offer "transitional credit" to other investment-banking operations. Susan McLaughlin, *The U.S. Tri-Party Repo Market Reforms*, FED. RES. BANK OF N.Y. 2 (Oct. 7, 2011), http://newyorkfed.org/research/conference/2011/mp workshop/slides/Mclaughlin.pdf.

^{268.} See Adrian et al., supra note 165, at 29.

^{269.} MEHRLING, supra note 5, at 132.

^{270.} See Sudeep Reddy, As It Starts Programs, Fed Weighs How to Stop Them, WALL St. J., Mar. 23, 2009, at A4.

^{271.} See Adrian et al., supra note 165, at 31.

^{272.} Cecchetti, *supra* note 197, at 60 (noting that the usual spread of five basis points between asset-backed commercial paper and that of nonfinancial issuers went as high as 150 basis points in the last quarter of 2007). Traditionally, these vehicles have not been included in the interbank market, but I think they belong because often both the borrower and the lender are financial firms.

^{273.} Johnson, *supra* note 1, at 22. After World War II, the commercial paper market had grown as both financial and other companies turned to it rather than to banks for their short-term borrowing and lending needs. Rowe, *supra* note 56, at 111, 118–19.

^{274.} Cecchetti, *supra* note 197, at 60 (noting that the commercial paper shrank by one-third—from \$2.2 trillion to \$1.5 trillion).

^{275.} Johnson, *supra* note 1, at 23 (discussing the Commercial Paper Funding Facility).

^{276.} Adrian et al., supra note 165, at 33.

of three months and undertook to hold its investments to maturity, that way protecting the market from more refinancing risk.²⁷⁷ Correctly, the Fed saw what it was doing as expanding its traditional market-making efforts to reach new sectors of the funding market.²⁷⁸ As intended, these efforts temporarily stabilized the marketing of commercial paper by increasing the volume of borrowing and lowering borrowing rates.²⁷⁹

It was not enough, though, to mitigate the effects of Lehman's collapse in September 2008. That was when a large money market mutual fund "broke the buck." Money market mutual funds promise to satisfy their investors' requests for redemption each day at the price of a dollar per share. But on September 16, 2008, a large fund suspended redemptions for seven days. At this point, the Fed took "the wholesale money market onto its own balance sheet, stepping in as dealer of last resort for the money market." It did this with two other programs similar to the commercial paper facility, which also directed liquidity to mutual funds as their investors tried to cash out. 283

The final program developed by the Fed sought to support the securitization of other kinds of asset-backed securities.²⁸⁴ This program sought to provide credit for investors to buy investment-grade tranches of

^{277.} Id. at 30.

^{278.} *Id.* at 29–30. "The Federal Reserve's financial transactions were limited to open market operations with primary dealers and loans to depository institutions through the discount window. The CPFF operation married aspects of both types of Fed operations with the market conventions of the commercial paper market." *Id.* at 31. (internal citation omitted).

^{279.} Id. at 35-36.

^{280.} Shefali Anand & Diya Gullapalli, *Breaking Buck Was Ironic for Trumpeter of Safe Fund*, WALL ST. J. (Sept. 18, 2008), http://online.wsj.com/article/SB122169 845959750475.html; Sam Mamudi & Jonathan Burton, *Money Market Breaks the Buck, Freezes Redemptions*, MARKETWATCH (Sept. 17, 2008), http://articles.marketwatch.com/2008-09-17/finance/307382 59_1_peter-crane-reserve-primary-fund-money-market.

^{281.} Mamudi & Burton, *supra* note 280 (describing liquidity problems of the Reserve Primary Fund).

^{282.} MEHRLING, supra note 5, at 125.

^{283.} In September 2008, the Fed started the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility to help finance the redemption requests made on money market mutual funds. Johnson, *supra* note 1, at 22. The program ran from September 22, 2008 through February 1, 2010. For a description of how the fund worked, see *Asset Backed Commercial Paper Money Market Mutual Fund Liquidity Facility*, FED. RES. DISCOUNT WINDOW, http://www.frbdiscountwindow.org/mmmf.cfm?hdrID=14 (last visited Nov. 12, 2012). The following month, the Fed established another facility to support money market funds—the Money Market Investor Funding Facility—but no credit was ever extended under it. Press Release, Fed. Reserve, Federal Reserve Announces the Creation of the Money Market Investor Funding Facility (MMIFF), (Oct. 21, 2008), *available at* http://www.federalreserve.gov/monetarypolicy/20081021a.htm; *see also* Johnson, *supra* note 1, at 23.

^{284.} What the Fed set up was the Term Asset-Backed Securities Loan Facility, established in November 2008. Johnson, *supra* note 1, at 24; *see* Jonathan G. Katz, *Who Benefits from Bailouts*, 95 MINN. L. REV. 1568, 1582–83 (2011) (reviewing TALF as part of estimating the costs of the Troubled Assets Relief Program).

asset-backed securities based on consumer loans, student loans, small business loans, and commercial real estate loans. ²⁸⁵ It was another way to reach the shadow-banking sector that had become a key part of the credit market. ²⁸⁶ In the end, it had relatively little impact because it supported few deals. ²⁸⁷

IV. IN DEFENSE OF THE FED

The Fed's emergency-liquidity efforts had worked in practice. ²⁸⁸ Could they be made to work in theory? This Part says "yes" despite the case against the Fed. This type of criticism is nothing new because the Fed has a contradictory mandate over economic goals whose meaning is permanently contestable. Inflation hawks want the Fed to raise rates when inflation is a risk even when this may come at the expense of employment. ²⁸⁹ Unemployment doves have the opposite preferences, favoring lower rates that might create jobs by stimulating the economy. ²⁹⁰ So Manichean choices and popular suspicion are typical for the Fed. What was unusual about the recent criticism was not just its vitriol but also the seeming depth of its consensus: the "blasting of Bernanke from both extremes [hawks and doves] is, to put it mildly, unprecedented."

This Part addresses three major kinds of objections to the Fed's emergency-liquidity programs. First, many concluded that these deals were bad policy because the Fed had become a Leviathan—overextending itself and displacing free market mechanisms. Second, a handful of critics suggested that these actions exceeded the Fed's legal authority. Third, many accused the Fed of a public accountability deficit because it had carried out these efforts without adequate transparency.

^{285.} See Brian Sack, Remarks at the New York Association for Business Economics, New York City: Reflections on the TALF and the Federal Reserve's Role as Liquidity Provider (June 9, 2010) (transcript available at http://www.newyorkfed.org/newsevents/speeches/2010/sac100 609.html).

^{286.} WESSEL, supra note 47, at 254-55.

^{287.} TALF ended up supporting twenty-six deals involving asset-backed securities and commercial mortgage-backed securities. Sack, *supra* note 285.

^{288.} The consensus about these collateral deals and programs was that "[h]owever untidily the rescue was managed, the financial crisis is over." Lowenstein, *supra* note 17, at 49.

^{289.} The distributional impact of inflation is itself contestable. It makes the worst off worse off because those hurt most when the dollar loses its purchasing power are the poor on fixed incomes, as they have less disposable income. Looming fiscal cuts make this risk even greater because cutting cost-of-living increases is one way that politicians try to balance budgets. Anyone holding a fixed-rate asset—banks often found themselves in this position as lender—also loses because inflation eats into the real value of the resulting cash flow. Others welcome some of inflation's consequences. Fixed-rate debtors benefit from repaying a loan with depreciated currency.

^{290.} George Melloan, *Bernanke's Exit Dilemma*, WALL ST. J., Aug. 4, 2009, at A13 (arguing that the Fed lacks tools to mitigate inflation).

^{291.} Lowenstein, supra note 17, at 52.

As discussed below, I disagree with the first and second claims. I demur in part to the third claim, suggesting that the accountability deficit must be put in the context both of the Fed's counter-majoritarian mandate and its role in promoting our somewhat tacit industrial policy towards the financial sector.

A. Market Structure Policy

Some of the most compelling objections to the Fed's emergency-liquidity efforts rest on rival views over where to draw the line between the market and the state, an issue at the heart of market-structure policy. The most radical objection of this sort is the idea that the Fed ought not to exist, stated forcefully by Ron Paul in *End the Fed*. In this view, giving the Fed a monopoly on money creation violates free enterprise and amounts to a global "counterfeiting operation to sustain monopolistic financial cartels" and "socialism." Instead, we should promote, or at least tolerate, open-market competition, returning to what Paul calls "private (free) banking," in which anyone can compete to produce a mechanism to serve as money. This argument overlooks the fact that it was just this kind of wildcat banking that persuaded Congress to create the Office of the Comptroller of the Currency in 1863. Moreover, it would seem that radical objections to the existence of a central bank in the United States were put to rest in 1913 by passage of the Act. ²⁹⁸

^{292.} The idea of "market structure" refers to the totality of institutional features and arrangements that influence the production and exchange of a good or service. I include the primary market in this notion although economists often think of it in terms of exchanges happening only in the secondary market. Peter Dattels, *The Microstructure of Government Securities Markets* (Int'l Monetary Fund, Working Paper No. 117, 1995). Dattels defines "market structure" as "the organization of the secondary market including market access, order handling, the trading mechanism, transparency, the role of intermediaries, clearing and settlement services, and so forth." COORDINATING PUBLIC DEBT AND MONETARY MANAGEMENT 418 (Peter Dattels et al. eds., 1997).

^{293.} Paul's position is clear: "The Federal Reserve should be abolished because it is immoral, unconstitutional, impractical, promotes bad economics, and undermines liberty. Its destructive nature makes it a tool of tyrannical government." RON PAUL, END THE FED 141 (2009). During the 2012 election cycle, the Fed was a target of other Republican candidates, including Sarah Palin, Michele Bachman, Herman Cain, and Rick Perry, but it was Paul who had developed the most substantive critique of the Fed. Paul relies on the economic theory of Austrian economists Ludvig von Mises and Friedrich Hayek. *Id.* at 6, 29 (mentioning Mises's *The Theory of Money and Credit* and Hayek's *Choice in Currency*).

^{294.} Id. at 205.

^{295.} Id. at 109.

^{296.} He states, "Think of [the] Soviet system applied to the banking industry and you have the Fed." *Id.* at 28.

^{297.} Id. at 205.

^{298.} In general, Woodrow Wilson's successes in implementing progressive reforms between 1913 and 1921 represented a temporary victory over the strongest forms of libertarian fundamentalism. Another example from the period would be the passage of the Sixteenth Amendment in 1913 and the first major federal income tax.

