

THREE DISCOUNT WINDOWS

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It is widely assumed that the Federal Reserve is the lender of last resort in the United States and that the Fed's discount window is the primary mechanism through which it fulfills this role. Yet, when banks faced liquidity constraints during the 2007–2009 financial crisis (the Crisis), the discount window played a relatively small role in providing banks much needed liquidity. This is not because banks forewent government-backed liquidity; rather, they sought it elsewhere. First, they increased their reliance on collateralized loans, known as advances, from the Federal Home Loan Bank System, a little-known government-sponsored enterprise that grew in size to over \$1 trillion during the Crisis. Second, distressed banks offered exceptionally high interest rates on insured deposits, enabling them to retain and attract funds from depositors. As a result, Federal Home Loan Bank advances and insured deposits served as “alternative discount windows,” standing sources of government-backed liquidity that banks relied on as market conditions deteriorated.

In addition to drawing attention to the important and largely overlooked role that the alternative discount windows played during the Crisis, this Article considers the normative implications of banks' capacity to obtain government-backed liquidity without going to the Federal Reserve. The analysis reveals both benefits and costs. As a result of the changing nature of banking and financial intermediation, the Fed's discount window alone cannot meet the liquidity needs of a modern financial system in distress. By facilitating the transfer of additional liquidity to the market during crisis periods, the alternative discount windows may reduce the adverse systemic consequences that arise from liquidity shortages. Yet, there are also significant costs. In contrast to the Fed, the Federal Home Loan Banks and insured depositors lack the incentives and competence needed to understand the systemic consequences of their actions. As a result, the provision of liquidity through the alternative discount windows tends to facilitate inefficient risk taking, increase moral hazard, reduce regulatory accountability, and compromise information generation, in addition to adversely affecting healthy banks. This Article accordingly concludes by proposing ways to reform the underlying programs to reduce the costs of having alternative discount windows.

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INTRODUCTION

A core function of the Federal Reserve System (the Fed) is to promote financial stability, and a primary way that the Fed furthers this aim is by acting as the lender of last resort. Until the 2007–2009 financial crisis (the Crisis), the Fed carried out this role through its discount window (the Discount Window), a standing program that enables banks to borrow from the Fed so long as they can provide adequate collateral and meet other requirements.¹ By providing liquidity to banks in need of it, the Discount Window helps banks avoid value-destroying fire sales and can calm financial panics.² Nonetheless, a close look at where banks sought liquidity during the early stages of the Crisis reveals that the Discount Window played a surprisingly minor role in meeting banks' liquidity needs.³ This was true even though the Fed actively encouraged banks to borrow through it.⁴ This was not, however, because banks forewent government-backed liquidity. Instead, they sought it elsewhere.

First and foremost, banks obtained liquidity in the form of advances from the Federal Home Loan Bank (FHLBank) system, a government-sponsored enterprise (GSE) created to promote home ownership by facilitating the issuance of reasonably priced mortgages.⁵ Second, banks facing financial distress offered exceptionally high interest rates on insured deposits, thus using the lure of government-backed insurance to retain and attract funds from consumers and other investors.⁶ FHLBank advances and insured deposits thus functioned as “alternative discount windows”—standing facilities through which banks could access government-backed liquidity when market sources ran dry.

The alternative discount windows identified here were not intended to function as lenders of last resort. They came to this role as a result of congressional inadvertence, market evolution, and bank opportunism. Nonetheless, there are some benefits to having alternative discount windows. Lack of liquidity can have devastating effects

¹ There are three programs that collectively constitute the Fed's standing liquidity facilities. The focus here is on the primary window. See *infra* Part I.C.

² This Article focuses on U.S. banks. The issues here are not unique to U.S. banks as foreign banks can access each of the sources of liquidity here at issue. Nonetheless, the degree to which banks can utilize the alternative discount windows depends on the nature and extent of their U.S. operations, imposing practical limits on their access and changing the analysis in qualitatively significant ways. See VIRAL V. ACHARYA ET AL., FED. RESERVE BANK OF N.Y., STAFF REPORT NO. 623, HOW DO GLOBAL BANKS SCRAMBLE FOR LIQUIDITY? EVIDENCE FROM THE ASSET-BACKED COMMERCIAL PAPER FREEZE OF 2007, at 3 (2013), available at http://www.newyorkfed.org/research/staff_reports/sr623.pdf.

³ See *infra* Part II.A.

⁴ See *id.*

⁵ See *infra* Part II.A.I.

⁶ See *infra* Part II.A.2.

on banks and on the economy more generally, and there are limits in the capacity of the Discount Window to meet the liquidity needs of a modern financial system in distress.⁷ The perceived stigma associated with borrowing through the Discount Window, for example, may discourage a bank from using it even when doing so would benefit both the bank and the financial system.⁸ Similarly, the changing nature of banking and the rise of the “shadow banking system” give rise to liquidity constraints that the Discount Window is not well suited to address.⁹ By providing additional mechanisms for infusing liquidity into a financial system in need of it, the alternative discount windows may help to mitigate the adverse consequences that would otherwise result.

Yet there are real costs and other challenges arising from the operation of the alternative discount windows. The parties providing liquidity through these mechanisms have neither the incentives nor the means to ensure that they provide liquidity only to financially healthy institutions. This significantly increases the probability that they will provide funds to troubled banks that have an incentive to use the funds to extend excessively high-risk loans and engage in other socially wasteful behavior. The empirical evidence supports this concern, revealing that during the Crisis and earlier periods of distress, financially troubled banks were more likely than others to rely on each of the alternative discount windows.¹⁰ Similarly, access to the alternative discount windows increases moral hazard, reducing banks’ incentives to maintain adequate liquidity. The existence of the alternative discount windows also reduces the quality of the information generated by Discount Window borrowing and limits the Fed’s capacity to impose potentially useful lending conditions, such as demanding additional information about a bank’s financial health and risk exposures. A distinct consequence of banks’ ability to access government-backed liquidity without going to the Fed is reduced transparency and regulatory accountability. This may be particularly important in light of increased public concern about the capacity of lender-of-last-resort support to shield banks from the full consequences of their actions and otherwise engender moral hazard.¹¹ For these and other reasons, allowing the alternative discount windows to persist in their current form is likely suboptimal, and this Article suggests some reforms to improve the situation.

⁷ See *infra* Part IV.A.

⁸ See *infra* Part IV.A.2.

⁹ See *id.*

¹⁰ See *infra* Part IV.B.1.

¹¹ See *infra* Part V.B.

This Article's primary contribution is in drawing attention to the important and largely overlooked role that the alternative discount windows play in providing banks access to liquidity during periods of distress, analyzing the effects of their operation, and proposing appropriate reforms. However, in the process of assessing the significance of having alternative discount windows, this Article also draws attention to the need for further examination of the Fed's activities and prevailing norms regarding when and to whom a modern lender of last resort should lend. The analysis here reveals significant shortcomings in the capacity of the Discount Window to respond to the liquidity constraints that can arise—and pose systemic risks—in today's financial markets. The Fed recognized many of these shortcomings during the Crisis, and it responded by instituting a number of temporary facilities outside of the Discount Window that provided liquidity to banks and other types of financial institutions.¹² Like the alternative discount windows, these facilities fulfilled the short-term aim of transferring additional liquidity to the market, but they too deviated from certain longstanding norms about when, to whom, and how a lender of last resort should lend. The Fed's decisions to create these facilities is directly relevant to the analysis here in that they affirm the shortcomings of the Discount Window and the value of having additional mechanisms for transferring liquidity into the market. At the same time, in assessing the effects of having alternative discount windows, this Article sheds additional light on the trade-offs inherent in the Fed's creation of these temporary facilities. In so doing, it illustrates the need for further consideration of the norms that should guide a modern-day lender of last resort and the implications of the Fed's actions.

A few notes about this Article's scope: First, the Article focuses on discount windows, that is, standing programs through which a bank facing a liquidity shortage may, at its discretion, access liquidity that is backed by the government and thus free from any meaningful market check on the bank's creditworthiness. Despite the very different mechanisms through which they operate, both FHLBank advances and insured deposits attracted with the lure of high interest rates fit this definition. This Article does not address the numerous other mechanisms—including open market operations, tax breaks, and promoting a secondary mortgage market—through which the government transfers additional liquidity into banks and the market more generally.

Second, this Article focuses on crisis periods. Even under normal market conditions, banks that rely on advances and deposits are

¹² See *infra* Part IV.A.

shielded from market discipline, and this Article's analysis cannot be completely disentwined from the moral hazard issues that are inherent in the programs underlying the alternative discount windows. Nonetheless, there are reasons to view periods of systemic distress as qualitatively distinct. In the presence of system-wide liquidity constraints, many of the mechanisms through which a bank can normally access liquidity—interbank loans, repurchase agreements, selling loans for securitization, and the like—cease to function normally.¹³ Banks' options for obtaining needed liquidity thus change in qualitatively significant ways. The expected social costs of banks' access to liquidity similarly change when more of the banks seeking liquidity are financially distressed.¹⁴ More importantly, the underlying moral hazard issues are well understood. Congress was aware of these trade-offs when it adopted the underlying programs, and Congress and regulators have taken steps to reduce the moral hazard these programs engender during normal periods.¹⁵ The same cannot be said of the issues that arise when banks use these programs as substitutes for the Discount Window. Thus, while this Article's analysis has broader implications, the focus is on periods of widespread financial distress.

This Article proceeds in five Parts. Part I lays the groundwork, explaining the rationale behind having a lender of last resort and theories about when a lender of last resort should lend. It describes why this role is generally given to a central bank and why the Fed is institutionally well suited to play this role. It also introduces the Discount Window, the primary mechanism through which the Fed serves as a lender of last resort.

Part II looks at where banks sought liquidity as their access to market-based funding declined during the Crisis. It shows that banks increasingly relied upon government-backed sources of liquidity despite the relatively low levels of Discount Window borrowing. Banks did so through two alternative mechanisms—advances from FHLBanks and insured deposits attracted or retained using the lure of exceptionally high interest rates. It further shows that the Crisis is not the first time that banks tapped these alternative discount windows when facing liquidity shortfalls.

Part III depicts the rise of the alternative discount windows. With respect to the FHLBanks and deposit insurance, it explains the history giving rise to the program, the rationale for its formation, and its evolution over time. The analysis suggests that the capacity of each program to serve as an alternative to the Discount Window is an

¹³ See *infra* Part I.A.

¹⁴ See *infra* Part IV.B.

¹⁵ See *infra* Part III.B.3.

unintended consequence of Congress's attempt to address a distinct policy aim that banks rationally exploited when given the opportunity.

Part IV examines the benefits, costs, and other consequences of the operation of the alternative discount windows. By looking at the temporary programs that the Fed created to supplement the Discount Window during the Crisis, it identifies some ways that the Discount Window falls short in response to the range of liquidity constraints that may arise in a modern financial system. Recognizing these shortcomings allows us to see ways that the alternative discount windows may yield meaningful welfare benefits even if never designed to serve this role. The analysis then shifts to the costs and other consequences of allowing the alternative discount windows to persist in their current form. This examination suggests that the current regime is likely suboptimal.

Part V looks ahead. It considers how the insurance scheme administered by the Federal Deposit Insurance Corporation (FDIC) and the extension of advances by FHLBanks should be modified to reduce banks' capacity to rely upon each when facing liquidity shortfalls. It also identifies areas that may merit further study in light of the dynamics revealed here.

I

THE FED AS LENDER OF LAST RESORT

A. Lenders of Last Resort

Banks are inherently unstable institutions. They use short-term liabilities, like demand deposits, to fund long-term assets, like loans to businesses and individuals.¹⁶ This is a viable business model most of the time because the circumstances causing one depositor to demand his money back are generally independent of the liquidity needs of other depositors.¹⁷ This enables banks to use fractional reserves, holding only a portion of their assets in highly liquid forms.¹⁸ In general, this arrangement serves all involved: banks earn higher rates of return on their assets; some portion of those returns are passed onto depositors in the form of higher interest rates and lower fees for transaction services; and businesses and others have greater access to capital, facilitating economic activity and growth.

¹⁶ See Xavier Freixas et al., *Lender of Last Resort: A Review of the Literature*, FIN. STABILITY REV., Nov. 1999, at 151, 152 [hereinafter Freixas et al., *Review of the Literature*], available at <http://www.bankofengland.co.uk/archive/Documents/historicpubs/fsr/1999/fsr07art6.pdf>.

¹⁷ Cf. Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 402 (1983) (discussing how the demand deposit system permits efficient risk sharing "among people who need to consume at different random times").

¹⁸ See Freixas et al., *Review of the Literature*, *supra* note 16, at 152.

If depositors' demands become correlated, however, this model ceases to be viable, and the inherent instability of banks becomes manifest. When aggregate depositor demands exceed a bank's liquid assets, a bank can meet those demands only by selling less liquid assets, such as loans. The need to do so in a very short time frame, coupled with the frequent lack of an active secondary market for those assets and information asymmetries, means that such "fire sales" usually occur at prices well below the fundamental value of the asset transferred. Forced sales thus tend to reduce the value of a bank's assets and can render an otherwise healthy bank insolvent. Aware of this risk, bank depositors have a rational tendency to run at any sign of trouble.¹⁹ To reduce this inherent instability and in recognition of the welfare benefits of a functioning banking system, the government has instituted two programs designed to promote bank stability. The first—deposit insurance—reduces the incentive of individual depositors to "run" on a bank, thus reducing the likelihood that a bank will face correlated demands.²⁰ The second—a lender of last resort—reduces the need for a bank to engage in inefficient fire sales and can help quell panic among depositors and others.²¹

Many of the benefits of having a lender of last resort were recognized by Walter Bagehot in 1873, and such regimes have become a cornerstone of most modern financial systems.²² With access to a lender of last resort, a bank facing depositor demands in excess of its liquid reserves can use its illiquid assets as collateral for a loan, providing the bank with the additional liquidity it needs without resorting to value-destroying fire sales. This helps the bank in question and also reduces the externality that arises when one bank's fire sales force other banks to mark down assets.²³ Access to a lender of last resort can also reduce the tendency of depositors to make correlated demands and may reduce the propensity to panic more generally, as

¹⁹ Diamond & Dybvig, *supra* note 17, at 402–03.