More moderate objections to the Fed's emergency-liquidity programs are those that recognize one of the central points of Parts I and II—that credit markets are often made and remade based on public exigencies. Examples include objections raised by the Fed's traditional defenders, many of whom wondered whether the Fed's emergency-liquidity efforts had gone too far. Former Fed chairman Paul Volcker suggested that the Fed's emergency initiatives had gone to the very limit of the institution's authorities. Former Fed staffer Vince Reinhart called the Bear deal a "policy mistake." Economist John Taylor criticized the Fed's failure to articulate clear criteria about who would qualify for its liquidity assistance.

What would have happened had the Fed stuck to its traditional lender of last resort, helping only banks that could provide traditional collateral for emergency liquidity? A starting point for the thought experiment is what actually did happen when the Fed did not bail out Lehman Brothers, which went on to file the largest bankruptcy in U.S. history. Lehman's bankruptcy filing on September 15, 2008, was the low point for the interbank market. Scenario analysis based on what did not happen suffers from Knightian uncertainty, the kind of uncertainty that cannot be measured and, thus, mitigated through foresight. Indeed, what happened with Lehman frustrated the efforts of authorities to anticipate risk because the resulting losses and disruptions proved to be much worse for more parties than expected. Probably, the destabilizing liquidity dynamics that emerged beginning with Bear and AIG would have been worse, visiting deeper losses against a wider range of counterparties. This disruption would likely have further harmed the money mar-

^{299.} The academic literature on the microstructure of securities markets has addressed market making in some detail. AMIHUD, HO & SCHWARTZ, *supra* note 11, at 1, 9–10.

^{300.} WESSEL, supra note 47, at 173.

^{301.} Id. at 174.

^{302.} Id.

^{303.} Five weeks later, Lehman's former CEO had registered his newly-formed investment group. Susanne Craig & Ianthe Jeanne Dugan, *From Lehman's Wreckage, New Lives*, WALL St. J., Sept. 12, 2009, at 1.

^{304.} Hördahl & King, *supra* note 35, at 37, 44 (describing the "virtual shutdown of the unsecured interbank lending market").

^{305.} Knightian uncertainty refers to risks whose probabilities cannot be known or estimated. Matthew Pritsker, *Knightian Uncertainty and Interbank Lending*, J. FIN. INTERMEDIATION (forthcoming 2012). It presents a particular challenge to ex ante attempts to limit risk.

^{306.} WESSEL, supra note 47, at 188-89.

^{307.} Several different kinds of assets would have lost value quickly, visiting losses on the firms that held these assets. Unrealized losses would begin to accrue, and eventually these firms would have to write down their value on their balance sheets, making public this material trend about their financial position. As balance sheet losses consumed the firm's equity-capital surplus accounts, at best the firm would become more leveraged, potentially triggering creditors' remedies that might intensify the spiral, for example by requiring that the firm post cash to collateralize its exposure,

ket, crucial to the short-term financing needs of companies and a theater for the Fed's monetary policy initiatives. ³⁰⁸

My point is not to say that the Fed's emergency-liquidity programs were optimal—they were adequate under the circumstances, but they came with downsides too. The Bear deal *did* create a moral hazard by sending a signal that the federal government might come to the assistance of nonbank firms that had made losing bets in the credit market. Federal authorities had their reasons for helping Bear and not Lehman, but the rule of decision was not very clear at the time. Regrettably, bank lending has not increased as hoped. Instead, banks have stockpiled cash at the Fed in their reserve deposits, which may provide latent financing for inflationary demand that could lead to another bubble. The Fed should, as the old saying goes, remove the punch bowl just as the party is getting started. This time, though, some got punch drunk while others were shut out of credit.

Specifically, as a Congressional oversight panel concluded, AIG's shareholders and creditors received a windfall because Maiden Lane III paid full value for financial instruments that at the time were being deeply discounted by the market.³¹³ Initially, the Fed had sought concessions from AIG's counterparties in credit-default swaps that would have reflected ordinary market losses.³¹⁴ Although Maiden Lane II had been able to buy assets from AIG at such a market discount, the Fed was una-

which would tax the already strained liquidity of the firm. Many firms would become bankrupt, causing ripple effects to counterparties and financial markets more widely. Eventually, entire markets for certain products would dry up, making it hard for other firms to even value their holdings of affected securities.

308. It was the rush of investors to redeem shares of the Reserve Primary Fund after the Lehman bankruptcy that triggered the crisis in the money market that led to the Fed's interventions there. WESSEL, *supra* note 47, at 206.

309. OFFICE OF THE SPECIAL INSPECTOR GEN., *supra* note 251, at 28 ("Because Federal Reserve and Treasury officials believed that an AIG bankruptcy could ultimately have a greater systemic impact than Lehman's bankruptcy one day before, they decided that additional federal support was needed to maintain the overall stability of the financial markets.").

310. Ian Bremmer & Nouriel Roubini, *How the Fed Can Avoid the Next Bubble*, WALL ST. J., Oct. 6, 2009, at A23 (warning that keeping interest rates low to stabilize the economy may risk another asset bubble).

311. The statement is attributed to William McChesney Martin, a highly influential Fed Chairman. 2 MELTZER, *supra* note 70, at 474. The occasion for the statement was probably the Fed's role in managing the "overheating" of the economy due to low interest rates. The recent crisis dealt with financial speculation, which is distinct from generic overheating, so this is an analogy to emphasize the Fed's role in countercyclical self-restraint.

312. S. Mitra Kalita, *The Democratization of Credit Is Over – Now It's Payback Time*, WALL ST. J., Oct. 10, 2009, at A1 (analyzing increase in debt among lower-income households).

313. In effect, AIG's creditors received "the entire notional amount of the CDOs [their investment] at a time when the market value of those CDOs was less than half of that amount." CONG. OVERSIGHT PANEL, *supra* note 237, at 74.

314. OFFICE OF THE SPECIAL INSPECTOR GEN., *supra* note 251, at 15.

ble to secure any such concessions when setting up Maiden Lane III from seven of the eight major creditors of AIG. So the asset purchases by Maiden Lane III were done at par. This perverse redistribution departed from the ordinary loss-sharing of a bankruptcy proceeding. Presumably, the decision to pay full price for these assets reflected a policy determination by the Fed that doing the deal at par value was consistent with the stabilization goals of the deal. Not surprisingly, the Inspector General's report for the Troubled Assets Relief Program later found fault with the Fed's refusal to insist that these counterparties bear some loss. In effect, the report suggested that pricing of these purchases created a moral hazard and treated similarly situated investors differently by immunizing some from market losses.

These concerns about moral hazard and horizontal equity are legitimate, but only as part of a conceptual framework that recognizes that the Fed had to mutate along with the market. This meant updating Bagehot's axiom about last-resort liquidity to recognize a broader role for the central bank when credit had become a commodity traded by banks, nonbank lenders, and other firms. Tentral banking experts had already outlined how such a role might work. Departing from the traditional lender of last resort, the Fed would have to become a giant market maker for credit-trading mechanisms. Like the lender of last resort, though, this would be a public function because the need for it arises only when private market makers have stopped supporting the price mechanism. Although particular firms might be saved, this could only be an incidental by-product of shoring up trading mechanisms as a whole.

316. Ordinarily, "the costs of AIG's inability to meet its derivative obligations would have been borne entirely by AIG's shareholders and creditors under the well-established rules of bankrupty." CONG. OVERSIGHT PANEL, *supra* note 237, at 3.

^{315.} Id. at 15-20.

^{317.} OFFICE OF THE SPECIAL INSPECTOR GEN., *supra* note 251, at 9–11 (analyzing the Treasury and the Fed's rationale for supporting AIG).

^{318.} Id. at 28-30.

^{319.} BAGEHOT, supra note 2.

^{320.} Buiter & Sibert, *supra* note 5 ("Even if the assets are impaired, there should still be a market to sell them at a discount appropriate to the central bank's assessment of its risk of default and the central bank's assessment of the orderly market price of risk."). What the Fed did is related to Steven Schwarcz's notion of having a provider of last resort for market liquidity in financial markets. Schwarcz, *supra* note 28, at 248–57.

^{321.} Buiter & Sibert, *supra* note 5 ("If the markets for selling impaired assets or for borrowing using impaired assets as collateral seize up and cease to function, the central bank must step in to perform its market maker of last resort functions.").

^{322.} MEHRLING, *supra* note 5, at 130 ("Like lender of last resort, dealer of last resort is inherently a public function, not a private function."); *see also* Schwarcz, *supra* note 28, at 254 (analyzing disincentives to private investors acting as market liquidity provider).

^{323.} William H. Buiter, Central Banks as Market Makers of Last Resort 4; Liquidity, Markets, and Mechanisms, Fin. Times Blog (Aug. 23, 2007), http://blogs.ft.com/maverecon/2007/08/central-

And this is exactly what the Fed did. It did not call itself a "market maker of last resort," although it suggested as much in Fed-speak by saying that it had become a "substitute for the arbitrage and trading no longer being undertaken in sufficient size by the private sector."³²⁴ After all, seeking profits through arbitrage and exchange (trading) are at the core of what markets do. Haltingly, and, in fact, only as a last resort, the Fed emerged from the discount window so that it could reach into the shadow-banking sector. 325 Its theater of operations became the interbank liquidity cycle. 326 By re-enacting a miniature secondary market for structured finance through the Maiden Lanes and its secured lending programs for nonbanks, the Fed provided liquidity, term, and price discovery, stemming the bear cycle. 327 The Fed financed this by borrowing reserves from commercial banks and recirculating them into the economy through efforts on behalf of a progressively wider set of liquidity clients—banks, then primary dealers, then commercial paper issuers and money market mutual funds, and, finally, other securitization vehicles.³²⁸

Through the Maiden Lane companies, the Fed bought distressed assets and—forbearing the freedom enjoyed by a private investor—committed to hold them until the price was right, even up to maturity. This added term and liquidity. Synthetically bullish, the Maiden Lanes

banks-ahtml-3/#axzz2KUuoKelk ("Central banks in times of crisis should aim to support/bail out markets and other valuable social mechanisms; they should not support or bail out companies, partnerships or individuals, unless this is an unavoidable feature of supporting market and mechanisms."). Indeed, insolvent firms should be allowed to fail because "Darwin must have his pound of flesh also in the financial markets." Buiter & Sibert, *supra* note 5.

^{324.} That is the gist of Fed Governor Donald Kohn's comments in the middle of the 2008 crisis: "To ameliorate the threat to financial and economic stability, the Federal Reserve and a number of other central banks in effect found they needed to provide a substitute for the arbitrage and trading no longer being undertaken in sufficient size by the private sector." Kohn, *supra* note 35.

^{325.} Adrian et al., *supra* note 165, at 34 ("Effectively, these facilities extended the Federal Reserve's lender-of-last-resort role to include nondepository institutions (the PDCF, TSLF, and AMLF) and specific securities markets (the CPFF and TALF)."); *see also* MEHRLING, *supra* note 5, at 124 ("And the big thing about the Fed's response was that it stepped in as the dealer of last resort to replace the private dealer system.").

^{326.} Especially in an interbank environment where a firm relied heavily on the ability to get overnight and short-term financing, the disappearance of asset liquidity soon impacts the firm's own institutional liquidity because it can no longer convert its financial assets into overnight cash. Unmitigated, firm illiquidity can soon become insolvency, illustrating what happened in 2008 in the interbank market—asset liquidity became fund illiquidity, which threatened insolvency and cascading effects on other firms.

^{327.} In a sense, what the Fed was intermediating was the dynamic of intermediation itself. It did this on one level by breathing value back into assets that had previously served as collateral but had gone bad in the liquidity panic. More radically, by broadening the kinds of assets deemed acceptable as collateral, the Fed was imbuing new asset classes with the status of collateral, essentially creating new collateral markets.

^{328.} Forms of Federal Reserve Lending, supra note 260.

^{329.} WESSEL, supra note 47, at 213.

boosted asset values and the net worth of owning firms, whose liquidity problems were kept at bay.³³⁰ In time, the market responded with sustained interest in the assets, which were then resold by the Maiden Lane vehicles.³³¹

The Maiden Lanes also enhanced price discovery for structured finance products. According to clarifications about fair-value accounting rules for inactive markets, when the reference market for a financial asset becomes increasingly inactive, the asset may have to be reclassified from Level 2 to Level 3.332 Like a private dealer, the Fed's financial hospitals created an active market and provided quotes and transaction prices, potentially impacting how assets belonging to other investors would be valued. Some accounting research is needed to determine the extent to which, once the Fed had "discovered" the exchange value of the assets purchased by the Maiden Lanes, other investors holding the same type of assets (or proxy assets) could free ride on the Fed's valuation marks to shore up their own balance sheet.³³³ This consequence of fair value accounting would have magnified the Fed's bullish strategies. Presumably, insofar as the Maiden Lanes increased the assets that could be classified as Level 1 or Level 2, they also limited the impact of investors' proprietary models on price discovery because it is these models that influence valuation when there is no active market. 334

Admittedly, what the Fed paid is not identical to an open market price because the Fed did these trades for another, governmental purpose. In this sense, the Fed's purchases were "forced," a factor which accounting advice from the U.S. Securities and Exchange Commission concludes might suggest that the Fed paid more than fair value because no

^{330.} Unfortunately, how these assets were kept at bay was misunderstood:

It sounded as if Bernanke was suggesting that Treasury buy the assets from banks at an inflated price to pump up their profits and thus their capital. What he meant, he explained later, was that the presence of the Treasury as a buyer would push up the price of the assets closer to their long-run value. But even sophisticated observers misunderstood him.

Id.

^{331.} Michael J. de la Merced, *Maiden Loans Repaid, But Assets Still Must Be Sold*, N.Y. TIMES DEALBOOK (June 14, 2012), http://dealbook.nytimes.com/2012/06/14/maiden-lane-loans-repaid-but-assets-still-need-to-be-sold/ ("The Maiden Lane assets have been in hot demand.").

^{332.} FIN. ACCT. STANDARDS BD., *supra* note 230, at 4–5 para. A32A (discussing how the fair value is calculated for a collateralized debt obligation without an active market).

^{333.} For example, the Fed's sales from its structured finance deals revived the ordinary ebb and flow of price discovery in which rising delinquency rates on underlying subprime mortgages lowered the sales price of the asset-backed securities and declining delinquency rates boosted the sales prices. See Maiden Lane Helps Cut Rally Short for U.S. Subprime CDS, FITCH RATINGS, July 13, 2011 (noting rising delinquency rates and unsuccessful auction results); Maiden Lane in Rear View for U.S. Subprime CDS Prices For Now, FITCH RATINGS, Aug. 15, 2011 (noting decline in delinquency rates and rising prices for Maiden Lane's subprime collateralized debt securities).

^{334.} More accounting research is needed to see how firms used the Fed's deal information in their own fair value calculations.

one wanted it at that price.³³⁵ But it is an approximation that probably made a fair amount of sense given that subsequent re-sales of these assets have validated the Fed's value estimates.³³⁶

The Fed's secured-lending programs followed a financial logic similar to the Maiden Lanes. Hyman Minsky's work on financial instability provides a useful frame for understanding why this worked. Broadening the kinds of assets that nonbank firms could pledge as collateral in repo transactions made both the assets and the firms more liquid. Holding investments to maturity (as the commercial paper facility had done) added term, further stabilizing the market. What the Fed accomplished through these market-making initiatives was to create synthetic hedge assets from speculative and Ponzi ones, that way recapitalizing firms by resuscitating the asset side of their balance sheet. These benefits militate in favor of permitting the Fed to act as a market maker of last resort.

Accepting that the Fed ought to act as a market maker of last resort raises questions about when it should do so. This kind of extraordinary intervention is justified not simply when individual products are losing value but instead when it seems that the trading system as a whole is breaking down. Financial crises involving this dynamic suggest that market architecture itself—the way that pricing and liquidity are institutionalized—is crumbling. The second resolution of the suggest that market architecture itself—the way that pricing and liquidity are institutionalized—is crumbling.

Bagehot's guidance to lend only against good collateral could be applied in a relatively straightforward manner when the collateral was

^{335.} Press Release, Sec. & Exch. Comm'n, SEC Office of the Chief Accountant and FASB Staff Clarifications on Fair Value Accounting (Sept. 30, 2008), *available at* http://www.sec.gov/news/press/2008/2008-234.htm (providing guidance on valuation of financial assets in inactive markets).

^{336.} Jerry W. Markham, Regulating Credit Default Swaps in the Wake of the Subprime Crisis 19 (Dec. 2, 2009) (working paper) (suggesting that the Fed got the benefit of the bargain on its purchases) (on file with author).

^{337.} Gabilondo, *supra* note 9. Mehrling also notes that Minsky's theory was the one that most closely reflected the traditional practices of central banking. MEHRLING, *supra* note 5, at 66. This is ironic because Minksy was viewed as being quite left of center. Minsky identified three kinds of financing arrangements based on their market and funding liquidity dynamics: hedged, speculative, and Ponzi. Only hedge financing ensured a borrower's ongoing liquidity because only a hedge asset would generate the right amount of cash flow at the time needed by the borrower to pay the liability that financed the hedge asset.

^{338.} Usually recapitalization refers to transactions that affect the items on the right-hand side of a firm's balance sheet. For example, the Treasury's purchases of preferred stock pursuant to the misnamed Troubled Assets Relief Program was a formal recapitalization because the preferred stock was booked on the right-hand side of the firms. This time, the Fed was influencing the asset-side of these entities—in other words, the left-hand side of the balance sheet.

^{339.} Warsh, *supra* note 26 ("[F]unding market disruptions reflect a striking decline in confidence in the financial architecture itself.").

^{340.} The upside of the cycle obscured the regulatory defects, but the crash made them visible. *Id.* (noting that on the upside "[t]he financial architecture grew increasingly impervious to skeptics and dissenters, perpetuating insufficient transparency and under-informed risk-taking").

uniform, namely, all commercial bills. Developing standards for the market maker of last resort, however, is more complex because this function exposes the central banks to potentially larger financial exposure from providing liquidity to a wider set of actors on diverse collateral.³⁴¹ The Fed ought also to have at least a nominal presence in a wide variety of asset markets in which it may, at some point, have to intervene to acquire trading expertise.³⁴² This would avoid the situation where Fed officials did not learn about key financial products until they had started to have systemic impact, as happened with structured-investment vehicles.343 To that end, the Fed should hire specialists with more capitalmarkets skills so that it is not surprised by tomorrow's version of structured finance.³⁴⁴ The process of articulating public market-making norms will probably be iterative, proceeding by trial and error.³⁴⁵ As the Fed has noted, it learns by trading.³⁴⁶

Contact with firms operating in the market helps us achieve a better understanding of financial market developments and practices, which in turn is useful to us a central bank in the formulation and execution of monetary policy, and helps us as well to serve the Treasury better in meeting its debt management responsibilities.

^{341.} Thorvald Grung Moe, Shadow Banking and the Limits of Central Bank Liquidity Support: How to Achieve a Better Balance Between Global and Official Liquidity 5-6 (Levy Econ. Inst., Working Paper No. 172, 2012) (calling for a "new Bagehot rule" for market maker of last resort

^{342.} Willem H. Buiter, Central Banks as Market Makers of Last Resort 2, FIN. TIMES BLOG (Aug. 17, 2007, 3:38AM), http://blogs.ft.com/maverecon/2007/08/central-banks-ahtml/.

^{343.} A structured investment vehicle (SIV) was an entity set up by some banks to economize on regulatory capital by shifting some assets off their balance sheet into the SIV, a separately financed entity. The problem was that when the assets underperformed, banks often ended up indemnifying the SIV investors, a form of moral recourse. Unfortunately, "several top Fed staffers confessed later that they hadn't even heard the term 'SIV' until the end of July" 2007, after banks began to bear the funding risk associated with them. WESSEL, supra note 47, at 104–05.

^{344.} Buiter, supra note 342 (recommending the hiring of experts in behavioral finance, micromarket structure, and asset pricing). The Fed has already taken some steps to learn about credit underwritten by lenders other than depository institutions. Beginning in June 2010 the Fed began conducting a Senior Credit Officer Opinion Survey on Dealer Financing Terms.

^{345.} One example was the serendipitous way that the Fed discovered the policy value of open market operations. See supra notes 95-102. The Fed also experimented with foreign currency swaps more to learn how they worked than to produce specific outcomes in foreign exchange markets. 2 MELTZER, supra note 70, at 357 ("The early swap agreements established the practice but were used only to gain experience."); 1 MELTZER, supra note 70, at 19. In the Fed's case, it is a version of the heuristic suggested by Mark Twain's observation:

[[]T]he person that had took a bull by the tail once had learnt sixty or seventy times as much as a person that hadn't, and said a person that started in to carry a cat home by the tail was getting knowledge that was always going to be useful to him, and warn't ever going to grow dim or doubtful.