²⁰ See *infra* Part III.B.1.

²¹ Cf. Thomas M. Humphrey, *Lender of Last Resort: The Concept in History*, FED. RES. BANK RICHMOND ECON. REV., Mar./Apr. 1989, at 8, 8 (noting that the "mere announcement" of a lender of last resort's commitment to make a loan to an illiquid bank may, at times, "assuag[e] people's fears of [the bank's] inability to obtain cash," thereby averting a run).

²² See generally WALTER BAGEHOT, *LOMBARD STREET: A DESCRIPTION OF THE MONEY MARKET* (Richard D. Irwin, Inc. 1962) (1873) (describing the welfare benefits of having a lender of last resort). While Bagehot was not the first to propose this notion, he has remained the figurehead often associated with it. See Freixas et al., *Review of the Literature*, *supra* note 16, at 151.

²³ See, e.g., Ricardo J. Caballero & Alp Simsek, *Fire Sales in a Model of Complexity*, 68 J. FIN. 2549 (2013).

depositors and other creditors have little reason to run on a solvent bank with ready access to additional liquidity.²⁴

At the same time, access to a lender of last resort can give rise to troubling distortions in a bank's operations.²⁵ One challenge is that a bank, knowing it has ready access to a lender of last resort, has less incentive to appropriately manage its liquidity risk and will tend to hold fewer liquid assets than would be optimal. One tool used to deter banks from becoming overly reliant on a lender of last resort is to force banks to pay "a penalty interest rate" when they borrow from the lender of last resort.²⁶

A second challenge is that as banks approach insolvency, they have an incentive to assume greater risks than are socially optimal.²⁷ This incentive exists even in the absence of a lender of last resort, but the challenge takes on new dimensions when a bank has access to new sources of liquidity.²⁸ Liquid assets can readily be redeployed in

²⁴ See, e.g., Humphrey, *supra* note 21, at 16 (stating that one role of a lender of last resort is "to preannounce its policy in advance of crises so as to remove uncertainty"); William C. Dudley, President & CEO, Fed. Reserve Bank of N.Y., Remarks at the New York Bankers Association's 2013 Annual Meeting and Economic Forum: Fixing Wholesale Funding to Build a More Stable Financial System (Feb. 1, 2013), available at <http://www.newyorkfed.org/newsevents/speeches/2013/dud130201.html> (stating that a lender of last resort performs "two key functions": first, "to provide a precautionary backstop[] to reduce the risk of a financial panic beginning in the first place by ensuring that collateral can always be financed" and thus "reduc[ing] the risk of financial instability due to coordination problems even if the lender of last resort is not utilized"; and second, "to prevent the fire sale[s] of assets by firms facing a sudden loss of funding"). *But see* Diamond & Dybvig, *supra* note 17, at 417 (questioning the impact of an available lender of last resort on depositors' propensity to run).

²⁵ In light of the inevitable moral hazard, some economists have suggested that central banks should provide liquidity support solely through monetary policy and should avoid providing support to individual institutions. See Mark A. Carlson & David C. Wheelock, *The Lender of Last Resort: Lessons from the Fed's First 100 Years* 41 (Fed. Reserve Bank of St. Louis, Working Paper No. 2012-056B, 2013), available at <http://research.stlouisfed.org/wp/2012/2012-056.pdf> (discussing this position and its advocates).

²⁶ BEN S. BERNANKE, THE FEDERAL RESERVE AND THE FINANCIAL CRISIS: LECTURES BY BEN S. BERNANKE 7 (2013); see also Freixas et al., *Review of the Literature*, *supra* note 16, at 159 (discussing ways to counterbalance the moral hazard problem created by overreliance on liquidity support from a lender of last resort).

²⁷ See, e.g., Laura Lin, *Shift of Fiduciary Duty upon Corporate Insolvency: Proper Scope of Directors' Duty to Creditors*, 46 VAND. L. REV. 1485, 1489 (1993) ("When the corporation is insolvent or at the brink of insolvency, the difference in risk preference between shareholders and creditors is magnified with respect to corporate investment policies. During this period of financial stress, shareholders favor highly risky projects, even if these projects have only a slight chance of generating income large enough to cover the firm's debt and still provide some return to shareholders."); Asli Demirgüç-Kunt, *Designing a Bank Safety Net—A Long-term Perspective*, WORLD BANK GRP., http://www1.worldbank.org/finance/html/designing_a_bank_sn.html (last visited Feb. 8, 2014) (noting that "excessive risk taking by banks—moral hazard—becomes worst at the time of adverse economic shocks, which erode bank capital and increase incentives to take on more risk").

²⁸ See Anna J. Schwartz, *The Misuse of the Fed's Discount Window*, FED. RES. BANK ST. LOUIS REV., Sept./Oct. 1992, at 58, 65–66, available at http://research.stlouisfed.org/publications/review/92/09/Misuse_Sep_Oct1992.pdf.

riskier ways, like making excessively risky loans or acquiring excessively risky assets. The most commonly invoked maxim to address this risk, and the only one that is directly responsive, is that a lender of last resort should lend only when an institution is facing a liquidity problem and not a solvency one.²⁹ More bluntly, a lender of last resort should not lend to insolvent institutions. In practice, central banks have at times downplayed this norm or conflated it with the notion that central banks should only lend on good collateral.³⁰ While this tendency may be warranted at times, the difference between adequate collateral and solvency remains important.³¹ Collateral protects the lender of last resort from experiencing any loss if the bank to which it has extended a loan fails while the loan is outstanding. But a bank's ability to tender appropriate collateral merely provides information about the types of assets that the bank holds; it provides no information about the value of those assets relative to the bank's liabilities. Demanding adequate collateral thus fails to address the challenge that an insolvent bank will tend to use new liquidity to assume socially inefficient risks.

As the financial markets have evolved, so too have the rationales for having a lender of last resort. The interbank market, for example, provides an important mechanism through which a bank can access needed liquidity and facilitates the redistribution of liquidity from banks that have it to those in need of it.³² Additionally, more recent financial innovations, most notably repurchase agreements, typically provide banks that have adequate and appropriate collateral with a ready mechanism for accessing liquidity.³³ Yet another financial innovation, securitization, has led to an active secondary market for many types of bank loans, enabling such loans to be sold at fair value. Nonetheless, none of these markets has proven to be a reliable source of

²⁹ See *id.* at 58 (noting the “ancient injunction” against lending to insolvent banks); see also BERNANKE, *supra* note 26, at 7 (noting that lenders of last resort are effective at quelling runs and ending panic only if the banks receiving injections of liquidity are actually solvent).

³⁰ See, e.g., BERNANKE, *supra* note 26, at 94–95 (treating sufficient collateral and solvency as almost interchangeable in explaining why the Fed lacked authority to bail out Lehman Brothers in September 2008).

³¹ See *infra* note 231 and accompanying text.

³² See, e.g., Gara Afonso et al., *Stressed, Not Frozen: The Federal Funds Market in the Financial Crisis*, 66 J. FIN. 1109, 1109 (2011); Freixas et al., *Review of the Literature*, *supra* note 16, at 153.

³³ Repurchase agreements are effectively short-term collateralized loans structured as a sale and repurchase of the collateral. Because repurchase-agreement counterparties receive special protections under the Bankruptcy Code, a bank with high-quality collateral may be able to obtain funding through these agreements even when information asymmetries otherwise limit its access to the interbank market. See Afonso et al., *supra* note 32, at 1113.

bank financing during periods of systemic distress.³⁴ For example, the opacity that envelops banks seems to become particularly pronounced during periods of distress, making it difficult for market participants to determine whether a bank is financially sound and reducing the willingness of banks and others to provide short-term financing.³⁵ Similarly, banks have a rational tendency to hoard liquidity during such periods, further impeding the efficient redistribution of liquidity that would occur during other periods.³⁶ As a result, even healthy banks can face significant challenges obtaining sufficient liquidity during periods of widespread distress.

A related issue is the fuzzy but important distinction between liquidity and capital infusions. Capital infusions, like liquidity infusions, can be justified from a social-welfare perspective, as the failure of a systemically significant institution can give rise to a range of negative externalities.³⁷ Additionally, the line separating the two can be thin, as it is not easy to determine whether an institution is solvent and solvency is a state that can change quite quickly. Moreover, both may be viewed as a form of bailout in the sense that the institution relies on government support in order to continue operations. Yet the distinction remains important. A lender of last resort that demands adequate collateral is not necessarily putting taxpayer dollars at risk, and the moral hazard that arises from liquidity support introduces fewer distortions than capital support. Thus, even if both can be justified, capital infusions raise additional concerns and thus are typically outside the appropriate domain of a lender of last resort.

B. The Federal Reserve

In the United States, as in most countries, the central bank is empowered to act as the lender of last resort.³⁸ The current central bank, the Federal Reserve System, was formed in 1913 following a series of banking crises.³⁹ The Great Depression, and the Fed's failure to do more to mitigate its effects, led to an expansion of the Fed's

³⁴ See, e.g., *id.* at 1110–12 (discussing the potential unraveling of the interbank market during crisis periods); see also VIRAL V. ACHARYA & DAVID SKEIE, FED. RESERVE BANK OF N.Y., STAFF REPORT NO. 498, A MODEL OF LIQUIDITY HOARDING AND TERM PREMIA IN INTER-BANK MARKETS 12–17 (2011) (demonstrating how liquidity hoarding may contribute to the same).

³⁵ See Mark J. Flannery et al., *The 2007–2009 Financial Crisis and Bank Opacity*, 22 J. FIN. INTERMEDIATION 55, 55–58 (2013); see also Caballero & Simsek, *supra* note 23 (discussing the effects of uncertainty on lending).

³⁶ Xavier Freixas et al., *Lender of Last Resort: What Have We Learned Since Bagehot?*, 18 J. FIN. SERVICES RES. 63, 66–68 (2000) [hereinafter Freixas et al., *Since Bagehot*].

³⁷ E.g., Freixas et al., *Review of the Literature*, *supra* note 16, at 158.

³⁸ See BERNANKE, *supra* note 26, at 4.

³⁹ See *id.* at 8 (noting that “concerns about both macroeconomic stability and financial stability motivated the decision” to create the Fed).

authority and altered norms regarding the role that the Fed should play in helping banks and in using monetary policy to respond to financial crises.⁴⁰ The Fed's statutory authority and its policy aims have been modified further over time, including numerous changes instituted in response to the Crisis.⁴¹ In particular, the Crisis served as a reminder, and the Dodd-Frank Act made explicit, that one function of the Fed is "to keep the financial system working normally and, in particular, . . . to either prevent or mitigate financial panics or financial crises."⁴² This is in addition to the Fed's longstanding goals of promoting full employment and maintaining stable prices.⁴³ In addition to serving as the lender of last resort, the Fed uses monetary policy (implemented primarily through open market operations) to further these aims.⁴⁴

Congress has empowered the Fed to serve as the lender of last resort through two distinct grants of authority.⁴⁵ The primary grant of authority, section 10B of the Federal Reserve Act, authorizes the Fed to extend loans to member banks.⁴⁶ This is the basis for the Discount Window and two related standing programs, one for banks that do not qualify for the Discount Window and a second for seasonal extensions of credit.⁴⁷ Additionally, pursuant to section 13(3) of the Federal Reserve Act, the Fed may provide liquidity to entities other than member banks under "unusual and exigent circumstances" after determining that credit is not otherwise available and that failure to provide the

⁴⁰ One of the harshest and most influential critiques came from Milton Friedman and Anna Schwartz. See MILTON FRIEDMAN & ANNA JACOBSON SCHWARTZ, *A MONETARY HISTORY OF THE UNITED STATES: 1867-1960*, at 357-59 (1963).

⁴¹ See, e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of 7, 12, 15, 18, 22, 31, and 41 U.S.C.) (limiting the Fed's authority to extend loans to nonbanks under Federal Reserve Act § 13(3)).

⁴² BERNANKE, *supra* note 26, at 3.

⁴³ 12 U.S.C. § 225a (2012).

⁴⁴ See, e.g., BERNANKE, *supra* note 26, at 3 (discussing the purchase and sale of securities on the open market as a means of furthering the Fed's goal of either raising or lowering short-term interest rates).

⁴⁵ See Federal Reserve Act, Pub. L. No. 63-43, 38 Stat. 251 (1913) (codified as amended in scattered sections of 12 U.S.C.).