MARK TWAIN, TOM SAWYER ABROAD (1894), reprinted in The Writings of Mark Twain 97 (1901).

^{346.} The Fed has noted:

GEN. ACCOUNTING OFFICE, GAO/GGD-87-55FS, U.S. GOVERNMENT SECURITIES: THE FEDERAL RESERVE RESPONSE REGARDING ITS MARKET-MAKING STANDARD 20 (1987). Private firms glean-

For some it will be enough to show—as this section has tried—that the Fed's emergency-liquidity efforts were justified because they made policy sense as efforts to curb financial instability. However, this Article now turns to legal and political-economy objections to these efforts because objections have independently created clouds on the Fed's legitimacy.

B. Legality

Law review articles, legal opinions issued by practicing lawyers, and statements made in policy discussions have advanced three major arguments that the Fed's collateral initiatives were illegal,³⁴⁷ and I respond to them in turn. First, some have made a substance-over-form argument that although the Fed styled its actions as providing loans, these actions are more properly characterized as buying assets, which exceeds the scope of the Fed's lending authority under section 13(3).³⁴⁸ The second legal objection is that the Fed took impermissible collateral for loans made under section 13(3).³⁴⁹ This argument rests on a narrow reading of the 1991 expansion of the collateral that could be used for section 13(3) loans. The final major legal objection is that the Fed's emergency

ing information from trades do the same thing, as was observed about how Goldman Sachs estimated its credit risk to AIG:

Despite the limited market transparency in the summer of 2007, Goldman used what information there was Goldman looked to its own experience: in most cases, when the bank bought credit protection on an investment, it turned around and sold credit protection on the same investment to other counterparties. These deals yielded more price information.

FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 267 (2011).

347. Alexander Mehra, Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis, 13 U. PA. J. BUS. L. 221, 235 (2010) ("In form, these transactions were structured as loans. But in substance, they permitted the Fed to move assets off the balance sheets of institutions and onto its own."). He makes the same constructive asset-purchase argument to find that the Fed exceeded its section 13(3) authority when setting up the Commercial Paper Funding Facility, the Money Market Investor Funding Facility, Maiden Lane II, and Maiden Lane III, the last two of which were used to support AIG. Id. at 243–46. His careful analysis makes two other arguments that seem less plausible to me. First, he argues that the investment in Maiden Lane did not meet the requirement that the borrower be unable to obtain financing elsewhere. Id. at 239–40. Second, he argues that the loan did not involve a true discount because the resources offered by the Fed were used to acquire the assets posted as collateral to the Fed loan. Id. at 241. He recognizes that there are plausible responses to these arguments. Id.; see also Emerson, supra note 17, at 125 (concluding that loans were asset purchases).

348. Mehra, *supra* note 347, at 235.

349. This is the argument in a legal opinion issued by a plaintiff's firm pursuing litigation related to the financial crisis. The opinion concluded that the Maiden Lane deals done by the Fed violated statutory restrictions on the Fed's ability to lend against collateral. *Legal Opinion Re: Maiden Lane II and Maiden Lane III Loans*, AGUIRRE, MORRIS & SEVERSON L.L.P. (Feb. 9, 2010), http://www.amslawyers.com/Legal Opinion Maiden Lane II and III.pdf.

liquidity initiatives as a whole may have exceeded its legal authority in spirit.³⁵⁰ The concern here is that the Maiden Lane deals seemed to target specific firms rather than a sector as a whole—impermissible because section 13(3) authority was not necessarily intended to authorize liquidity support just on behalf of one particular firm.³⁵¹

Before addressing the first argument, it is worth dismissing the seeming contradiction in saying that the Fed acted as a market maker of last resort (implying outright purchases) by lending. Accepting an asset as collateral for a loan does make a market for the asset because its potential future value as collateral makes it more attractive to a prospective purchaser. Indeed, this is one of the new realities of the securitized-credit market. Hence, it is reasonable to make the substance-versus-form argument that the Maiden Lane deals were de facto purchases.³⁵²

This argument, however, does not give due regard to the overall economic substance of the capital structure of these deals. In each of these transactions, the Fed's main interest was a senior, liquidated credit position with priority over subordinated claims that bore the risk of loss first. This is substantively congruent with the form of a loan. In the first Maiden Lane, for example, J.P. Morgan contributed a \$1 billion first-loss position that was junior to the Fed's credit interest of \$29 billion. While the Fed's loan has been repaid, J.P. Morgan is still awaiting payment. In Maiden Lane II, AIG assumed a \$1 billion first-loss position by agreeing that payment to it by Maiden Lane II would be deferred until after the Fed's credit interest was paid off. For Maiden Lane III, AIG

351. See Levitin, supra note 4, at 498 ("Section 13(3) was always intended as a response to market failures, rather than firm failures.").

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^{350.} See supra note 17.

^{352.} Mehra, supra note 347.

^{353.} Maiden Lane paid about \$30 billion, based on Bear's fair-value calculation of the assets. The deal closed on June 26, 2008, but the valuation date was March 14, 2008, the same day that a credit rating agency downgraded Bear. See Sue Chang, Moody's Downgrades Bear Stearns to 'Baal,' MARKETWATCH (Mar. 14, 2008), http://articles.marketwatch.com/2008-03-14/news/30884278_1_long-term-ratings-downgrades-liquidity-position. Presumably, the model that Bear used to price its portfolio is proprietary, as I have not been able to track it down. I assume that March 14 was chosen as the value date so that asset pricing by the model would not reflect any negative reaction by markets to Moody's downgrade of Bear.

^{354.} This was the case as of August 2012.

^{355.} Maiden Lane II paid about \$20 billion for a portfolio that had been discounted from its aggregate par value of approximately \$39.3 billion. In exchange for its funds, the Fed received a credit interest (divided between a principal and interest tranches) of about \$19 billion. AIG CDO LLC Facility: Terms and Conditions, FED. RES. BANK OF N.Y. (Dec. 3, 2008) [hereinafter AIG CDO], available at http://www.newyorkfed.org/markets/aclf_terms.html. AIG had agreed to defer the receipt of \$1 billion of the purchase price paid to it by Maiden Lane II. Id. Doing this made the Fed's interest senior and established that AIG would bear the first \$1 billion of loss. Id.

contributed \$5 billion to fund a debt interest junior to that of the Fed.³⁵⁶ Therefore, in each of these deals the Fed's position was a credit interest senior, both in form and in substance, to the residual interests in the company.

It is also true that the Fed had an upside residual interest in each deal, ensuring that most or all of the funds remaining after settling its liquidated obligations would inure to the Fed. This property incident, however, should be viewed as a separate asset claim distinct from the Fed's credit interests in the Maiden Lanes. The Fed kept the entire residue in Maiden Lane remaining after settling its liquidated interests. This interest was junior to J.P. Morgan's first-loss position. This residual has turned out to have real value because after paying off its credit financing (as of March 2012), Maiden Lane still had about \$3.5 billion in noncash assets, mostly consisting of RMBS and some commercial loans. The Fed also keeps five-sixths of the residue of Maiden Lane II, leaving one-sixth to AIG. For Maiden Lane III, the Fed keeps two-thirds of the residue and AIG gets one-third. These residual interests were in the nature of equity, but only its upside because they had no downside risk.

The other two legal arguments—about collateral and compliance with the Act's overall purpose—share a narrow understanding of the Fed's authorities; hence, the rejoinder is largely the same. Granted, the exact scope of section 13(3) cannot be definitively established ex ante because it is designed to respond to unforeseen market conditions. The Fed's generative authority to build and regulate credit markets should be interpreted broadly, as both Congress and the Fed have done.

Let me recapitulate. In 1913, its founding statute gave the Fed inchoate authority to police credit and money conditions, especially through rediscounting. These authorities were generative in that their precise scope could only be known when drawn upon in response to a

^{356.} Maiden Lane III paid about \$20 billion for a portfolio that had been discounted from its aggregate par value of approximately \$39.3 billion. *Id.* AIG made an equity contribution of \$5 billion. *Id.* Doing this made the Fed's interests senior and established that AIG would bear the first \$5 billion of loss. *Id.*

^{357.} See supra notes 353-56.

^{358.} See Press Release, Fed. Res. Bank of N.Y., supra note 223 (providing that all value remaining in Maiden Lane after payment of all debts, fees, hedges, and costs is paid to the New York Fed).

^{359.} Id.

^{360.} See id.

^{361.} See AIG CDO, supra note 355.

^{362.} Id.

^{363.} Schwarcz, supra note 28, at 251 (2009).

^{364.} See supra notes 76-82 and accompanying text.

market condition.³⁶⁵ Congress also gave the Fed specific discretion to decide what would qualify as commercial paper, a power that the Fed used to first narrow and then broaden its rediscounting authority.³⁶⁶ Also, the Act's incidental powers gave the Fed supplemental authority to trade, a point conceded in a report by a congressional oversight panel that was generally critical of the federal government's handling of the financial crisis.³⁶⁷

As the money market expanded, so too did the Fed's authorities and trading operations. On its own, the Fed resolved controversial questions about whether it had authority to trade foreign exchange,³⁶⁸ reverse repurchase agreements,³⁶⁹ and do central bank swaps³⁷⁰ in favor of broadening its trading activities. Moving in tandem, Congress had institutionalized open market operations by statute³⁷¹ and had also increased the Fed's authorities by letting it trade bankers' acceptances to promote foreign trade,³⁷² foreign public debt,³⁷³ and federal agency securities.³⁷⁴

The trend towards an elastic interpretation of the Fed's trading authority is clearest in terms of the Depression-era reforms relaxing collateral requirements for rediscounting, authorizing working capital loans, and permitting stabilizing credit in unusual and exigent circumstances under section 13(3). Since granting the Fed this emergency authority during the Depression, Congress has consistently extended it by widening the kinds of deals that could qualify. Tetical to the Fed's freedom of action in 2008, Congress in 1991 gave the Fed authority to discount the kinds of debt instruments from nonbank counterparties that would become relevant in 2008. These developments rejected a crabbed un-

^{365.} Indeed, Perry Mehrling suggests that the dealer-of-last-resort function was already implicit in the Fed's mission, but that the growth of federal debt through World War II obliged the Fed to focus on providing liquidity to markets for government debt rather than other securities. MEHRLING, *supra* note 5, at 36–37. So the arc of the Fed's development as a market maker might have been otherwise, leading to the same point earlier in its development.

^{366.} See supra notes 84-85 and accompanying text.