⁴⁶ 12 U.S.C. § 347b (2012) (codifying Federal Reserve Act § 10B). The relationship between the Fed's role as lender of last resort and its role in implementing monetary policy has evolved dramatically since the Fed was first formed. Following the lead of the claims made by the Fed and others regarding the effects of its lending operations, this Article assumes that such operations may appropriately be classified as creating liquidity. Considering that such operations are now sterilized, whether this is an apt characterization is questionable. See, e.g., Marvin Goodfriend & Robert G. King, *Financial Deregulation, Monetary Policy, and Central Banking*, in FINANCIAL CRISES, CONTAGION, AND THE LENDER OF LAST RESORT: A READER 145, 148-151 (Charles Goodhart & Gerhard Illing eds., 2002).

⁴⁷ For an overview of the three programs, see *Frequently Asked Questions - Discount Window Lending Programs*, FED. RES. DISCOUNT WINDOW & PAYMENT SYS. RISK, <http://www.frbdiscountwindow.org/dwfaqs.cfm?hdrID=14&dtlID=75> (last visited Feb. 3, 2014).

needed liquidity would adversely affect the economy.⁴⁸ The Fed invoked this authority during the Crisis, the first time it had done so since the 1930s, and the Fed's expansive use of this authority led Congress to narrow its scope.⁴⁹ Currently, the Fed can use this authority only to establish programs with broad-based eligibility and subject to additional conditions, including prior approval from the Secretary of the Treasury.⁵⁰

While Congress has never effectively conditioned the Fed's authority to lend on the solvency of the institution receiving the funds, it has scaled back the Fed's authority on multiple occasions in order to prevent and discourage loans to insolvent institutions. For example, concern that the Fed had extended loans to troubled banks during the Savings and Loan (S&L) debacle and that those loans increased the costs borne by the FDIC in winding up failed banks led Congress to restrict the Fed's authority to provide support to undercapitalized institutions.⁵¹ Similarly, in recent amendments to section 13(3), Congress formally denied the Fed the authority to provide funds to an insolvent firm.⁵² Congress, however, only required that a firm be deemed insolvent if it was actually in receivership or had filed for bankruptcy.⁵³ In short, Congress has signaled that the Fed should not lend to insolvent institutions, but it has not meaningfully limited the Fed's ability to bypass the maxim in practice.⁵⁴

Congress's decision to have the Fed act as lender of last resort is consistent with prevailing theory about where this authority should lie.⁵⁵ A primary reason for giving this authority to a central bank that also has control over the money supply is that the two tools can function as complements, working together to promote financial stability and growth.⁵⁶ Another consideration supporting such placement is

⁴⁸ 12 U.S.C. § 343 (2012) (codifying Federal Reserve Act § 13(3)).

⁴⁹ See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1101, 124 Stat. 1376, 2113 (2010) (amending Federal Reserve Act § 13(3)).

⁵⁰ *Id.*

⁵¹ See Walker F. Todd, *New Discount Window Policy Is Important Element of FDICIA*, BANKING POL'Y REP., Mar. 1993, at 1, 13–16 (describing the legislative history and specific statutory changes made to deter the Fed from lending to insolvent institutions).

⁵² See Dodd-Frank Wall Street Reform and Consumer Protection Act § 1101(a) (amending and adding ¶ (B)(ii) to 12 U.S.C. § 343).

⁵³ *Id.*

⁵⁴ This should not be assumed to be an accident. In light of the dynamism of the financial system and the magnitude of the social costs that can arise when a lender of last resort fails to act in a timely fashion, it may be appropriate for the scope of the authority granted to the Fed to exceed established norms regarding when it should appropriately exercise that authority. See Kathryn Judge, *The Federal Reserve: A Study in Soft Constraints on Regulatory Authority*, 76 LAW & CONTEMP. PROBS. (forthcoming 2014) [hereinafter Judge, *Soft Constraints*].

⁵⁵ See Freixas et al., *Since Bagehot*, *supra* note 36, at 71.

⁵⁶ E.g., BD. OF GOVERNORS OF THE FED. RESERVE SYS., THE FEDERAL RESERVE SYSTEM: PURPOSES AND FUNCTIONS 16 (9th ed., 2005), available at <http://www.federalreserve.gov/>

that central banks, including the Fed, tend to be relatively insulated from political influence.⁵⁷ This insularity enables a central bank to take actions that might be politically unpopular in service of long-term goals.⁵⁸ Yet another rationale is that because central banks alone have the ability to increase the money supply, only central banks lack other banks' incentive to hoard liquidity in anticipation of shortages to address future liquidity needs.⁵⁹

A specific advantage of having the Fed serve as the lender of last resort is that there are potential synergies between this role and the Fed's role in bank oversight.⁶⁰ The Fed's role as supervisor should provide it access to information and expertise, facilitating its capacity to make timely assessments of a bank's financial health.⁶¹ Thus, to the extent that access to liquidity should depend on a bank's solvency, the Fed may be particularly well positioned to make that determination.⁶²

At the same time, there are drawbacks to having the Fed serve as the lender of last resort. While the remarkable degree of independence the Fed enjoys gives it significant leeway to focus on the long-term best interests of the economy, that independence comes at the expense of democratic accountability. The Fed's creative and

pf/pdf/pf_complete.pdf (explaining how the Fed can “cushion the impact [of potentially threatening disturbances] on financial markets and the economy by aggressively and visibly providing liquidity through open market operations or discount window lending”).

⁵⁷ See Peter Conti-Brown, *The Structure of Federal Reserve Independence* 1–5 (Stanford Law Sch. & The Rock Ctr. for Corporate Governance, Working Paper No. 139, 2013), available at <http://www.law.stanford.edu/sites/default/files/publication/431459/doc/slspublic/SSRN-id2275759.pdf> (demonstrating the significant independence of the Fed through a legal and institutional analysis).

⁵⁸ At the same time, this insularity can be viewed as problematic when a central bank is given responsibilities with respect to which we might want a greater degree of accountability. See *id.* at 56.

⁵⁹ See Viral V. Acharya & Ouarda Merrouche, *Precautionary Hoarding of Liquidity and Interbank Markets: Evidence from the Sub-prime Crisis*, 17 REV. FIN. 107, 113 (2013) (“We interpret these findings to imply that, since access to capital markets and wholesale borrowing in commercial paper markets was impaired for banks . . . these weaker banks engaged in liquidity hoarding as a precautionary response.”); Jose Berrospide, *Bank Liquidity Hoarding and the Financial Crisis: An Empirical Evaluation* 3 (Fed. Reserve Bd., Fin. & Econ. Discussion Series, Working Paper No. 2013-03, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2207754 (“[D]uring and immediately after a severe liquidity crisis, banks hoard excess cash to self-insure against further drains of cash and to send markets a strong message that their solvency is not at risk and that bank runs are not justifiable.”).

⁶⁰ The Fed has primary oversight responsibility for all state banks that are Fed members, bank holding companies, and systemically important financial institutions. Other central banks often, but not always, have some oversight authority. See Thomas Cooley et al., *The Power of Central Banks and the Future of the Federal Reserve System*, in REGULATING WALL STREET: THE DODD-FRANK ACT AND THE NEW ARCHITECTURE OF GLOBAL FINANCE 51, 65–67 (Viral V. Acharya et al. eds., 2011).

⁶¹ See *id.*

⁶² See Kathryn Judge, *Interbank Discipline*, 60 UCLA L. REV. 1262, 1310–14 (2013) [hereinafter Judge, *Interbank Discipline*] (describing the institutional competence of bank examiners).

aggressive use of its lender-of-last-resort authority during the Crisis led to a new appreciation among members of Congress as well as the public of just how much leeway the Fed enjoys.⁶³ The Crisis also made clear that the decisions the Fed makes in its role as a lender of last resort—to whom to extend loans and on what terms—can have significant consequences beyond promoting systemic stability.⁶⁴ This led Congress to scale back the Fed’s lender-of-last-resort authority and sparked a broader debate about whether the Fed should maintain its current level of independence.⁶⁵ Less discussed, but also noteworthy, is the potential for conflicts between the Fed’s role as lender of last resort and its other roles.⁶⁶

C. The Discount Window

The primary way that the Fed provides liquidity to banks in need of it is through its Discount Window.⁶⁷ All national banks and state banks have access to the Discount Window, subject to eligibility requirements.⁶⁸ The Fed manages the credit risk associated with the

⁶³ ALAN S. BLINDER, *AFTER THE MUSIC STOPPED: THE FINANCIAL CRISIS, THE RESPONSE, AND THE WORK AHEAD* 348 (2013) (noting that “even Barney Frank, as smart and knowledgeable a member of Congress as there was, expressed surprise to learn that the Fed has an essentially unlimited pocketbook”).

⁶⁴ *E.g.*, Editorial, *Questions for Mr. Geithner*, N.Y. TIMES (Dec. 14, 2008), <http://www.nytimes.com/2008/12/15/opinion/15mon1.html?pagewanted=print> (suggesting that the failure to save Lehman led to an “impression of bias created by the disparate treatment of Lehman and A.I.G.”); Alan Grayson, *The Fed Bailouts: Money for Nothing*, HUFFINGTON POST BUS. BLOG (Dec. 5, 2011, 1:54 PM), http://www.huffingtonpost.com/rep-alan-grayson/the-fed-bailouts-money-fo_b_1129988.html (asserting that the Fed’s emergency lending programs allowed it to decide which banks would fail and which ones would survive by applying inconsistent policies, specifically with regards to asset valuation and haircuts).

⁶⁵ *See, e.g.*, Federal Reserve Transparency Act of 2009, H.R. 1207, 111th Cong. (2009) (proposing to subject the Fed to much more stringent audit requirements); *see also* Pedro Nicolaci da Costa, *At Jackson Hole, a Growing Fear for Fed Independence*, REUTERS (Sept. 2, 2012, 5:39 PM), <http://www.reuters.com/article/2012/09/02/us-usa-fed-politics-idUSBR E88109Q20120902> (“[O]pposition has emerged against a proactive central bank that has been forced to widen its range of policy tools in a zero interest rate environment.”).

⁶⁶ For example, when the Fed uses its lender-of-last-resort authority to extend longer-term loans that expose it to particular types of collateral, it may have an incentive to adopt monetary policies that would favorably affect the value of that collateral.

⁶⁷ *See, e.g.*, Cooley et al., *supra* note 60, at 67–68 (explaining how the discount window was used the week after 9/11 to meet heightened liquidity needs); *The Federal Reserve Discount Window*, FED. RES. DISCOUNT WINDOW & PAYMENT SYS. RISK (Mar. 18, 2012), <http://www.frbdiscountwindow.org/discountwindowbook.cfm?hdrID=14&dtID=43>.

⁶⁸ *The Federal Reserve Discount Window*, *supra* note 67 (limiting Primary Credit borrowing to depository institutions with CAMELS ratings of 1, 2, or 3, or with a CAMELS rating of 4 and “ongoing examination or other supplementary information indicat[ing] that the institution is at least adequately capitalized and that its condition has improved sufficiently to be deemed generally sound by its Reserve Bank”). In 2006, only 50 of 8,693 reporting depository institutions were placed on the FDIC “problem list,” signifying a CAMELS rating of 4 or 5; in 2005, 52 of 8,845 institutions received such scores. Q. BANKING PROFILE (Fed. Deposit Ins. Corp., Arlington, Va.), Fourth Quarter 2006, at 17 tbl.II-B, 22, *available at* <http://www2.fdic.gov/qbp/2006dec/qbp.pdf>.

loans it extends through the Discount Window by requiring that all loans be fully collateralized, requiring a haircut—that is, a discount on the size of the loan relative to the value of the collateral, and, to a lesser extent, through the interest rate it charges and the eligibility requirements.⁶⁹ The rate the Fed charges on loans extended through the Discount Window is the “discount rate.”⁷⁰ Until 2003, the discount rate was set below the prevailing federal funds rate, the target rate for overnight interbank loans.⁷¹ In order to prevent excessive borrowing, the Fed required a bank seeking funds to demonstrate that it had a genuine need for the funds and that it lacked the ability to obtain the necessary funds from private sources.⁷² Thus, if a bank obtained financing through the Discount Window, it was a reliable indication that the bank was unable to meet its financing needs in the market.

In an effort to reduce the stigma associated with borrowing through the Discount Window and otherwise improve the efficacy of the program, the Fed fundamentally revamped the structure of the Discount Window and related facilities in 2003.⁷³ In its revised incarnation, the program does not require that a bank demonstrate that it lacks access to private sources of funding before it can borrow.⁷⁴ As a result, the Discount Window has become a “no questions asked” facility.⁷⁵ To counteract the risk that banks will excessively rely on the Discount Window to meet liquidity needs, the Fed began charging a “penalty” discount rate.⁷⁶

Despite this policy change, and despite the officially confidential nature of loans extended through the Discount Window, there continues to be a perceived stigma attached to borrowing through the Discount Window.⁷⁷ Borrowing has often been limited accordingly. Prior to the Crisis, borrowing through the Discount Window averaged

⁶⁹ OLIVIER ARMANTIER ET AL., FED. RESERVE BANK OF N.Y., STAFF REPORT NO. 483, STIGMA IN FINANCIAL MARKETS: EVIDENCE FROM LIQUIDITY AUCTIONS AND DISCOUNT WINDOW BORROWING DURING THE CRISIS 5 (2011), available at http://www.newyorkfed.org/research/staff_reports/sr483.pdf.

⁷⁰ See BD. OF GOVERNORS OF THE FED. RESERVE SYS., *supra* note 56, at 46–48.

⁷¹ See *id.* at 47 (describing the history and rationale behind the evolving policy).

⁷² See ARMANTIER ET AL., *supra* note 69, at 6.