^{367.} CONG. OVERSIGHT PANEL, *supra* note 237, at 64–65 ("Thus, the incidental powers provision could supplement the authority granted in Section 13(3), but it would not give the Federal Reserve banks authority to take actions that were specifically prohibited by the Federal Reserve Act (Section 13(3) or otherwise).").

^{368.} See supra notes 134-38 and accompanying text.

^{369.} See supra notes 140-43 and accompanying text.

^{370.} See supra note 346 and accompanying text.

^{371.} See supra note 109 and accompanying text.

^{372.} *See supra* note 93 and accompanying text. 373. *See supra* note 146 and accompanying text.

^{374.} See supra note 139 and accompanying text.

^{375.} *See supra* at note 108 and accompanying text.

^{376.} See supra notes 150-52 and accompanying text.

^{377.} See id.

derstanding of the Fed's emergency-liquidity powers.³⁷⁸ Instead, they reflect the notion that the Fed has enhanced financial stability *through* active credit trading, not in spite of it.

It may go too far to conclude that the Fed can "lend or repo against any collateral, including dead dogs and illiquid CDOs backed by subprime mortgages," but its authority is assuredly broad and elastic enough to confront market structure as it mutates over time. ³⁷⁹ Indeed, even a congressional oversight panel that was highly critical of the federal response to the crisis confined its assessment of the Fed's section 13(3) activities solely to consider, after-the-fact, other ways that liquidity might have been provided. ³⁸⁰

C. Financial Corporatism Versus Democracy

These legal niceties will be small consolation to Main Street. A recent letter sent by Congress's Republican leadership to Chairman Bernanke during a Fed meeting about monetary policy epitomized the recent concerns about the Fed: "The American people have reason to be skeptical of the Federal Reserve vastly increasing its role in the economy if measurable outcomes cannot be demonstrated." Newt Gingrich put it more bluntly: the Fed "is corrupt and it is wrong for one man to have that kind of secret power." 382

^{378.} Lender of More Than Last Resort: Recalling Section 13(b) and the Years When the Federal Reserve Opened Its Discount Window to Business, THE REGION, FED. RES. BANK OF MINNEAPOLIS (David Fettig ed., 2002), available at http://www.minneapolisfed.org/pubs/region/02-12/lender.pdf (examining history of Fed's industrial and stabilizing programs); see also The History of a Powerful Paragraph: Section 13(3) Enacted Fed Business Loans 76 Years Ago, THE REGION, FED. RES. BANK OF MINNEAPOLIS (David Fettig ed., 2008), available at http://www.minneapolisfed.org/pubs/region/08-06/section13.pdf (reviewing legislative background of section 13(3)).

^{379.} Buiter & Sibert, *supra* note 5. This is a humorous way to point out that before the financial crisis Congress had steadily expanded the kind of collateral that the Fed could lend against. *See supra* notes 147–52 and accompanying text. A repurchase agreement (repo) is, essentially, a collateralized loan formalized as two sequential purchase and sale agreements. In step one, the lender buys a security and promises to reconvey it to the original seller, who is also the borrower of the cash. The second purchase price reflects the interest paid on the cash loan. Mark C. Faulkner, *An Introduction to Securities Lending*, *in* SECURITIES FINANCE: SECURITIES LENDING AND REPURCHASE AGREEMENTS 3, 10–12 (Frank J. Fabozzi & Steven V. Mann, eds., 2005). The repurchase market played a key role in the last financial crisis.

^{380.} CONG. OVERSIGHT PANEL, supra note 237, at 79–84.

^{381.} Letter from Sen. Mitch McConnell, Rep. John Boehner, Sen. Jon Kyl, and Rep. Eric Cantor to Ben Bernanke, Chairman, Fed. Reserve (Sept. 2011), *available at* http://blogs.wsj.com/economics/2011/09/20/full-text-republicans-letter-to-bernanke-questioning-more-fed-action (urging the Fed to desist from further efforts to stimulate the economy).

^{382.} John M. Berry, *GOP War on the Fed Puts Bernanke on Defensive*, FISCAL TIMES, Oct. 18, 2012 (reviewing GOP presidential debates).

Seeing this as the GOP's "war on the Fed," however, misses the main point. There is an uneasy tension between the Fed's freedom of action and democratic values that goes beyond partisan politics. The Fed's recurrent wrangling with congressmen from both sides of the aisle suggests as much. The Fed's rescue of the financial sector intensified this pre-existing tension, producing richly bipartisan hostility that is of note in an age of polarization. Doves have also pecked at the Fed for not doing more to stimulate the economy. They say that the Fed has not done enough for workers. Some even suggest that the Fed should have made markets for riskier forms of structured finance.

The claim made by critics of the Fed is pitched in terms that transcend partisan difference, appealing to the suggestion of making the Fed more accountable to political interests.³⁸⁹ To that end, the proposed rem-

^{383.} Berry, *supra* note 382. Republican Congressmen have also recommended that the Fed's mandate be narrowed to focus only on inflation. Kevin Wack, *Paul White House Bid Influencing Monetary Debate*, Am. BANKER, Mar. 20, 2012, at 4 (showing how Ron Paul's campaign against the Fed had mobilized criticisms of it from other Republicans).

^{384.} That said, the Republican Party has radicalized the issue, another example of the "asymmetrical polarization" of the Congress. A former American Enterprise Institute analyst and a liberal wrote a book that rejects the idea that both sides of the aisle have become radicalized in the same way. Thomas E. Mann & Norman J. Ornstein, It's Even Worse Than It Looks: How the American Constitutional System Collided with the New Politics of Extremism (2012). As an act of escalation, in the middle of a September 2011 meeting of the FOMC, Republican leadership sent the Chairman a letter opposing any further efforts to stimulate the economy through quantitative easing. Merrill Goozner, *The GOP's Startling Bid to Strong-Arm the Fed*, FISCAL TIMES (Sept. 21, 2011), http://www.thefiscaltimes.com/Articles/2011/09/ 21/The-GOPs-Startling-Bid-to-Strong-arm-the-Fed.aspx#page1.

^{385.} In the 1950s, Texas Democratic Representative Wright Patman began peppering the Fed with information requests. TODD, *supra* note 66, at 35. A decade later, Representative Reuss sought to influence monetary policy by statute. *Id.* at 46. In the 1980s, Senator John Melcher unsuccessfully tried to increase congressional control in a district court suit, Representative Henry Gonzalez (another Texas Democrat) pursued the Fed as chair of the House Banking Committee, and Representative Lee Hamilton sought to put the Secretary of the Treasury back on the Fed board. *Id.* at 47–49. In the 1990s, Senator Sarbane tried to keep reserve bank presidents from voting on the FOMC. *Id.* at 49.

^{386.} A good example is the proposed National Emergency Employment Defense Act, introduced by Congressman Dennis J. Kucinich of Ohio. *See* H.R. 2990, 112th Cong. (2011). Its heartbreaking findings document the human cost of the financial crisis and the recession in the United States: nearly 14,000,000 unemployed; another 12,000,000 underemployed; over 43,000,000 below the poverty line; 2,000,000 foreclosures since the crisis started; and a record 1,500,000 personal bankruptcies. *Id.* § 2(a)(1)–(4). The bill puts the blame on the Fed and its management of our monetary system. *Id.* at § 2(a)(12), (18)–(24).

^{387.} Paul Krugman, *Earth to Ben Bernanke*, N.Y. TIMES, Apr. 29, 2012, at 18 ("[W]hile the Fed went to great lengths to rescue the financial system, it has done far less to rescue workers."); Lowenstein, *supra* note 17, at 52.

^{388.} Buiter, *supra* note 342 (suggesting that this would have meant that the "liquidity crunch would have been tackled right at the point where it hurt").

^{389.} Levitin, *supra* note 4, at 438, 450 ("[T]he best that can be done is to try to maximize the political accountability of systemic risk policy. This means placing policy decisions in the hands of more, rather than less, politically accountable entities."). Separately, he notes that "[p]rocedures can thus substitute for legitimacy." *Id.* at 449. The insulation of the central bank from political influence

edies for the Fed's perceived accountability deficit tend to involve more oversight by Congress. Although the Senate has routinely confirmed previous sitting chairmen of the Fed, during Chairman Bernanke's nomination in 2009 some in Congress tried to make increased auditing of the Fed a precondition for his reconfirmation. Several recent bills have proposed new oversight requirements on the Fed. Independent Senator Bernie Sanders recently formed an advisory panel to consider legislative reforms to the Fed. Several recent by the

The notion of an accountability deficit often rests on a misconception about the budgetary nature of the Fed's actions. The mistaken premise is that the Fed's actions involve budget outlays akin to congressional spending, which do ordinarily involve a great deal of transparency and oversight. This view, "a Fed promise is ultimately a Treasury promise that carries the full faith and credit of the United States. That is misleading because of an important difference between congressional outlays and the Fed's trading that may not fit readily into a soundbite. Much congressional spending is unrequited in the sense that it does not generate an ongoing asset with market value. In contrast, the Fed cannot lend without collateral, and it must purchase for value, hence it always generates an asset to offset a new liability. Nevertheless, this misconception became so influential in the campaign against the Fed that Chairman Bernanke felt compelled to send Congress a clarification about how the economics of its emergency-liquidity programs really worked.

Moreover, the notion that the Fed faces an accountability deficit ignores the intended antidemocratic nature of its mission. The Fed leans

is one such mechanism that, by analogy to a procedure, is intended to substitute for the need to appeal to notions of legitimacy.

^{390.} Sudeep Reddy, Bernanke Foes Seek to Curtail Fed, WALL St. J., Dec. 16, 2009, at A4.

^{391.} Johnson, supra note 1, app. A.

^{392.} Press Release, Sen. Bernie Sanders, Top Economists to Advise Sanders on Fed Reform (Oct. 20, 2011), *available at* http://www.sanders.senate.gov/newsroom/news/?id=DE4C73FB-131C-4A25-B83E-4604EAEFCEBB.

^{393.} Scott Fullwiler & Randall Wray, *It's Time to Rein in the Fed*, in LEVY ECONOMICS INSTITUTE OF BARD COLLEGE PUBLIC POLICY BRIEF #117, 12 (2011) ("[T]hose in charge of monetary policy are not subject to the same degree of democratic accountability [as other branches of government]."), *available at* http://www.levyinstitute.org/pubs/ppb_117.pdf.

^{394.} Id. at 13-14.

^{395.} See G. THOMAS WOODWARD, CONG. RESEARCH SERV., No. 96-672E, MONEY AND THE FEDERAL RESERVE SYSTEM: MYTH AND REALITY 9 (1996) ("To inject money into the economy, the Fed buys federal securities, thereby acquiring an asset that pays interest. In the second round of money creation, banks, S&Ls, and credit unions, through the fractional reserve banking system, earn interest on the loans they hold as a consequence of creating checking account money. This means that for every dollar of money, there is a corresponding dollar of interest-bearing debt.").

^{396.} Letter from Ben Bernanke, Chairman, Fed. Res., to Reps. Spencer Bachus and Barney Frank (Dec. 6, 2011) [hereinafter Letter from Ben Bernanke], *available at* http://www.federalreserve.gov/generalinfo/foia/emergency-lending-financial-crisis-20111206.pdf.

against both business and electoral cycles, so some ensuing objections from Main Street and its purported representatives should be understood as foreseeable resistance to an antimajoritarian mandate. Besides, the Fed already faces formal and informal political controls. It is democratically elected presidents and senators who pick the members of the Fed board, who serve fourteen-year terms. The chairman and the vice chairman of the Fed must be appointed by the President and confirmed by Congress every four years. ³⁹⁷

Moreover, formal attempts to insulate the Fed from political pressure do not always work. The voting behavior of FOMC members suggests that the "ongoing politicization of monetary policy" crosses party lines, suggesting a structural reality of the Fed.³⁹⁸ Fed Governors reflect partisan preferences in their decisions, with governors appointed by a Democratic president tending to favor loosening more often than those appointed by a Republican president.³⁹⁹ In election years, appointees of the incumbent party tend to favor stimulus, while those of the other party prefer tightening that may detract from the presidential incumbent's perceived success in managing the economy. 400 Chairmen seeking reappointment by a president are sometimes perceived as unduly responsive to the money supply preferences of a sitting president, especially one who is facing his own reelection. 401 In general, research suggests that politically appointed Fed Governors may tend to favor loose money more so than presidents of the reserve banks, whose hawkishness might reflect banks' aversion to inflation that would threaten their fixed-rate liabilities. 402 So political accountability is already an important part of Fed governance both formally and informally.

Less, rather than more, political control is needed if you oppose attempts by Congress to raid the Fed to help constituents. Suggesting the deliberative limits of a town hall meeting, the 2011 Republican presidential debates produced regrettable exchanges on central bank policy. 404

^{397. 12} U.S.C. § 242.

^{398.} TODD, *supra* note 84, at 61–62 (discussing Thomas Havrilesky's research on political orientation of Fed vice chairmen from 1976 to 1993).

^{399.} Id. at 14.

^{400.} Id.

^{401.} *Id.* at 18–19; *see also id.* at 55 ("Although the markets, and certainly the administration, welcomed the dramatic Fed action, others believed that the central bank had relented in the face of political pressure.").

^{402.} Id. at 14.

^{403. 2} MELTZER, *supra* note 70, at 227–28 (discussing Fed's resistance to Congressional efforts to allocate credit to small business).

^{404.} Texas Governor Rick Perry admonished Chairman Bernanke: "If this guy prints more money between now and the election, I dunno what y'all would do to him in Iowa, but we would treat him pretty ugly down in Texas." Lowenstein, *supra* note 17, at 50; *see also* Merrill Goozner, *Romney Says It's Time to Stand up to China*, FISCAL TIMES (Oct. 12, 2011), http://www.thefiscal

The exchange suggests the perils of further politicizing monetary policy for electoral gain. Recall also that it was Congress that approved the Troubled Asset Relief Program, a bailout program for banks administered by the Treasury. So maybe the political branches should look in the mirror before pointing the finger at the Fed.

Another expression of the Fed's alleged accountability deficit relates to whether it has disclosed enough about its activities. Hormonical and Fox News sued the Fed under the Freedom of Information Act (FOIA) to get more information about its financial-rescue activities. Although the Reserve banks were not found to be subject to FOIA, the Fed did have to turn over some data that had been asserted to be privileged. Already the Fed discloses much information, including its financial operations through a weekly (unaudited) statement of financial condition. The Fed follows its own comprehensive accounting manual, which is on its website. It also publishes an audited annual report. In response to criticisms, the Fed has also begun to reveal much more about

times.com/Articles/2011/10/11/Romney-Says-Its-Time-to-Stand-Up-to-China.aspx (noting Republican candidates' calls for Chairman Bernanke to be removed); Wack, *supra* note 383, at 4 (showing how Ron Paul's campaign against the Fed had mobilized criticisms of it from other Republicans).

^{405.} Berry, *supra* note 382. The 2011 debt ceiling crisis also suggests that elected representatives may not always act prudently. Jose Gabilondo, *Libertarian Fanaticism and the Debt Limit*, MIAMI HERALD, July 30, 2011 (noting that legislative antics led a downgrade of U.S. credit rating).

^{406.} The deception is that the program financed the purchase not of asset claims but of financial claims on the right-hand side of the balance sheet such as preferred stock.

^{407.} Ironically, it was the Fed's effectiveness in stabilizing financial markets in the face of Congress's slapstick efforts that would attract hostile attention. Previously, Congress may not have understood what the Fed does:

The Fed's aggressive response to the Great Panic had called unwelcome attention to its enormous power and to its capacity to act as the fourth branch of government. Its willingness to come up with money for Bear Stearns and AIG when the Treasury and the president couldn't and its ability to create trillions of dollars in credit surprised many members of Congress. The Fed, it was increasingly clear, could and would act when the political system was frozen.

WESSEL, supra note 47, at 269.

^{408.} Kara Karlson, *Checks and Balances: Using the Freedom of Information Act to Evaluate the Federal Reserve Banks*, 60 AM. U. L. REV. 213, 216 (2010) (arguing that FOIA should apply more broadly to the federal reserve banks in addition to the board).

^{409.} Id. at 213, 217.

^{410.} See H.4.1 Factors Affecting Reserve Balances, FED. RES. (Nov. 15, 2012), http://www.federalreserve.gov/releases/h41/20121115/.

^{411.} See BD. OF GOVERNORS OF THE FED. RESERVE SYS., FINANCIAL ACCOUNTING MANUAL FOR FEDERAL RESERVE BANKS (2012), http://www.federalreserve.gov/monetarypolicy/files/BST finaccountingmanual.pdf.

^{412.} See BD. OF GOVERNORS OF THE FED. RESERVE SYSTEM, 98TH ANNUAL REPORT, (2011), available at http://www.federalreserve.gov/publications/annual%2Dreport/files/2011-annual-report.pdf.

its monetary policy deliberations.⁴¹³ The reserve banks have also voluntarily elected to comply with the rigorous internal control system mandated for private firms by the Sarbanes–Oxley Act.⁴¹⁴

The clamoring for more democratic control may also reflect suspicion about a problem too structural to be solved by disclosure—regulatory capture by private financial interests. Indeed, some even see the Fed's independence as an expression of capture by private interests, one that would justify more public control. Here is the nub of the deeper conflict. Here

This conflict is best understood through the lens of corporatism, which explains—although it may not justify—the Fed's financial entanglement with banks and other lenders. ⁴¹⁷ Corporatism refers to attempts to blend public and private interests in social mechanisms that serve policy goals or provide a public service. ⁴¹⁸ The notion of corporatism is not

^{413.} Randall W. Forsyth, *Preoccupied by Wall Street*, BARRON'S, (Oct. 15, 2011), http://online.barrons.com/article/SB50001424052748703492704576622992970964046.html (characterizing Bernanke's approach to public disclosure as a "complete turnaround from the Fed's ancien régime, which revealed next to nothing about what it was doing or thinking").

^{414.} GEN. ACCOUNTING OFFICE, GAO-11-696, FEDERAL RESERVE SYSTEM: OPPORTUNITIES EXIST TO STRENGTHEN POLICIES AND PROCESSES FOR MANAGING EMERGENCY ASSISTANCE 41 (2011) [hereinafter FEDERAL RESERVE SYSTEM].

^{415.} Timothy A. Canova, *The Federal Reserve That We Need*, AM. PROSPECT (Oct. 7, 2010), http://prospect.org/article/federal-reserve-we-need ("Today's fiscal conservatives prefer to ignore the history of the 1940s, a period when the Federal Reserve was far more accountable to elected officials and far more independent of the private financial interests that have come to dominate the Fed in recent decades."); Timothy A. Canova, *Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model*, 3 HARV. L. POL'Y REV. 369, 388–393 (2009) (criticizing the "bastard[ization]" of Keynesian macroeconomic principles in the financial rescues by the Treasury and the Fed).

^{416.} Canova criticizes what he sees as the legal academy's general complicity in legitimating private capture of the Fed. Canova, *supra* note 415, at 392. His charges against liberals apply to me: "Conservative scholars rail against unconstitutional delegations but then ignore the most flagrant example of the Federal Reserve. Liberal scholars who purportedly care about a progressive social agenda defer to dogmatic law and economics assumptions about the wisdom of central bank independence." *Id.*

^{417.} Corporatism refers to "a system of social and political organization in which major societal groups or interests (labor, business, military, ethnic, clan or patronage groups, religious bodies) are integrated into the governmental system, often on a monopolistic basis or under state guidance, tutelage and control, to achieve coordinate national development." WIARDA, *supra* note 23.

^{418.} Wiarda identifies three defining elements: (1) a unit of analysis organized around a collective formation; (2) state control over the group; and (3) incorporation of the group into a mutually beneficial relationship of shared governance. *Id.* at 9. This third element applies most clearly to the Fed's relationship to banks:

The state tries to incorporate these groups into the state system, converting them into what are often called "private-sector governments"; while the groups themselves seek both to take advantage in terms of programs and benefits for their members from such incorporation, and at the same time preserving some, usually contractually defined (as in a constitution or basic law) autonomy or independence from the state.

used widely in the United States, in part because of its foreign associations and the sense that it may seem inconsistent with our ideology of individualistic freedom. It is, however, a way to explain earlier industrial policies that promoted bonds between the state and private institutions, bonds that mitigated what might otherwise have been overweening market power. Such arrangements may have provided a measure of economic security, as during the post-War period of prosperity. Even analytical approaches that emphasize corporatism in the United States in other industrial sectors tend to overlook the fact that the notion would help to explain financial regulation. I suggest the notion of "financial corporatism" to refer to the Fed's relationship to banks because it helps to understand why the Fed's structure blends both private and public features.