⁷³ See *id.*

⁷⁴ See *id.* at 6–7 (explaining that “the Fed no longer establishes a bank’s possible sources of and needs for funding to lend money under the primary credit program”).

⁷⁵ *Frequently Asked Questions - Discount Window Lending Programs*, *supra* note 47 (internal quotation marks omitted).

⁷⁶ See ARMANTIER ET AL., *supra* note 69, at 6.

⁷⁷ See *id.* at 7; Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Sys., Speech at the Federal Reserve Board Conference on Key Developments in Monetary Policy: The Federal Reserve’s Balance Sheet: An Update (Oct. 8, 2009), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20091008a.htm> (“[I]n August 2007 . . . banks were reluctant to rely on discount window credit [to address their funding needs] The banks’ concern was that their recourse to the discount window, if it

less than \$200 million per day, a remarkably small figure relative to the size of the financial system.⁷⁸ A study by Olivier Armantier and coauthors shows that during the Crisis, banks were willing to pay on average an additional thirty-seven basis points in order to avoid the Discount Window and the associated stigma, and the premium that banks were willing to pay to avoid the Discount Window increased notably after Lehman Brothers's bankruptcy.⁷⁹ Other findings of Armantier and his coauthors also suggest that banks may have good reason to be concerned about stigma. As they note: “[a]lthough not consistently statistically significant, our results are consistent with the hypothesis that banks visiting the [Discount Window] may face a moderate increase in borrowing costs and a moderate decrease in stock prices, relative to banks that do not visit the [Discount Window].”⁸⁰

Having established the reasons for having a lender of last resort and the advantages of having a central bank, particularly one with the Fed's authority and mission, fulfill the role, the next Part reveals how the Fed's authority may have been unintentionally weakened by the creation of two other government programs designed to achieve very different aims.

II

BANKS AND LIQUIDITY DURING THE CRISIS

A. The Crisis

The origins for the Crisis were laid during the housing boom of the mid-2000s. The proliferation of subprime mortgages, securitized assets backed by subprime mortgages, and other investments with subprime exposure, combined with significant uncertainty about the extent and distribution of such exposures, set the stage for a dramatic pullback when questions arose regarding the value of subprime mortgages.⁸¹ Signs that the market for subprime loans was weakening started to appear in early 2007, and in July 2007 there was a record downgrade of mortgage-backed securities (MBSs) backed by subprime

somehow became known, would lead market participants to infer weakness—the so-called stigma problem.”).

⁷⁸ Stephen G. Cecchetti, *Crisis and Responses: The Federal Reserve in the Early Stages of the Financial Crisis*, 23 J. ECON. PERSP. 51, 55 (2009).

⁷⁹ See ARMANTIER ET AL., *supra* note 69, at 3–4. Notably, and seemingly not considered by the authors, the degree of stigma associated with borrowing through the Discount Window may have increased in connection with the creation of the Term Auction Facility. See *infra* Part IV.A.1.

⁸⁰ ARMANTIER ET AL., *supra* note 69, at 4.

⁸¹ Cecchetti, *supra* note 78, at 51.

loans.⁸² Yet the system remained relatively resilient despite some localized corrections. That changed in August 2007.

On August 8, 2007, BNP Paribas announced that there had been such a significant reduction in the liquidity of financial instruments with subprime exposure that it could not reliably mark certain assets to market. It further declared that it was suspending redemptions in three of its funds as a result.⁸³ That announcement helped trigger a panic. Investors realized that they did not have a good understanding of the actual value of many of the MBSs and other securitized assets they were exposed to and that those assets had significantly greater downside risks than previously recognized.⁸⁴ Investors responded by pulling back, in unison, from such assets and investments backed by them.⁸⁵ The effects were significant and widespread.⁸⁶

To understand why this announcement had such systemic ripple effects, a little background is helpful. In the years before the Crisis, many banks had created off-balance-sheet entities engaged in maturity transformation.⁸⁷ These entities held relatively long-term assets, such as MBSs and other securitized assets, which they funded with short-term liabilities, such as commercial paper.⁸⁸ In the face of heightened uncertainty about the value of the assets held by these entities, the investors holding the commercial paper ceased rolling over their investments when they matured.⁸⁹ The effect was similar to a

⁸² *Id.* at 57 (explaining that the original financial crisis likely began in February 2007, but after lenders began reporting losses, the “spreads between risky and risk-free bonds . . . began widening in July 2007”); see also Carrick Mollenkamp et al., *Mortgage Hot Potatoes: Banks Try to Return High-Risk Loans to the Originators*, WALL ST. J. (Feb. 15, 2007), <http://online.wsj.com/article/SB117150090506509262.html> (highlighting the efforts of lenders to “force mortgage originators to buy back the same high-risk, high-return loans that the big banks eagerly bought in 2005 and 2006” in response to the weakening MBS market).

⁸³ See, e.g., Cecchetti, *supra* note 78, at 57 (noting that a “complete chronology of the recent financial crisis might start in February 2007, . . . [b]ut the definitive trigger came on August 9, 2007, when the large French bank BNP Paribas temporarily halted redemptions from three of its funds because it could not reliably value the assets backed by U.S. subprime mortgage debt held in those funds”).

⁸⁴ Kathryn Judge, *Fragmentation Nodes: A Study in Financial Innovation, Complexity, and Systemic Risk*, 64 STAN. L. REV. 657, 699–701 (2012) [hereinafter Judge, *Fragmentation Nodes*]; Gary B. Gorton, *The Subprime Panic* 20, 25–26 (Nat’l Bureau of Econ. Research, Working Paper No. 14398, 2008).

⁸⁵ Gorton, *supra* note 84, at 24–25; *Transcript of the Meeting of the Federal Open Market Committee on August 7, 2007*, BOARD GOVERNORS FED. RES. SYS. 62 (Aug. 7, 2007), <http://www.federalreserve.gov/monetarypolicy/files/FOMC20070807meeting.pdf> (Geithner: “You’re also seeing the difficulties that investors and counterparties now have in evaluating the risk in exposure to financial counterparties, and you’re seeing in some ways reflecting all of this a diminished willingness to finance what’s relatively high quality paper.”).

⁸⁶ See Gorton, *supra* note 84, at 25–26.

⁸⁷ See *id.* at 31.

⁸⁸ *Id.* at 19.

⁸⁹ *Id.* at 19, 24–26; *Transcript of the Meeting of the Federal Open Market Committee on August 7, 2007*, *supra* note 85, at 69.

bank run as these entities suddenly faced an acute funding shortage.⁹⁰ This forced many of the banks that had sponsored off-balance-sheet entities to bring the entities onto their balance sheets or to find other ways to provide them access to funding.⁹¹ Thus, while the run started in off-balance-sheet entities that constituted part of the “shadow banking system,” it soon spilled over to banks, causing many to scramble for liquidity.⁹²

The Fed quickly recognized that banks were experiencing problems accessing sufficient liquidity in the market, and it made changes to the Discount Window to encourage banks to use it as a source of liquidity. With the stated aim of “promot[ing] the restoration of orderly conditions in financial markets,” the Fed cut by half the spread between the discount rate and the federal funds rate, bringing it down to fifty basis points, and extended the duration of Discount Window loans to up to thirty days, renewable by the borrowing bank.⁹³ The Fed subsequently reduced the discount rate further to a mere twenty-five basis points, and it authorized the extension of loans for periods of up to ninety days, in addition to taking other steps to try to encourage banks to borrow through the Discount Window.⁹⁴ Yet, bank borrowing through the Discount Window was markedly modest, with average borrowing remaining just over \$1 billion for the first seven months of the Crisis.⁹⁵ The following two sections examine how banks obtained government-backed liquidity from sources other than the Fed.⁹⁶

⁹⁰ See Gorton, *supra* note 84, at 26, 31–32.

⁹¹ Viral V. Acharya et al., *Securitization Without Risk Transfer* 32, 56 tbl.12 (Nat'l Bureau of Econ. Research, Working Paper No. 15730, 2010) (finding that recourse and credit guarantees provided by bank sponsors ended up covering 97.5% of maturing ABCP).

⁹² Gary Gorton, Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007, at 42–43 (May 9, 2009), *available at* <http://www.frbatlanta.org/news/conferen/09fmc/gorton.pdf> (summarizing the progression of the shadow banking panic into a more widespread panic across the industry); see ACHARYA ET AL., *supra* note 2, at 35–37.

⁹³ Press Release, BOARD GOVERNORS FED. RES. SYS. (Aug. 17, 2007), <http://www.federalreserve.gov/newsevents/press/monetary/20070817a.htm>.

⁹⁴ *Credit and Liquidity Programs and the Balance Sheet*, Bd. GOVERNORS FED. RES. SYS. (July 30, 2012), http://www.federalreserve.gov/monetarypolicy/bst_lendingdepository.htm; see also Adam Ashcraft et al., *The Federal Home Loan Bank System: The Lender of Next-to-Last Resort?*, 42 J. MONEY, CREDIT & BANKING 551, 569 (2010) (noting that, among other efforts, the Fed “openly encouraged the use of the Discount Window by identifying such use as a sign of strength during a specially convened teleconference with a group of large banks and major investment banking firms”).

⁹⁵ Cecchetti, *supra* note 78, at 55.

⁹⁶ While not new, most of the empirical evidence that follows comes from work in which economists sought to answer questions quite distinct from those posed here or in work that lacks the institutional context and framing provided here.

1. *FHLBanks*

One of the most significant sources of liquidity for banks following the August 2007 credit freeze was advances from the FHLBanks.⁹⁷ This is reflected in a study by Viral Acharya, Gara Afonso, and Anna Kovner that found that banks significantly changed how they funded themselves between the second and third quarters of 2007.⁹⁸ The 567 banks in the study increased their reliance on loans through the Discount Window by an average of \$22.7 million during this period.⁹⁹ The same banks increased their use of FHLBank advances by an average of \$137.4 million.¹⁰⁰ The study found a similar disparity when focusing solely on the banks with ABCP exposure, that is, the banks most likely to face significant funding challenges. Such banks increased their utilization of the Discount Window by an average of \$124.3 million¹⁰¹ while increasing their use of FHLBank advances by an average of \$750.8 million.¹⁰²

Work by Adam Ashcraft and coauthors provides additional information about banks' use of FHLBank advances to meet liquidity shortages.¹⁰³ They find that between the third and fourth quarters of 2007, FHLBank advances outstanding grew by \$235 billion, a 36.7% increase, and they continued to grow through most of 2008, reaching over \$1 trillion at the end of the third quarter of 2008.¹⁰⁴ "[I]t was not until May 2008 that [the Fed] became the largest government-sponsored liquidity facility in terms of crisis-related lending to the financial system."¹⁰⁵ And even when the Fed did surpass the FHLBank System "in terms of total liquidity provided, the [FHLBank] System continued to be the largest lender to U.S. depository institutions" because many of the Fed's programs primarily benefited other types of financial institutions or foreign banks.¹⁰⁶ Further supporting the view that banks were using FHLBank advances to meet short-term liquidity needs is the fact that the level of advances outstanding declined significantly as banks gained access to other forms

⁹⁷ See ACHARYA ET AL., *supra* note 2, at 17, 20–21.

⁹⁸ *Id.* at 14–16.

⁹⁹ *Id.* at 49 tbl.2. Two of the authors are at the Federal Reserve Bank of New York; some of the data came from a proprietary database to which they had access. These figures are based on borrowing through the Fed's primary discount window, excluding loans extended through secondary credit and seasonal credit-lending programs. *Id.* at 20.

¹⁰⁰ *Id.* at 49 tbl.2.

¹⁰¹ *Id.* There were fifty-three banks in this category.

¹⁰² *Id.*

¹⁰³ See Ashcraft et al., *supra* note 94, at 551–83.

¹⁰⁴ *Id.* at 552–54.

¹⁰⁵ *Id.* at 553.

¹⁰⁶ *Id.* at 554; see also ACHARYA ET AL., *supra* note 2, at 20 (showing that foreign banks obtained more capital than U.S. banks in the early stages of the TAF program); *Credit and Liquidity Programs and the Balance Sheet*, *supra* note 94 (summarizing the liquidity facilities instituted by the Fed, including a number specifically targeted to depository institutions).

of liquidity support. At the end of 2011, when market sources of liquidity were back to normal, total FHLBank advances outstanding had shrunk to just \$418 billion.¹⁰⁷

The evidence not only demonstrates a dramatic rise in banks' use of advances during the Crisis but also suggests that troubled banks were leading this trend. A 2009 study by the FHLBanks' regulator found that "FHLBanks made 45% of their total advances to members characterized by relatively weakened financial conditions."¹⁰⁸ The regulator further found that:

[T]he Atlanta and San Francisco FHLBanks had the highest percentages of total assets represented by member banks with CAMELS ratings [in one of the three lowest categories,] 3, 4, and 5—68% and 78% respectively . . . [, and] between January 2007 and September 2011, many of these poorly rated institutions failed: 149 for the Atlanta FHLBank and 55 for the San Francisco FHLBank.¹⁰⁹

Further evidence comes from Ashcraft and his coauthors, who found that the five banks that most significantly increased their reliance on FHLBank advances during the latter part of 2007 based on total dollars borrowed were Washington Mutual, Bank of America, Countrywide, FSB, Merrill Lynch, and Wachovia Corp., respectively.¹¹⁰ Of these, only Bank of America survived the Crisis; each of the other institutions went bankrupt or was acquired (often to avert bankruptcy).¹¹¹ Also notable is the extent to which these banks increased their use of FHLBank advances. Washington Mutual, which was the sixth-largest bank in the country when it failed in 2008, increased its advances by \$42.4 billion between the second and fourth quarters of 2007.¹¹² By the end of 2007, Washington Mutual had total advances outstanding of \$63.9 billion, an amount representing nearly 20% of the bank's assets.¹¹³ Even more striking, Countrywide, which had

¹⁰⁷ FED. HOUS. FIN. AGENCY, REPORT TO CONGRESS: 2011, at 28 (2012), available at http://www.fhfa.gov/webfiles/24009/FHFA_RepToCongr11_6_14_508.pdf.