For example, an important way that the Act promotes corporatism is through the Fed's capital structure, which blends public and private elements. It is the private member banks that own the Federal Reserve

^{419.} Corporatism is sometimes associated with fascist and authoritarian regimes. *Id.* at 12. Wiarda gives as examples Italy under Benito Mussolini, Germany under Adolph Hitler, Spain under Francisco Franco, and Portugal under António de Oliveira Salazar. *Id.* He provides other examples involving France, Greece, Austria, Brazil, and Argentina. *Id.* at 20. Corporatism studies have enjoyed a resurgence in European and Latin American scholarship, but less so to explain social structure in the United States. *Id.* at 128 ("[C]orporatism does not fit our ethos, our historic and familiar image of ourselves.").

^{420.} This is the idea behind John Kenneth Galbraith's idea of "countervailing power" as a check on market power. John Kenneth Galbraith, American Capitalism: The Concept of Countervailing Power 8 (1952) (noting both conservative and liberal anxiety about unrestrained hig business)

^{421.} Reich posits that during the period from 1945 to 1970, the interests of democracy and capitalists were relatively aligned such that firms made money, employees enjoyed income security, and a relatively prosperous middle class developed. ROBERT B. REICH, SUPERCAPITALISM: THE TRANSFORMATION OF BUSINESS, DEMOCRACY, AND EVERYDAY LIFE 41–42 (2007) ("By fits and starts, the federal government had created new centers of economic power that offset the power of the giant companies."); see also id. at 15–49. During this period, the chief executive officer may have seen himself more as a steward of corporation for the benefit of a wide variety of private and public concerns. Id. at 45. Now, however, job security for corporate officers depends more on quarterly earnings reports in labile financial markets, which also give shareholders other investment options. Id. at 75–76 (citing correlation between CEO dismissals and recent market downgrades of their firm as an investment).

^{422.} WIARDA, *supra* note 23, at 147 ("A U.S.-style corporate state has arrived unsung, unheralded, and almost never mentioned. The emergence of corporatism has to do with the parallel emergence of Big Labor, Big Agriculture, Big Business, Big Universities, Big Defense, Big Welfare, and Big Government, all operating in a symbiotic relationship.").

^{423.} In a different context, Martin Lipton has used the phrase "finance corporatism" to refer to a corporation's relationships to its diverse constituencies. Martin Lipton, *Corporate Governance in the Age of Finance Corporatism*, 136 U. PA. L. REV. 1, 3 (1987).

banks. 424 Specifically, Fed member banks must subscribe 6% of their equity capital and surplus, half of which must be paid into the Fed. 425 Half of the subscribed capital is paid in and the other half is subject to call by the Fed. 426 After covering its operational costs, the Fed pays its commercial bank members a 6% dividend on their preferred stock. The Fed does not pay an income tax, but the statutory dividend is counted as part of the gross income of the private member banks. 427 Although share ownership suggests that private banks are the residual beneficiaries, that is not the case here because the share structure is more like a licensing requirement, a hallmark of corporatism. 428 Unlike ordinary shares, stock in the Fed banks does not bring the right to net profits. In fact, the Fed is a money machine for taxpayers because it returns all profits to the Treasury's general fund, which is a financial proxy for the taxpayer. 429

Another corporatist feature of the Act is its requirement that private bank directors participate on Reserve boards, a rule that—as Chairman Bernanke recently pointed out in hearings—Congress is free to change. The rationale for the requirements is that industry insiders contribute knowledge that is hard to come by otherwise. Admittedly, this arrangement promotes personal relationships between the regulator and the regulated that create the appearance, if not the fact, of affinity that may be inconsistent with the public interest. Moreover, the Fed's

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^{424.} The Fed has a highly idiosyncratic capital structure, reflecting its blend of public and private interests. The Act required every national bank to buy preferred stock issued by the Fed. Federal Reserve Act of 1913, Pub. L. No. 63-43, § 2, 38 Stat. 251, 251 (codified as 12 U.S.C. § 282).

^{425. 12} U.S.C. § 209.4. Banks must also adjust their substantial capital as their own capital position changes.

^{426.} GEN. ACCOUNTING OFFICE, GAO-02-939, FEDERAL RESERVE SYSTEM: THE SURPLUS ACCOUNT 2 (2002).

^{427.} See WOODWARD, supra note 395 (refuting myth that the Fed dividend to banks is tax-free).

^{428.} WIARDA, *supra* note 23, at 15 ("Whenever we see government control, structuring, or licensing of interest groups, we said, we are likely to find corporatism present.").

^{429.} The money that the Treasury receives from the Fed, which is settled through a ledger transfer, does not disappear from the economy; it is recirculated into the economy when the Treasury makes a loan or purchases goods or services. 12 U.S.C. § 290 (2006); see also WOODWARD, supra note 395, at 26.

^{430.} Federal Reserve Act of 1913, Pub. L. No. 63-43, § 4, 38 Stat. 251 (codified as amended 12 U.S.C. § 304).

^{431.} Donna Borak, *Dimon's N.Y. Fed Role Reignites Old Debate*, AM. BANKER, May 21, 2012, at 1 (discussing charges that having J.P. Morgan chief Jaime Dimon on the board of the New York Federal Reserve Bank was a conflict of interest); Donna Borak, *Fed Official Rejects Plan to Take Bankers' Seats Away*, AM. BANKER, May 29, 2012, at 2 (noting that bankers can enhance the Fed's function through their industry knowledge).

^{432.} For that reason, mechanisms have been proposed to build in better representation of public interests beyond the banking industry. Brett McDonnell & Daniel Schwarcz, *Adaptation and Resiliency in Legal Systems: Regulatory Contrarians*, 89 N.C. L. REV. 1629, 1642–43 (2011) (proposing the creation of a "regulatory contrarian" mechanism to make financial regulators more re-

idiosyncratic structure may make it harder to assign responsibility for decisions. 433

That said, there has been a remarkable absence of scandal or ethical lapse on the part of Fed officials and staff. All of the emergency-lending programs undertaken by the Fed were independently examined by an external auditor. Unlike the political branches, whose members have often been found to have breached ethical and sometimes legal standards in the conduct of their public offices, there is no such scandal in recent history involving a Fed official. The absence of scandals is telling, reflecting a culture of self-regulation and self-restraint, made all the more extraordinary because the Fed is literally in the money business.

Central to corporatism is the idea that the public sector gets something out of the arrangement.⁴³⁷ Strictly speaking, the Fed's annual divi-

sponsive to a wider range of interests); Saule T. Omarova, *Bankers, Bureaucrats, and Guardians: Toward Tripartism in Financial Services Regulation*, 37 J. CORP. L. 621 (2012) (suggesting the creation of a "Public Interest Council" to address systemic risk mandate of financial agencies).

^{433.} Seen this way, the institutional features that give the system discretion can also be used for ill:

It is difficult to settle responsibility for a given action on any single individual or group among the various groups to whom the prerogatives of power have been given....considering the extent of its influence on events and the cataclysmic nature of the events it survived, the truly astonishing aspect of its history has been its ability to evade responsibility.

¹ D'ARISTA, supra note 111, at 193–94.

^{434.} The facit involvement of the Federal Reserve Bank of New York in the emerging scandal about fixing the London Inter-Bank Offer Rate may be an unfortunate and exceptional counterexample of this. Michael J. de la Merced and Ben Protess, New York Fed Knew of False Barclays Reports on Rates, N.Y. TIMES, July 13, 2012, at A1 (noting that Fed officials had concerns about the integrity of the LIBOR); Peter Evans, U.K. Orders Review of Libor, WALL ST. J., July 2, 2012, at C3. The LIBOR is a widely used floating rate set by a panel of bankers under the aegis of the British Bankers' Association.

^{435.} FEDERAL RESERVE SYSTEM, supra note 414, at 131.

^{436.} A General Accounting Office report on governance of the reserve banks made only the mild observation that they would benefit from a more standardized approach to waivers of a Fed director from ethics or conflicts rules related to that director's participation in reserve bank matters. GEN. ACCOUNTING OFFICE, GAO-12-18, FEDERAL RESERVE BANK GOVERNANCE: OPPORTUNITIES EXIST TO BROADEN DIRECTOR RECRUITMENT EFFORTS AND INCREASE TRANSPARENCY 1, 56–59 (2011).

^{437.} The primary dealers owe the Treasury some affirmative and negative duties to help smooth out the process of bringing a debt issue to markets. GEN. ACCOUNTING OFFICE, *supra* note 346. The factors that determine whether a primary dealer is making markets effectively include the overall volume in government securities, the diversity of customers who serve as counterparties, the maturity distribution of the securities acquired, and the kinds of securities acquired. *Id.* at 6–7. This is the case too with the primary dealers mentioned in the opening examples: they are in a corporatist relationship to the Fed and the Treasury. Some of the benefits to the public from this relationship with primary dealers are deep and stable primary, secondary, and collateral markets for public debt, which reduce the cost of financing the state. Primary dealers also advise the Treasury on how to structure their borrowings. Bidders can bypass the primary dealers by bidding directly. Annie Lowrey, *The Benefit is Mutual from China's Private Link to the Treasury's Auctions*, N.Y. TIMES,

dend is one form of public return, but the social interest in question is a more fundamental one—promoting a robust credit market. Specifically, a major social interest involves one of the central functions of a bank: to borrow money at short terms and to lend it at longer terms, often at the fixed rates that businesses and retail borrowers prefer. Part of what happened during the last crisis is that the Fed realized that term conversion (essentially the formula of borrowing short to lend long) was being done not only by banks but also by a variety of new creatures from the shadow-banking sector, including asset-backed commercial paper conduits, securities lenders, and other credit intermediaries that were doing the work of banks. When these new credit intermediaries started suffering from the liquidity crises typical of banks, the Fed treated them like constructive banks, deserving of liquidity support albeit tailored to reflect the impact of structured finance.

It may be time to reconsider the social pact behind term conversion because the last financial crisis showed that the old formula for term conversion had changed. A lingering and crucial question is why banks—more liquid than ever—have still not resumed substantial lending. What the Fed did was to make several important decisions during a financial emergency with very incomplete information. By contributing to a new understanding of the credit market, the Fed's actions—and the crisis as a whole—are leading to a new paradigm about regulation of the credit market. Yesterday's pragmatic solutions to emergencies by the Fed may not be perfect when judged by tomorrow's regulatory notions. And Congress is free to amend the Act if it concludes that corporatism no longer makes sense for the financial sector. In the meantime, though, the Fed's emergency-liquidity efforts will have provided invaluable insights for economic theory, trading policy, and regulation.

V. DODD-FRANK

An unusual troika recently defended the Fed from further political oversight. The dean of the Columbia Business School, the head of the Brookings Institute, and a prominent Harvard Law School professor not-

May 23, 2012, at B4 (noting China's recent decision to bid directly rather than through a primary dealer).

^{438.} This is one of the defining functions of a bank. Gabilondo, supra note 22, at 265 & n.38.

^{439.} POZSAR ET AL., *supra* note 21, at 1 ("Over the past decade, the shadow banking system provided sources of funding for credit by converting opaque, risky, long-term assets into money-like, short-term liabilities.").

^{440.} *Id.* at 24 ("The Federal Reserve's 13(3) emergency lending facilities that followed in the wake of Lehman's bankruptcy amount to a backstop of all the functional steps involved in the shadow credit intermediation process.").

^{441.} My next piece on the financial structure of the Fed addresses this issue.

ed that "Fed Chairman Ben Bernanke saved the U.S. financial system from Armageddon in 2007–08" and that indulging congressional resentment at the Fed's independence was "trouble." Congress thought otherwise, reducing the Fed's freedom of action by requiring in the Dodd–Frank Act that the Fed now get the approval of the Secretary of the Treasury for future emergency lending under section 13(3).

Nothing is gained and much is lost by increasing the political pressures on the Fed's discretion in providing emergency liquidity, effectively returning part of the Fed's role to its pre-Accord position of submission to the Treasury. By suggesting that more political oversight of the Fed might have helped, Congress and the Treasury are really engaging in projective denial because it was the political branches, not the Fed, that were responsible for the major bailouts, including the Troubled Assets Relief Program. So the Fed is taking a hit for actions of the political branches, who in this way also gain an alibi.

Consider the long history of executive grasping at the Fed. Presidents have routinely tried to use it to promote partisan and electoral goals. Even though the formal independence of the Fed is supposed to insulate its decisions from partisan influence, research shows that party affiliation of the Board Governors may influence voting behavior. This new requirement in Dodd–Frank extends the formal and informal political influence that presidents have on the Fed. This also risks that subsequent administrations will repudiate as "political" the stabilization efforts

^{442.} R. Glenn Hubbard, Hal Scott & John Thornton, *The Fed Can Lead on Financial Supervision*, WALL ST. J., July 25, 2009, at A13 (criticizing Fed bashing and proposals to reduce its independence).

^{443.} Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd–Frank Act), Pub. L. 111-203, § 1103, 124 Stat. 1376, 2118. The political interference could have been worse. One of the reforms considered and rejected was to have the President appoint the head of the New York Federal Reserve Bank. TODD, *supra* note 84, at XV. Congress also considered requiring the Fed to get the approval not of the Treasury but of two-thirds of the Financial Stability Oversight Council, which would have been even more cumbersome. Tetsuya Inoue, *Small But Important Revisions to Section 13(3) of Federal Reserve Act*, 72 LAKYARA 1 (2010). These are in addition to the fifty-four rulemakings and three analytical reports with which Dodd–Frank charges the Fed. *Summary of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Enacted into Law on July 21, 2010*, DAVIS POLK & WARDWELL, LLP, ii. (July 21, 2010), http://www.davispolk.com/files/Publication/7084f9fe-6580-413b-b870-b7c025ed2ecf/Presentation/PublicationAttachment/1d4495c7-0be0-4e9a-ba77-f786fb90464a/070910_Financial_Reform_Summary.pdf. The Dodd–Frank Act also imposed audit and disclosure requirements, but they do not relate to market making directly.

^{444.} After World War II, President Truman pressured the Fed into keeping rates low and pushed Marriner Eccles out of the chairmanship for not being cooperative. TODD, *supra* note 66, at 30–32. In the 1960s, President Kennedy made the Fed abandon the bills only doctrine to invest in long-term bonds. 2 MELTZER, *supra* note 70, at 316. Angry at rising interest rates, President Johnson tried unsuccessfully to push out Chairman Martin. 1 MARKHAM, *supra* note 37. Unhappy with Chairman William Miller's policies, President Carter made him the Secretary of the Treasury in 1978. *See supra* note 41.

^{445.} See supra notes 401–04.

begun during a previous administration. This approval process allows the secretary to take fiscal concerns into account when deliberating about proposed emergency-liquidity programs.

Tying the Fed's hands this way also risks undermining the effectiveness of stabilization programs because time will typically be of the essence in responding to financial emergencies. For example, the Fed's decision to support Bear was made between 4:45 a.m. and 7:00 a.m. on Friday, March 14, 2008. Had these Dodd–Frank provisions been in effect in 2008, mobilizing the decision-making apparatus of a political branch may have made the process less nimble.

This restriction on the Fed's freedom of action is also inconsistent with how the institution has managed its own policy making. When the FOMC issues a directive indicating future interest rate adjustments in a definite direction—towards either loosening or tightening—some at the Fed have believed that the directive gave the Chairman the ability to unilaterally make those changes before the next FOMC meeting. Known as an "asymmetric directive" because it indicates a likelihood of a particular policy direction, the rationale for such a policy is to increase the Fed's freedom of action so as to make rate changes more effective. For example, in December 1990, with a recession looming on the horizon, the Fed Chairman asserted this authority to loosen the money supply without consulting with other members of the Fed Board. Some restraints on unilateral discretion may be in order, but limits emanating from Pennsylvania Avenue are most likely to serve partisan interests.

This exposure to political risk is magnified by a separate Dodd–Frank provision that requires the Fed to report the establishment of any section 13(3) programs to Congress within one week.⁴⁵² On a monthly basis, the Fed must also make public extensive information about any assets acquired through emergency-liquidity programs.⁴⁵³ At first blush,

^{446.} The Dodd-Frank Act also gives the Fed authority to participate in emergency financial stabilization with the Federal Deposit Insurance Corporation on behalf of solvent depository institutions, but those activities are substantially more limited and regulated. Dodd-Frank Act, Pub. L. 111-203, § 1105, 124 Stat. 1376, 2121 (2010) (creating emergency financialization stabilization programs).

^{447.} WESSEL, supra note 47, at 157-58.

^{448.} Daniel L. Thornton & David C. Wheelock, *A History of the Asymmetric Policy Directive*, FED. RES. BANK OF ST. LOUIS, REV. 1 (2000), *available at* https://research.stlouisfed.org/public ations/review/00/09/0009dt.pdf (evaluating belief that an asymmetric directive gives the Chairman authority to make some changes unilaterally).

^{449.} TODD, *supra* note 84, at 11.

^{450.} Id.

^{451.} Id. at 11-13; see also Thornton & Wheelock, supra note 448.

^{452.} Dodd–Frank Act, Pub. L. 111-203, § 1103, 124 Stat. 1376, 2118 (2010) (adding new § 13(3)(C)(i) to Federal Reserve Act).

^{453.} Id. (adding new § 13(3)(C)(ii) to Federal Reserve Act).

requiring the Fed to report this information might seem justified. After all, a federal court did recently hold that the Fed had to turn over more information than it wanted. However, the President and Congress can now join political forces against the Fed.

Forcing the Fed to make public information about emergency investments made during future stabilizations under section 13(3) may weaken the Fed's hand in exacting the best price as it liquidates these investments. The new provisions do allow the Fed to limit the disclosure of some information only to Members of Congress. But this does not extend to the Fed's own projections about what the ultimate sale value of these investment assets may be. Public disclosure of the Fed's own assessments might limit its ability to get the best price for future holdings. Though not as serious a problem as the requirement of prior approval by the Treasury, this disclosure rule might also limit the Fed's market-making ability.

The Dodd–Frank Act also subjects any future emergency liquidity activities under section 13(3) to other rules, including the requirement that these activities be conducted through programs with general eligibility standards open to similarly situated firms. Had these requirements been in effect in 2008, they would certainly have precluded the Maiden Lane deals, because each one targeted a particular firm—Bear and AIG. Nevertheless, the requirement that emergency liquidity be provided through programs rather than one-off deals largely codifies into a statutory safe harbor the best practices that the Fed discovered by experimenting with its financial hospitals.

VI. CONCLUSION

During its first hundred years, the Fed had cultivated discount window practices, a bank reserve mechanism, and open markets for its policy trading that were a model of central banking and the envy of financial capitalism. When lenders stopped being able to refinance their short-term loans in 2007 in the interbank market, the Fed updated Bagehot's axiom about stabilization lending by bootstrapping itself into the role of market maker of last resort. Grounded in a contemporary understanding of credit, these efforts worked, but they cost the Fed much of the political capital that it had garnered in its first century. As one banker put it, "without taking these risks the central banks [would have been] financially and reputationally safe, but poor servants of the public interest."

^{454.} See supra notes 410-12 and accompanying text.

^{455.} Dodd-Frank Act § 1103 (adding new § 13(3)(D) to Federal Reserve Act).

^{456.} Dodd-Frank Act § 1101.

^{457.} Buiter & Sibert, supra note 5.

No good deed goes unpunished, though. In a recent exchange with Congress, Chairman Bernanke blamed many of the recent criticisms of the Fed on a systematic recycling of misinformation. Concerned that this might be true, this Article countered these criticisms with an account of market making that recognizes the need for centralized liquidity support. Given the new funding model for lenders, the Fed behaved appropriately, true to its authorities and its past while pointing—first tentatively with one-off deals and then with assurance through systematic programs—to its future. But Congress did not entirely agree: the Dodd–Frank Act subjected the Fed's future initiatives to more political risk than is advisable by subjecting the Fed's activities under section 13(3) to approval by the Secretary of the Treasury. This changes the rules of the game in ways that may portend risk to the Fed's ability to stabilize the next crisis. This approval requirement should be repealed.

You may disagree with this conclusion yet still be persuaded by the general method of analysis used in this Article. First, the Article established that among public actors the Fed serves a distinctive mission by making markets and trading in them, this way influencing money and credit conditions as it was charged in its founding legislation. Second, the Article insisted that the Fed's most recent emergency liquidity efforts must be understood in the context of the steady growth of its trading authorities, both through Congress's consistent statutory expansions and the Fed's interpretation of them. Seen thus, the Fed's emergency-lending authorities should be read as generative grants of authority to be unpacked based on the shifting exigencies of a dynamic credit market.

Path dependence being what it is, the Fed is sure to figure even more prominently in the next financial cycle. That will be yet another Fed, informed by its past selves and drawing on its new statutory regime for the first time. The hope of this Article is that when the next major assessment of *that* Fed's performance begins, the debate will be predicated on a market-infused reading of the Fed's mission that grapples more completely with its complexity.

^{458.} In a letter to Congress, Chairman Ben Bernanke suggested that these criticisms amounted to the ideological deployment of misinformation because they contained "a variety of egregious errors and mistakes. The articles recycle information." Letter from Ben Bernanke, *supra* note 396.