¹⁰⁸ OFFICE OF INSPECTOR GEN., FED. HOUS. FIN. AGENCY, AUDIT REPORT AUD-2012-004, FHFA'S SUPERVISORY FRAMEWORK FOR FEDERAL HOME LOAN BANKS' ADVANCES AND COLLATERAL RISK MANAGEMENT 18 (2012), available at <http://www.fhfaig.gov/Content/Files/AUD-2012-004.pdf> [hereinafter OFFICE OF INSPECTOR GEN., FHFA'S SUPERVISORY FRAMEWORK FOR FHLBanks' ADVANCES].

¹⁰⁹ *Id.*

¹¹⁰ Ashcraft et al., *supra* note 94, at 560 tbl.3. "Merrill Lynch" refers to Merrill Lynch Bank USA and Merrill Lynch Bank & Trust Co., FSB.

¹¹¹ *Id.* Bank of America acquired both Countrywide and Merrill Lynch; Wells Fargo acquired Wachovia; and Washington Mutual failed. *Id.* at 576–77.

¹¹² *Id.* at 560 tbl.3; see also Eric Dash & Andrew Ross Sorkin, *In Largest Bank Failure, U.S. Seizes, Then Sells*, N.Y. TIMES, Sept. 26, 2008, at A1 (recapping the federal government's seizure and subsequent sale of Washington Mutual to JPMorgan Chase).

¹¹³ Ashcraft et al., *supra* note 94, at 560 tbl.3.; see also SHEILA BAIR, BULL BY THE HORNS: FIGHTING TO SAVE MAIN STREET FROM WALL STREET AND WALL STREET FROM ITSELF 84 (2012) (describing the way that Washington Mutual used FHLBank advances to compensate for its rapidly shrinking deposit base).

massive subprime exposure, increased its total advances to \$47.7 billion, an amount equal to nearly 40% of the bank's assets as of the end of 2007.¹¹⁴

FHLBank advances differ from Discount Window loans in a number of ways apart from stigma and source. Both Discount Window loans and FHLBank advances must be fully collateralized, but while there is substantial overlap in the types of collateral accepted, there are some differences, in part because individual FHLBanks retain some discretion with respect to the types of collateral they will accept and the haircuts they demand.¹¹⁵ The FHLBanks also enjoy another significant advantage over the Fed when loaning funds to potentially troubled institutions. If a member bank fails, an FHLBank that has advanced funds to the bank is given a statutory "super-lien," putting it in line in front of all other creditors, including the Fed and the FDIC.¹¹⁶

From the perspective of the borrowing bank, a distinct advantage of using FHLBank advances is that the terms tend to be more flexible and the duration can be substantially longer than Discount Window loans. FHLBank advances "may be fixed or adjustable rate, with terms ranging from one day to 30 years."¹¹⁷ Looking at the cumulative evidence regarding banks' reliance on the Discount Window and FHLBank advances, Ashcraft and his coauthors suggest that one reason that banks relied so much more on FHLBank advances than the Discount Window during the early part of the Crisis was the relatively more attractive terms of FHLBank advances.¹¹⁸ In their view, "the liquidity facilities of the [Fed] and the FHLB System have at the same time competed with and complemented each other."¹¹⁹

2. Deposits

Another source of liquidity that banks increasingly relied on during the Crisis was deposits. Deposits can be categorized into two groups—insured and uninsured.¹²⁰ Both insured and uninsured

¹¹⁴ Ashcraft et al., *supra* note 94, at 560 tbl.3.

¹¹⁵ Compare 12 U.S.C. § 1430(a)(3) (2012) (describing eligible collateral for FHLBank advances), with 12 C.F.R. pt. 201 (2013) (describing eligible collateral for Discount Window loans).

¹¹⁶ See 12 U.S.C. § 1430(e).

¹¹⁷ See, e.g., Fed. Home Loan Bank of S.F., Annual Report (Form 10-K), at 1 (Mar. 15, 2013) (describing the Bank's "primary business" as "providing competitively priced, collateralized loans, known as advances, to [their] members").

¹¹⁸ Ashcraft et al., *supra* note 94, at 559–61.

¹¹⁹ *Id.* at 553.

¹²⁰ See Viral V. Acharya & Nada Mora, Are Banks Passive Liquidity Backstops? Deposit Rates and Flows During the 2007–2009 Crisis 2–3, chart 2 (Nat'l Bureau of Econ. Research, Working Paper No. 17838, 2012), available at <http://www.nber.org/papers/w17838> (tracking the differences of insured and uninsured deposits of failed banks).

deposits come from private persons, not government entities.¹²¹ Nonetheless, insured deposits are appropriately deemed government-backed because FDIC insurance puts the government on the hook financially and because depositors know that they will be made whole so long as either the bank or the FDIC can perform on its commitment.¹²² Hence, the government backing affects depositors' willingness to provide a bank with funds.

A challenge in trying to assess the extent that banks relied on deposits attracted or retained by virtue of the government backing is the lack of a readily identifiable baseline against which to measure distortions. Deposits tend to go down when a bank faces financial distress.¹²³ For example, “[d]eposit outflows [at Washington Mutual] averaged \$1.2 billion a day” in the week after another large bank failed and averaged \$750 million a day the following week.¹²⁴ The tendency for depositors to “run” is much greater for uninsured deposits, but as Viral Acharya and Nada Mora show, insured deposits also tend to decline in the period prior to a bank's failure.¹²⁵ Against this backdrop, bank efforts that reduce the rate at which deposits are withdrawn, like efforts to attract new deposits, have the effect of increasing bank liquidity relative to what it would be in the absence of such efforts. Thus, from the perspective of a bank, insured deposits attracted or retained with the lure of exceptionally high interest rates can function as a substitute for going to the Discount Window.¹²⁶

There is significant evidence that banks actively sought to attract and retain deposits during the Crisis and that the most troubled banks engaged in the most aggressive efforts. Acharya and Mora examined the interest rates banks offered on demand and time deposits and the flows of deposits into and out of banks during the Crisis.¹²⁷ They show that banks facing financial distress tended to offer increasingly attractive interest rates as a way of retaining and attracting deposits and that the “banks that raised deposit rates were those vulnerable to liquidity risk, especially in the first year of the crisis.”¹²⁸ Additionally, “[p]remiums on deposit rates were positive in the period leading up to a bank's failure[;] . . . these premiums typically increased as the bank was about to fail[; and] . . . higher deposit rates were not limited

¹²¹ See *Deposit Insurance Summary*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/deposit/deposits/dis/index.html> (last updated Oct. 17, 2013).

¹²² *Id.*

¹²³ See BAIR, *supra* note 113, at 84.

¹²⁴ *Id.*

¹²⁵ See Acharya & Mora, *supra* note 120, at 31–32.

¹²⁶ See, e.g., *id.* at 4–8 (noting that banks offered higher rates to attract funds and providing a variety of explanations for deposit withdrawals when a bank, or the financial system, is facing distress).

¹²⁷ See *id.* at 16–22.

¹²⁸ *Id.* at 18.

to large time deposits, but also characterized core deposit rates.”¹²⁹ They further find that while banks faced a net outflow of deposits as they approached failure, the trend was reversed with respect to insured deposits.¹³⁰ Up until the quarter before failure, banks, using higher interest rates as the draw, “were able to attract insured deposit inflows.”¹³¹ Acharya and Mora’s findings thus further illustrate that it was the government backing that enabled banks to use higher interest rates to retain and attract funds, and so the additional liquidity banks enjoyed may appropriately be deemed government-backed.

Overall, their findings are thus consistent “with the hypothesis that banks about to fail experienced increasingly large deposit outflows and reacted by raising deposit rates in an effort to stem the loss.”¹³² Focusing on four large banks that failed or nearly failed during the Crisis—IndyMac, Washington Mutual, Wachovia, and Citi—they find that the interest rate the banks offered on 12-month certificates of deposit (CDs) was on average a full 100 basis points higher than the market average for the period, and the interest the banks offered on 60-month CDs was a full 130 basis points higher than the market average.¹³³ Anecdotal evidence further suggests that banks’ interest-rate policies played a meaningful role in enabling troubled banks to maintain higher levels of deposits than they would have without efforts to exploit the value of FDIC insurance.¹³⁴

To be sure, because of the lack of a relevant baseline, the data on banks’ interest-rate policies and deposit patterns cannot readily be translated into figures showing the aggregate amount of funds that banks managed to attract or retain by offering exceptionally high interest rates on insured deposits. Additionally, the net effect on banks’ liquidity was likely significantly smaller than FHLBank advances. Nonetheless, the evidence clearly suggests that insured deposits were a source of liquidity that many banks, and particularly the most troubled ones, relied on during the Crisis. And, because the deposits were insured, there is no reason to expect that there is a meaningful correlation between the premium that banks paid for those deposits and the magnitude of the increased credit risk that the banks posed.

¹²⁹ *Id.* at 17, tbl.2.

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Id.*

¹³³ *Id.* at 3, chart 1b.

¹³⁴ For example, an informal conversation with a hedge fund manager revealed that he had moved \$1 million into demand accounts (in his name and on behalf of immediate family) with a little-known bank because the accounts paid an interest rate that was nearly 100 basis points above Treasuries. He had no faith in the bank but had used a tool on the FDIC’s website to ensure that he structured the accounts so that all were fully insured.

B. Some History

The policy implications of the existence of the alternative discount windows depend in part on whether their use was unique to the Crisis. This subpart uses evidence from the S&L debacle to show that banks' use of the alternative discount windows was not an isolated phenomenon.

The roots of the S&L debacle were laid in the late 1970s and the early 1980s.¹³⁵ The primary asset type held by most S&Ls was long-term residential mortgages paying a fixed rate of interest.¹³⁶ Thus, when interest rates skyrocketed, the asset side of S&Ls' balance sheets took a significant hit¹³⁷ as the S&Ls were caught holding stockpiles of long-term mortgages paying below-market interest rates. At the same time, rising interest rates and the rise of money market mutual funds made it difficult for S&Ls to retain deposits without offering interest rates that far exceeded what they were earning on their assets.¹³⁸ The net income for the industry fell from "\$781 million in 1980 . . . to *negative* \$4.6 billion and \$4.1 billion in 1981 and 1982."¹³⁹ Nonetheless, in part because policymakers believed that the insolvent S&Ls could recover, the initial regulatory and congressional responses to the S&L debacle entailed numerous policies that allowed insolvent institutions to remain in operation and tended to expand the range of activities in which they could engage.¹⁴⁰ The S&L debacle is relevant here because both insured deposits attracted with the promise of above-market interest rates and FHLBank advances were among the sources of financing that troubled S&Ls relied on to fund their operations.

The effects of efforts by troubled S&Ls to attract deposits with the lure of high interest rates were most dramatic in the geographic regions with the most troubled S&Ls, with Texas being the lead example. By year-end 1987, 44% of insolvent S&Ls were based in Texas.¹⁴¹ The dire condition of these institutions limited their ability to access market-based sources of liquidity and gave them an incentive to exploit government-backed deposits to the greatest extent practical,

¹³⁵ See Michael Waldman, *The S&L Collapse: The Cost of a Congress for Sale*, 2 STAN. L. & POL'Y REV. 47, 48 (1990).

¹³⁶ Alane Moysich, *The Savings and Loan Crisis and Its Relationship to Banking*, in 1 FED. DEPOSIT INS. CORP., HISTORY OF THE EIGHTIES: LESSONS FOR THE FUTURE 167, 168 (1997).

¹³⁷ *Id.*

¹³⁸ The interest rates being paid by S&Ls fluctuated in part in response to changing government policies, including the imposition of an interest rate cap in 1966 and the gradual removal of that cap between 1980 and 1986. See *id.* at 172–73 (explaining the fluctuation of interest rates due to various government regulations).

¹³⁹ *Id.* at 168.

¹⁴⁰ *Id.* at 172–77 (describing various government actions taken in response to the S&L debacle).

¹⁴¹ *Id.* at 183.

which they did by offering exceptionally high interest rates on deposits.¹⁴² Moreover, the high interest rates being offered by troubled Texas S&Ls attracted depositors away from other Texas institutions, including well-capitalized S&Ls and other banking institutions.¹⁴³ In response, these solvent, well-capitalized institutions were forced to offer depositors “the so-called Texas premium” in order just to retain their funding base. At its highest, in 1987, the Texas premium was estimated to be at least fifty basis points.¹⁴⁴ These premiums persisted until Congress adopted the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA), finally providing regulators the capital necessary to close all of the troubled S&Ls.¹⁴⁵ Thus, the S&L debacle reveals an important collateral consequence of banks’ using higher interest rates to attract deposits as they approach insolvency—the adverse effect on healthy banks competing for those deposits.¹⁴⁶

Troubled thrifts also relied on FHLBank advances to continue operations when facing challenges accessing sufficient liquidity in the market. One study shows, for example, that:

[O]f the 205 failed thrifts that were resolved . . . in 1988, . . . 76 percent borrowed from their FHLBank three years before closure [and] some of these thrifts financed about 72 percent of their total assets with FHLBank loans. By contrast, only 40 percent of their solvent counterparts borrowed from FHLBanks at the end of 1988[,]

and the typical amount borrowed was lower for solvent thrifts.¹⁴⁷ The study further found that “[b]oth nationwide and in five of the six states [that accounted for the largest share of costly resolutions of failed thrifts], insolvent thrifts . . . borrowed proportionately more from FHLBanks than solvent institutions.”¹⁴⁸ The study’s authors conclude: the “results suggest that FHLBank advances were used more by financially distressed thrift institutions than by other firms”; FHLBank advances “may have added to the cost of resolving failed thrifts during

¹⁴² *Id.* at 176 & n.27, 181–82.

¹⁴³ GENIE D. SHORT & JEFFERY W. GUNTHER, FED. RESERVE BANK OF DALL., *THE TEXAS THRIFT SITUATION: IMPLICATIONS FOR THE TEXAS FINANCIAL INDUSTRY* 6–7 (1988); *Texas Marketers Battle High Rates and Bad Publicity: Emphasis on Service, Safety and Lower Rates Begins to Pay Off*, SAVINGS INSTITUTIONS, Sept. 1988, at 84.

¹⁴⁴ Moysich, *supra* note 136, at 183.

¹⁴⁵ *Id.* at 183–84.

¹⁴⁶ Acharya & Mora, *supra* note 120, at 2 (quoting then-CEO and Chairman of Bank of America Kenneth D. Lewis as saying, “The fact that Washington Mutual is now owned by Chase is very positive, because they were a huge outlier on rates.” (internal quotation marks omitted)).

¹⁴⁷ Lisa K. Ashley et al., *Access to FHLBank Advances and the Performance of Thrift Institutions*, FED. RES. BANK CHI. ECON. PERSP., 2nd Quarter 1998, at 33, 33.

¹⁴⁸ *Id.* at 40, 41 tbl.6.

the 1980s and early 1990s, contributing to one of the most expensive bailouts in U.S. history”; “[b]y insulating [thrifts] from market discipline, FHLBank advance programs provide incentives for thrifts to take more risk”; and “value-maximizing troubled thrifts will tend to borrow more, . . . [t]hus, access to FHLBank advances provides benefits to financially distressed institutions.”¹⁴⁹

While the S&L debacle may appropriately be deemed something less than a full financial crisis, it was the core of the largest wave of bank failures prior to the Crisis.¹⁵⁰ That banks, particularly those facing distress, tended to rely on insured deposits attracted with high interest rates and FHLBank advances to meet their liquidity needs during this period illustrates that these tendencies are not limited to the Crisis.¹⁵¹ This suggests that the presence of the alternative discount windows as standing programs that banks can use to access liquidity is likely to pose a persistent challenge that will not go away without intervention.

III

HOW DID THIS HAPPEN?

There are meaningful differences between the two programs giving rise to each of the alternative discount windows identified here. In order to explore the significance of banks’ reliance on each, this Part considers the origins of each program, the aims they were designed to achieve, and how they have evolved over time.

A. FHLBanks

1. *History*

The FHLBank System consists of twelve regional banks and a central body that coordinates the issuance of debt, which constitutes the primary source of funds for the FHLBanks.¹⁵² Formed in 1932, the FHLBank System was the first GSE designed to help Americans realize

¹⁴⁹ *Id.* at 47; see also Dusan Stojanovic et al., *Is Federal Home Loan Bank Funding a Risky Business for the FDIC?*, REGIONAL ECONOMIST, Oct. 2000, <https://www.stlouisfed.org/publications/re/articles/?id=482> (describing ways that FHLBank advances can increase FDIC losses).

¹⁵⁰ See RICHARD SCOTT CARNELL ET AL., *THE LAW OF FINANCIAL INSTITUTIONS* 28 (5th ed. 2013) (referring to the bank failure rates during the S&L crisis as “unequaled” since the Great Depression, but stating that the banking industry “returned to financial health” after the end of the S&L crisis in the 1990s and thus was not a full-blown financial crisis).

¹⁵¹ See Depository Institutions Deregulation and Monetary Control Act of 1980, Pub. L. 96-221, § 103, 94 Stat. 132 (1980) (codified as amended at 12 U.S.C. § 461(b) (2012)) (amending the term “depository institution” to include “any insured bank as defined in section 3 of the Federal Deposit Insurance Act”).

¹⁵² See Ashcraft et al., *supra* note 94, at 555–56, 559 fig.1.

the dream of home ownership.¹⁵³ At that time, banking institutions were divided into meaningfully distinct breeds. Commercial banks specialized in providing businesses access to capital while thrifts specialized in satisfying the credit needs of ordinary Americans, which included providing home loans.¹⁵⁴ Generally organized as mutual organizations rather than for-profit institutions, thrifts “sought social uplift, not private gain.”¹⁵⁵ Against this backdrop, Congress reasonably concluded that one way to promote home ownership would be to provide thrifts access to a stable and competitively priced source of funding, which they could then use to extend home loans. FHLBank advances fulfill this function, and providing advances has remained the primary role played by FHLBanks.¹⁵⁶ While FHLBank advances have tended to be longer term than Discount Window loans and were designed to achieve a distinct aim, there are parallels between the two regimes. This was particularly true during the decades prior to 1980, when thrifts lacked access to the Discount Window.¹⁵⁷

In the period since the FHLBank System was first instituted, two developments have largely elided what had been the critical distinction between commercial banks and thrifts. First, beginning in the 1980s, lawmakers significantly expanded the range of activities permissible for thrifts, enabling them to engage in activities far removed from extending home loans.¹⁵⁸ Second, commercial banks started to extend home loans, taking over a significant portion of the market.¹⁵⁹ These developments significantly weakened the relationship between providing advances to thrifts and the ability of consumers to obtain home loans on reasonable terms. They also led a number of commentators to suggest that the FHLBank System should be eliminated or substantially restructured to tighten the relationship between the government support provided to the FHLBanks and the aim of

¹⁵³ Federal Home Loan Bank Act, Pub. L. 72-304, 47 Stat. 725, 725 (1922) (creating the FHLBank System and providing for supervision thereof); CARNELL ET AL., *supra* note 150, at 14 (stating that the thrift industry arose to help Americans “of modest means” own homes).

¹⁵⁴ See CARNELL ET AL., *supra* note 150, at 14 (observing that thrifts developed to help ordinary Americans whereas banks had traditionally “serv[ed] the needs of commerce”).

¹⁵⁵ See *id.* at 14.

¹⁵⁶ *The Federal Home Loan Banks: The Basics*, FHLBANKS 2–3, http://www.fhlbanks.com/assets/pdfs/sidebar/FHLBanks_TheBasics_4_2012.pdf (last visited Feb. 7, 2014).

¹⁵⁷ See Depository Institutions Deregulation and Monetary Control Act of 1980, Pub. L. No. 96-221, tit. II, 94 Stat. 132, 142–45 (1980) (codified as amended in scattered sections of 12, 15 U.S.C. (2012)) (extending Discount Window eligibility to thrifts).

¹⁵⁸ See Waldman, *supra* note 135, at 48.

¹⁵⁹ See, e.g., U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-05-489T, FEDERAL HOME LOAN BANK SYSTEM: AN OVERVIEW OF CHANGES AND CURRENT ISSUES AFFECTING THE SYSTEM 3, (2005), available at <http://www.gao.gov/assets/120/111492.pdf> (“[C]ommercial banks now account for more than 70 percent of all [FHLBank] System members . . .”).

promoting home ownership.¹⁶⁰ Nonetheless, while Congress did make changes to the FHLBank System following these developments, those changes worked in the opposite direction—they expanded the FHLBank System in a way that further attenuated the relationship between the services it provides and its original aims. Congress’s reasons for doing so can only be understood in context.

In 1989, Congress recognized that it needed to resolve the S&L debacle and that it was going to be costly to do so. After numerous botched attempts to resolve the situation without providing adequate financial support to wind down the insolvent thrifts, Congress had come to appreciate that trying to avoid the costs of a bailout would only increase the government’s eventual bill.¹⁶¹ Nonetheless, Congress was far from eager to have taxpayers directly foot the full \$50 billion that the Bush administration suggested was necessary to shut down the remaining insolvent thrifts.¹⁶² Accentuating Congress’s general hesitance was its desire to honor the fiscal discipline imposed by the Gramm-Rudman-Hollings deficit-reduction targets.¹⁶³ Thus, leading members of Congress and other prominent experts, including then-Fed Chairman Alan Greenspan and then-Treasury Secretary Nicholas Brady, endorsed finding a way to fund the S&L clean up “off-budget.”¹⁶⁴ Long controversial, off-budget financing entails borrowing or lending by a federally related entity that is not included in the federal budget.¹⁶⁵ This includes the FHLBanks and, until they were put into conservatorship in 2008, the other GSEs, Fannie Mae and Freddie Mac.¹⁶⁶

¹⁶⁰ See, e.g., *Improving the Regulation of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks: Hearing Before the S. Comm. on Banking, Hous., & Urban Affairs*, 108th Cong. 13–16 (2004) (statement of Richard S. Carnell, Associate Professor of Law, Fordham University School of Law), available at http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=386fbcae-4798-4aa2-ab91-f56702bd9a11 (recommending GSE reform); Ashley et al., *supra* note 147, at 33 (explaining that the evolution of the mortgage market since the FHLBank System was created “raise[d] the question whether there is a need for a government-sponsored liquidity facility for real-estate-specialized lending institutions”).

¹⁶¹ See Dirk S. Adams, Rodney R. Peck & Jill W. Spencer, *FIRREA and the New Federal Home Loan Bank System*, 32 SANTA CLARA L. REV. 17, 45–51 (1992) (describing the earlier congressional actions and the failure of each).

¹⁶² See Kenneth Ryder, *A Guide to FIRREA’s Off-Budget Financing*, 2 STAN. L. & POL’Y REV. 82, 82 (1990).

¹⁶³ *Id.* at 89 n.3 (“The Balanced Budget and Emergency Deficit Control Act of 1985, Pub. L. No. 99–177, 99 Stat. 1037 (1985), as amended . . . established specific limits on the size of the federal deficit in each . . . year[]” leading up to 1993, when it was to reach zero.).

¹⁶⁴ See Geoffrey A. Campbell, *Treasury Chief Says House Thrift Plan Will Boost Costs, Weaken Discipline*, BOND BUYER, July 11, 1989, at 4; Margaret Soares, *FSLIC Bailout: Does Washington Know What It’s Doing? Bush’s Thrift-Rescue Plan Receives Poor Reviews from Wall Street*, BOND BUYER, Apr. 28, 1989, at 1A.

¹⁶⁵ Ryder, *supra* note 162, at 83.

¹⁶⁶ See *id.* at 83–84.

In order to “honor” the deficit reduction target, the final S&L bill, FIRREA, mandated a complex two-entity structure for winding down defunct thrifts.¹⁶⁷ The first entity, the Resolution Trust Corporation, was a federal agency with federal employees.¹⁶⁸ Managed by the FDIC, it had full responsibility for winding down the failing thrifts.¹⁶⁹ The second entity, RefCorp, was a financial intermediary with no employees that existed solely to provide the Resolution Trust Corporation with the funds necessary to cover insured deposits and other expenses associated with closing down insolvent thrifts.¹⁷⁰ Those funds came from the capital contributions that the FHLBanks and thrifts were required to make pursuant to FIRREA and from the issuance of \$30 billion in RefCorp bonds.¹⁷¹ In addition to investments acquired with the original capital contributions, the bonds were to be paid off with proceeds from the sale of assets of failed thrifts and further contributions from the FHLBanks, with Treasury serving as a backstop if other sources proved insufficient.¹⁷²

In short, the FHLBanks played a critical role in keeping the majority of the funds required to resolve the S&L debacle off-budget. The FHLBanks thus became useful to Congress for reasons quite apart from their role in facilitating home ownership.¹⁷³ In this light, it is less surprising that Congress did not view FIRREA as an opportune time to eliminate or substantially shrink the FHLBank System despite the increasingly attenuated relationship between the services it provides and its original function. Notably, Congress not only allowed them to persist but also significantly expanded their membership in a way that further attenuated that relationship. In so doing, Congress also increased the FHLBanks’ expected revenue, thus increasing their capacity to pay the interest owed on the RefCorp bonds. Most significantly, FIRREA authorized commercial banks to become members of the FHLBank System, subject only to the requirement that the bank meet certain (relatively weak and subsequently weakened) thresholds regarding its involvement in extending residential loans.¹⁷⁴ Congress has also made other changes to the FHLBank

¹⁶⁷ See Financial Institutions Reform, Recovery, and Enforcement Act of 1989, Pub. L. No. 101-73, §§ 501, 511, 103 Stat. 183, 363–394 (1989).

¹⁶⁸ See Ryder, *supra* note 162, at 83, 85.

¹⁶⁹ See *id.* at 83–85.

¹⁷⁰ See *id.* at 84–85.

¹⁷¹ See *id.* at 82–83, 90 n.12.

¹⁷² *Id.* at 85.

¹⁷³ See Press Release, Fed. Hous. Fin. Agency, FHFA Announces Completion of RefCorp Obligation and Approves FHLB Plans to Build Capital (Aug. 5, 2011), available at <http://www.fhfa.gov/webfiles/21861/refcorp080511.pdf> (observing that the FHLBanks paid off the RefCorp bond obligations in full in 2011).

¹⁷⁴ See Financial Institutions Reform, Recovery, and Enforcement Act of 1989, Pub. L. No. 101-73, § 704, 103 Stat. 183, 415–16 (1989) (codified as amended at 12 U.S.C.

System, including expanding the range of services it provides to member banks.¹⁷⁵ Nonetheless, providing advances remains their primary activity, and individual FHLBanks continue to identify “enhanc[ing] the availability of credit for residential mortgages and economic development by providing a readily available, competitively priced source of funds for housing and community lenders” as their primary function.¹⁷⁶

The net result has been to dramatically increase the size of the FHLBank System, and thus the value of government subsidy the system receives, even as its reason for its existence has become increasingly questionable as a policy matter.¹⁷⁷ According to one study by the U.S. Congressional Budget Office, the FHLBank System enjoyed \$3.4 billion and \$3.6 billion in implicit federal support and tax savings in 2003 and 2002, respectively.¹⁷⁸ Of these amounts, just \$200 million and \$300 million accrued to the benefit of conforming mortgage borrowers, with the remainder captured by the FHLBanks and their stakeholders, including member banks.¹⁷⁹

2. *Structure and Function*

Also relevant to the significance of banks’ ability to use FHLBank advances in lieu of borrowing through the Discount Window are the institutional competence and structure of the FHLBank System.

§ 1424(a) (2012)); Stojanovic et al., *supra* note 149 (explaining that with the changes effectuated by Gramm-Leach-Bliley, “nearly all of the nation’s thrifts and commercial banks” would be eligible to become members of the FHLBank System). Insurance companies are now also eligible to become FHLBank members. 12 U.S.C. § 1424(a).

¹⁷⁵ One way the FHLBanks clearly further the aim of supporting affordable housing is by complying with their statutory obligation to contribute the larger of \$100 million or 10% of net earnings to an affordable housing program each year. *See* Financial Institutions Reform, Recovery, and Enforcement Act of 1989 § 721.

¹⁷⁶ Fed. Home Loan Bank of S.F., Annual Report (Form 10-K), at 1 (Mar. 14, 2012); *see also* *Aligning the Costs and Benefits of the Housing Government-Sponsored Enterprises: Hearing Before the S. Comm. on Banking, Hous., & Urban Affairs*, 109th Cong. 4 (2005) (statement of Douglas Holtz-Eakin, Director, Congressional Budget Office) (explaining that, while engaged in a variety of activities, the “Federal Home Loan Banks are primarily in the business of borrowing in the capital markets and lending to member institutions, including banks”); Ashcraft et al., *supra* note 94, at 556 (explaining that “[a]dvances constitute 68.8% of the FHLB System’s \$1,349.1 billion in total assets” as of December 31, 2008).

¹⁷⁷ Pursuant to its statutory mandate, the FHLBanks are only authorized to provide long-term advances “for the purposes of . . . providing funds to any member for residential housing finance [or] providing funds to any community financial institution for small businesses, small farms, small agri-businesses, [or] community development activities.” 12 U.S.C. § 1430(a)(2) (2012). Nonetheless, given the inherent fungibility of capital, there is no meaningful way for FHLBanks to enforce this and little indication that they have made any effort to do so.

¹⁷⁸ *See* DEBORAH LUCAS & DAVID TORREGROSA, CONG. BUDGET OFFICE, UPDATED ESTIMATES OF THE SUBSIDIES TO THE HOUSING GSEs 10 tbl.5 (2004), *available at* <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/53xx/doc5368/04-08-gse.pdf>.

¹⁷⁹ *Id.*

While the structure of the FHLBanks bears some resemblance to the Fed—twelve regional banks with a coordinating body based in Washington, D.C.—the two systems are quite different in operation.¹⁸⁰ The regional banks of the Fed continue to play a number of important roles, particularly on the operational front, but the Board of Governors or the Federal Open Market Committee make virtually all of the important policy decisions.¹⁸¹ Thus, a body in which the majority, and often all, of the members have been appointed by the President and confirmed by the Senate approves all significant policy decisions.¹⁸² Moreover, while each of the regional banks is structured as a mutual organization and thus is “owned” by member banks,¹⁸³ any profits earned by the Federal Reserve System are turned over to the Treasury at the end of each year.¹⁸⁴ The Fed is thus a largely centralized system designed to achieve clearly articulated public policy aims under the oversight of political appointees.

The FHLBank System has a very different structure. There is some degree of coordination, but most of it centers on the issuance of “consolidated obligations,” the joint and several debt obligations that fund most FHLBank operations.¹⁸⁵ Moreover, while subject to federal oversight by the Federal Housing Finance Agency, each FHLBank enjoys, and exercises, significant independence, and there is relatively little coordination among them.¹⁸⁶ Additionally, the majority of the members on the board of directors for each FHLBank are officers or directors of member banks.¹⁸⁷ The FHLBank System is further distinguished from the Fed in that any profits earned by FHLBanks, including those derived from direct and indirect government subsidies, are passed on as dividends to member banks.¹⁸⁸ The FHLBank System is

¹⁸⁰ See *supra* Part I.B (discussing the Fed’s general structure and operations).

¹⁸¹ See *The Structure of the Federal Reserve System: The Board of Governors of the Federal Reserve System*, BOARD GOVERNORS FED. RES. SYS., <http://www.federalreserve.gov/pubs/frseries/frseri.htm> (last updated July 8, 2003).

¹⁸² See *id.*

¹⁸³ See *Who Owns the Federal Reserve?*, BOARD GOVERNORS FED. RES. SYS., http://www.federalreserve.gov/faqs/about_14986.htm (last updated Aug. 2, 2013).

¹⁸⁴ *The Structure of the Federal Reserve System: Federal Reserve Banks*, BOARD GOVERNORS FED. RES. SYS., <http://www.federalreserve.gov/pubs/frseries/frseri3.htm> (last updated Apr. 17, 2009).

¹⁸⁵ Ashcraft et al., *supra* note 94, at 556. This is done by the FHLBanks’ Office of Finance. OFFICE OF INSPECTOR GEN., FHFA’S SUPERVISORY FRAMEWORK FOR FHLBs’ ADVANCES, *supra* note 108, at 7 n.8.

¹⁸⁶ See Ashcraft et al., *supra* note 94, at 557 (noting that the federal government regulates the FHLBanks for “safety and soundness” (internal quotation marks omitted)); *Investor Relations*, FED. HOME LOAN BANK S.F., <http://www.fhlbsf.com/about/investor/default.aspx> (last visited Feb. 7, 2014) (noting that “[e]ach FHLBank is a separate entity, with its own board of directors, management, and employees”).

¹⁸⁷ 12 U.S.C. § 1427 (2012).

¹⁸⁸ The favorable tax status of the bonds they issue, the lower yield they must pay on those bonds because of the implicit government backing, and the statutory protections

thus significantly more private, less publicly accountable, and less centralized than the Fed.

Another important distinction between the FHLBank System and the Fed arises from how they fund their lending operations. Through the early stages of the Crisis, the Fed lent out cash primarily by selling U.S. Treasuries or not replenishing its portfolio as issues matured.¹⁸⁹ It was not until the failure of Lehman Brothers that the Fed could no longer balance its liquidity injections in this manner, at which point Treasury instituted a supplementary financing program to support the Fed's activities.¹⁹⁰ By contrast, the FHLBanks required new capital in order to meet members' rising demands for advances, which they could obtain only by issuing new debt and requiring members to acquire additional stock.¹⁹¹ Market expectations that the government would stand behind GSE debt enabled the FHLBanks to access capital on relatively favorable terms during the early stages of the Crisis.¹⁹² Nonetheless, as the spread between GSE debt and Treasuries started to widen in mid-2008, capital became more costly for the FHLBanks.¹⁹³ Thus, as recognized by Ashcraft and his coauthors, "events in 2008 revealed . . . [that] relying on market funding using an implicit government guarantee is unlikely to be sufficient for a lender of last resort to be entirely effective during a financial crisis—exactly when you need one most."¹⁹⁴

B. The FDIC

1. *Deposit Insurance*

Deposit insurance is another byproduct of the Great Depression. The Banking Act of 1933 instituted a regime for insuring deposits and created the FDIC to administer the insurance fund and oversee insured state banks that are not members of the Fed.¹⁹⁵ Deposit insurance serves a number of related goals. The primary rationale for

FHLBanks enjoy when they have advances outstanding to a member bank that fails are among the benefits the government confers on FHLBanks. See Ashcraft et al., *supra* note 94, at 556–57. The dividends paid to members can be significant. See, e.g., *Investor Relations*, *supra* note 186 (noting that between 2003 and 2008, the FHLBank of San Francisco paid its members dividends at annualized rates ranging from 3.93% to 5.41%).

¹⁸⁹ Ashcraft et al., *supra* note 94, at 578.

¹⁹⁰ *Id.*

¹⁹¹ *Id.* at 577–78.

¹⁹² See *id.* at 554, 560.

¹⁹³ *Id.* at 579.

¹⁹⁴ *Id.*

¹⁹⁵ DIV. OF RESEARCH & STATISTICS, FED. DEPOSIT INS. CORP., A BRIEF HISTORY OF DEPOSIT INSURANCE IN THE UNITED STATES 1, 2 (1988) [hereinafter FDIC, HISTORY OF DEPOSIT INSURANCE]. A number of states had instituted deposit insurance regimes prior to the Great Depression, but with the exception of Texas, no state had sufficient funds to make all depositors whole as bank closures spread in the 1920s and 1930s. *Id.* at 12–16.

deposit insurance is to improve bank stability by discouraging runs.¹⁹⁶ Because depositors who are first in line get paid in full while those who delay can end up receiving something less than the full amount the bank owes them, depositors will rationally run in the face of trouble even if they believe their bank to be solvent.¹⁹⁷ By assuring depositors that they will be paid in full, deposit insurance discourages bank runs and increases bank stability.

A related function of deposit insurance is to protect depositors. Voters' desire for deposit insurance is credited with playing a significant role in its adoption in 1933, and consumer protection remains a core concern animating many aspects of banking regulation.¹⁹⁸ Yet another rationale for deposit insurance, coupled with the grant of oversight authority in a governmental regulator, is efficiency based. There is little evidence that small individual depositors can effectively monitor a bank's financial health, and it would be exceptionally time consuming for each to do so.¹⁹⁹ Deposit insurance frees small depositors from this task, placing it instead in the hands of a specialized regulator who can more efficiently monitor and discipline the bank.

Today, FDIC insurance covers a range of account types, including money market deposit accounts and certificates of deposit, in addition to checking and savings accounts, up to the insured limit of \$250,000.²⁰⁰ The limit applies to enumerated account types, per insured bank, so it is possible for a depositor to enjoy protection in excess of this limit depending on how she structures her accounts.²⁰¹ Insured deposits primarily represent a relationship between the bank and the depositor, and it is those parties who determine whether a depositor will provide funds to a bank and on what terms. Thus, in contrast to the FHLBanks and the Fed, the FDIC is not the one providing the liquidity in the discount window enabled by the insurance fund it administers. As a result, the policy implications arising from this window depend on the tools that the FDIC has to control the

¹⁹⁶ See *id.* at 20 (noting that as confidence in the banking system eroded, runs on banks became more common). After the implementation of federal deposit insurance, runs on banks decreased, indicating that public confidence had increased. *Id.* at 34; see *supra* Part I.A.

¹⁹⁷ Diamond & Dybvig, *supra* note 17, at 402–03.

¹⁹⁸ FDIC, HISTORY OF DEPOSIT INSURANCE, *supra* note 195, at 25–27 (describing how Senator Carter Glass, Chairman of the Senate Banking and Currency Committee and a leading proponent of banking reform, had been opposed to deposit insurance, but he and others were swayed by public opinion).

¹⁹⁹ Freixas et al., *Review of the Literature*, *supra* note 16, at 153; see also MATHIAS DEWATRIPONT & JEAN TIROLE, THE PRUDENTIAL REGULATION OF BANKS 5–6 (Mass. Inst. of Tech. 1994) (1993) (“Small depositors have neither the incentive nor the competence to collect information or to intervene into bank management.”).

²⁰⁰ Dodd-Frank Wall Street Reform and Consumer Protection Act § 335, 12 U.S.C. § 1821(a)(1)(E) (2012).

²⁰¹ *Deposit Insurance Summary*, *supra* note 121.

terms that a bank offers to depositors and depositor incentives rather than on the governance structure of the FDIC. The next two sections address those issues in turn.

2. *The FDIC and Deposits*

The FDIC has very little control over the interest rates banks offer on deposits, insured or otherwise. Historically, the interest rates banks could offer on insured deposits were capped at a statutory maximum.²⁰² Statutory caps were removed, however, when banks began losing substantial funds to money market funds,²⁰³ and there are advantages to allowing rates to be determined in a competitive market without extensive government intervention.²⁰⁴ In response to banks' abuse of insured deposits during the S&L debacle, Congress placed limits on the interest rates that an insured institution can offer on brokered deposits.²⁰⁵ But because the Internet and other technologies enable banks to attract new depositors without relying on brokers, this limitation does not suffice to address the challenge as it exists today. Moreover, in its implementing rules, the FDIC exempts "well capitalized" banks, so most banks enjoy complete discretion over their interest-rate policies.²⁰⁶ More generally, while the FDIC's control over a bank's operations tends to increase significantly when a bank is not adequately capitalized, experience has shown that capitalization ratios are a lagging indicator, so these additional control mechanisms provide the FDIC limited ability to address the dynamics revealed here.²⁰⁷

3. *Moral Hazard*

Despite widespread support, deposit insurance has generated significant controversy. Because depositors are assured that they will receive 100% of their funds up to the statutory limit, they have little incentive to monitor their bank's financial health. Hence, a bank

²⁰² 12 C.F.R. pt. 217 (1986), available at <http://www.fdic.gov/regulations/laws/rules/7500-1600.html> (promulgating Regulation Q).

²⁰³ R. Alton Gilbert, *Requiem for Regulation Q: What It Did and Why It Passed Away*, FED. RES. BANK ST. LOUIS REV., Feb. 1986, at 22, 30, available at http://research.stlouisfed.org/publications/review/86/02/Requiem_Feb1986.pdf.

²⁰⁴ See *id.* at 34–35 (enumerating problems arising from Regulation Q, including creating challenges for depository institutions, discriminating against small savers, and failing to increase residential mortgage credit); Scott Winningham, *The Effects of Removing Regulation Q—A Theoretical Analysis*, FED. RES. BANK KAN. CITY ECON. REV., MAY 1980, at 13, 23, available at <http://www.kansascityfed.org/PUBLICAT/ECONREV/econrevarchive/1980/2q80winn.pdf> (summarizing the effects of removing Regulation Q, including increasing GNP and decreasing volatility in market interest rates).

²⁰⁵ 12 U.S.C. § 1831f(e) (2012) (restricting the interest that banks may pay on "funds obtained, directly or indirectly, by or through a deposit broker").

²⁰⁶ 12 C.F.R. § 337.6 (2013).

²⁰⁷ E.g., Richard Scott Carnell, *A Partial Antidote to Perverse Incentives: The FDIC Improvement Act of 1991*, 12 ANN. REV. BANKING L. 317, 351 (1993).

engaging in reckless behavior can attract capital from depositors on terms that do not reflect the riskiness of the bank's activities. This moral hazard increases along with the amount of coverage provided and thus is greater today than it was prior to the Crisis, when accounts were insured only up to \$100,000.²⁰⁸ Moreover, because a bank's shareholders often benefit from a bank assuming excessive risk, deposit insurance can subsidize and incentivize banks' risk taking.²⁰⁹

Congress has sought to address this risk, most directly by mandating that the premium a bank pays for deposit insurance reflect the riskiness of that bank's activities.²¹⁰ By forcing banks to internalize the costs of their risk taking, such a regime should address both the subsidy and incentive issues. In practice, risk-based deposit insurance has proven incredibly difficult to implement, and most banks underpay for the coverage they receive.²¹¹ A persistent challenge is that the information on which a bank's current premium is based is almost always stale. Given the rapidity with which banks can reallocate assets in ways that significantly change their risk profile and how quickly asset prices can change, this issue becomes even more difficult during periods of systemic distress. Thus, risk-based premiums do not alleviate, and may do little to reduce, the ability of troubled banks to use insured deposits as a source of liquidity and to reallocate the funds so received in troubling ways.

IV

ASSESSING THE ALTERNATIVE DISCOUNT WINDOWS

This Part assesses some consequences of the current regime. It examines the benefits, costs, and other effects of allowing the alternative discount windows to continue to operate in their current forms.

A. Benefits

One model of regulatory behavior assumes that regulators seek to maintain and increase their influence. In this frame, the Fed's

²⁰⁸ *Id.* at 320; *see also* Arthur E. Wilmarth, Jr., *The Transformation of the U.S. Financial Services Industry, 1975-2000: Competition, Consolidation, and Increased Risks*, 2002 U. ILL. L. REV. 215, 406–07 (“[M]oral hazard encourages banks to assume greater risks whenever capital requirements and deposit insurance premiums do not compel banks to internalize the risk-related costs of their activities.”).

²⁰⁹ *E.g.*, Jonathan R. Macey & Maureen O’Hara, *Solving the Corporate Governance Problems of Banks: A Proposal*, 120 BANKING L.J. 326, 328 (2003) (“[T]he implementation of deposit insurance poses a regulatory cost of its own—it gives the shareholders and the managers of insured banks incentives to engage in excessive risk taking.”).

²¹⁰ *See* FDIC, HISTORY OF DEPOSIT INSURANCE, *supra* note 195, at 54; *see also* Carnell, *supra* note 207, at 358–59 (explaining that the Federal Deposit Insurance Corporation Improvement Act of 1991 introduced a risk-based premium system).

²¹¹ *E.g.*, Wilmarth, *supra* note 208, at 266–67 (describing why most banks pay too little for deposit insurance).

apparent acquiescence to the developments described here may seem surprising. A closer look at the context in which the Fed was operating, however, suggests a more complex account. During the Crisis, the Fed created a number of temporary mechanisms for infusing liquidity into banks and other financial institutions.²¹² The creation and terms of these programs reflect the Fed's recognition that the Discount Window alone did not suffice to meet the liquidity needs of the financial system. The Fed's decision to create these facilities and the structures of each also reflect the nature of the Discount Window's shortcomings. As a result, looking at the other facilities the Fed formed sheds light on ways that the alternative discount windows may yield social benefits. At the same time, public scrutiny of the Fed's actions reveals why the Fed may be perfectly content to allow the alternative discount windows to persist, as their operations may reduce the amount of lending the Fed must undertake and defend. This subpart provides a brief introduction to these programs and some of the limitations inherent in the Discount Window, as revealed by the Fed's actions. It then considers the capacity of the alternative discount windows to overcome these shortcomings and otherwise promote socially desirable aims.

1. *The Fed's Actions During the Crisis*

The Fed recognized early in the Crisis that despite its numerous efforts to encourage banks to borrow through the Discount Window, utilization seemed significantly below the optimal level in light of the ongoing liquidity constraints in the market.²¹³ In order to facilitate the transfer of additional liquidity, the Fed created a number of temporary facilities that banks and, subsequently, other financial institutions could use to obtain collateralized loans from the Fed. The first such facility, the Term Auction Facility (TAF), was available only to banks that could also access the Discount Window and was adopted under the same authority pursuant to which the Fed operates the Discount Window.²¹⁴ The primary rationale for instituting this facility was a fear that banks were underutilizing the Discount Window because of the associated stigma.²¹⁵ Thus, in addition to simply being a

²¹² See *infra* Part IV.A–B.

²¹³ See *Transcript of the Meeting of the Federal Open Market Committee on September 18, 2007*, BOARD GOVERNORS FED. RES. SYS. 128 (Sept. 18, 2007), <http://www.federalreserve.gov/monetarypolicy/files/FOMC20070918meeting.pdf> (Bernanke: "Are there ways to provide liquidity that would help normalize money markets, particularly term money markets, and would allow banks to make use of the enormous amount of collateral they have at the discount window, but would avoid the stigma and create a more efficient system?").

²¹⁴ For a description of the TAF structure, see ARMANTIER ET AL., *supra* note 69, at 7–8.

²¹⁵ E.g., *Transcript of the Meeting of the Federal Open Market Committee on September 18, 2007*, *supra* note 213, at 128 (Bernanke: "The solution that the staff came up with [to enable banks to use Discount Window-eligible collateral to secure liquidity without bearing the

new facility and thus free from historical baggage, the TAF was structured to minimize the possibility that usage would signal bank distress.²¹⁶

Notably, because it was available to the same banks, using the same collateral, the TAF likely affected the amount banks subsequently borrowed through the Discount Window. More specifically, the funds transferred from the Fed to banks through the TAF consisted of (1) liquidity transfers that otherwise would have occurred through the Discount Window, and (2) liquidity transfers that would not have occurred but for the TAF, so the creation of the TAF likely reduced Discount Window borrowing.²¹⁷ Both because the increased use of the Discount Window that would likely have occurred without the TAF may have reduced the associated stigma and because the existence of a parallel program specifically designed to signal a lack of desperation may have exacerbated the degree of desperation signaled by borrowing through the Discount Window, the TAF may best be viewed as both reflecting and accentuating the stigma associated with the Discount Window.

As the Crisis deepened, the Fed became increasingly aggressive in its creation of temporary mechanisms for transferring additional liquidity to the market. Following the near failure of Bear Stearns in March 2008, the Fed instituted the Primary Dealer Credit Facility, which provided overnight loans in exchange for a specified range of eligible collateral, and the Term Securities Lending Facility, which provided Treasury securities in exchange for less liquid collateral for twenty-eight-day periods.²¹⁸ In contrast to the TAF, the institutions eligible to participate in these programs were not banks otherwise eligible to use the Discount Window; rather, they were primary dealers, that is, the financial institutions that serve as trading counterparties to the Federal Reserve Bank of New York in its implementation of monetary policy.²¹⁹ This was possible because these programs were adopted pursuant to section 13(3) of the Federal Reserve Act, which gives the

perceived stigma of borrowing through the Discount Window] was to have an auction facility that would essentially set an endogenous price and, because it was an auction, it might look more like a good business proposition rather than like a move of desperation and, therefore, would not have the same stigma.”)

²¹⁶ *Id.*

²¹⁷ See ARMANTIER ET AL., *supra* note 69, at 3–4.

²¹⁸ OFFICE OF INSPECTOR GEN., BD. OF GOVERNORS OF THE FED. RESERVE SYS., THE FEDERAL RESERVE’S SECTION 13(3) LENDING FACILITIES TO SUPPORT OVERALL MARKET LIQUIDITY: FUNCTION, STATUS, AND RISK MANAGEMENT 31, 47 (2010) [hereinafter OFFICE OF INSPECTOR GEN., SECTION 13(3) LENDING FACILITIES], available at http://www.federalreserve.gov/oig/files/FRS_Lending_Facilities_Report_final-11-23-10_web.pdf.

²¹⁹ See *id.* at 32. The rationale was that “[b]y increasing the ability of primary dealers to finance their portfolios, the [Term Securities Lending Facility] reduced the primary dealers’ need to sell assets into increasingly illiquid markets and decreased the likelihood of lenders losing confidence in primary dealers.” *Id.*

Fed significantly greater discretion in its role as lender of last resort when facing “unusual and exigent circumstances.”²²⁰ Subsequent to the failure of Lehman Brothers in September 2008 and the market fallout that followed, the Fed became even more creative and aggressive, adopting four additional broad-based facilities that provided further liquidity support to particular sectors of the market.²²¹ Starting with Bear Stearns, the Fed also used its section 13(3) authority to provide support for specific institutions it deemed particularly important to systemic stability.²²²

2. *Some Explanations*

The temporary facilities instituted by the Fed differed from the Discount Window, and deviated from the norms pursuant to which a lender of last resort should lend, in numerous ways. The rationales underlying the creation and structure of these facilities sheds light on why the Discount Window alone may not suffice to respond to the liquidity shortages that arise, and which a lender of last resort should address, in a modern financial system.

One obvious advantage of the Fed’s temporary programs, most clearly reflected in the creation and structure of the TAF, is that they were free from the perceived stigma associated with the Discount Window. The effects of the perceived stigma may have been particularly great in light of changes in banking over the last few decades. The nature of interbank relationships today go far beyond the provision of short-term funds and payment systems, and the potential for banks to be subject to crippling harsh market discipline has gone up accordingly.²²³ These developments may limit the capacity of the Discount Window to provide a bank with sufficient liquidity support to survive once market participants turn against it, in addition to making banks rationally concerned about sending any signals of potential financial distress.

Another function of the Fed’s temporary programs was to provide liquidity support to the shadow banking system.²²⁴ In the years before the Crisis, the shadow banking system had grown remarkably,

²²⁰ See *supra* Part I.B.

²²¹ See OFFICE OF INSPECTOR GEN., SECTION 13(3) LENDING FACILITIES, *supra* note 218, at 3–4 (describing each of the facilities).

²²² See, e.g., William Poole, *Causes and Consequences of the Financial Crisis of 2007–2009*, 33 HARV. J.L. & PUB. POL’Y 421, 434 (2010) (describing the Fed’s use of its section 13(3) powers to provide emergency assistance to Bear Stearns and AIG).

²²³ Judge, *Interbank Discipline*, *supra* note 62, at 1280 (describing how the types of interbank relationships that exist have increased in recent decades, resulting in higher interbank credit exposure and more powerful interbank discipline).

²²⁴ See ZOLTAN POZSAR ET AL., FED. RESERVE BANK OF N.Y., STAFF REPORT NO. 458, SHADOW BANKING 25 (2010) (“Upon the full rollout of the liquidity facilities, large-scale asset purchases and guarantee schemes, the shadow banking system was fully embraced by

and remarkably quickly, so that by the time the Crisis hit, this system played a central role in fulfilling many of the economic functions traditionally performed by banks. Moreover, while sitting just outside the formally regulated banking system, it was intricately intertwined with that system and subject to many of the same vulnerabilities.²²⁵ The Discount Window, however, is available only to banks.²²⁶ The structure of the temporary facilities the Fed created, and other actions taken by the Fed over the course of the Crisis, thus may be viewed as reflecting an understanding that allowing critical components of the shadow banking system to fail may be just as devastating to the functioning of the overall financial system as allowing excessive bank failures; and, the Discount Window was only indirectly helpful in alleviating those liquidity shortages.

More broadly, through its temporary programs, the Fed significantly increased the total amount of government-backed liquidity entering the market.²²⁷ The Fed did so because liquidity shortages disrupt markets and hamper the efficient provision of credit.²²⁸ This is one of the primary ways that banking crises adversely affect the real economy, and the failure of the Fed to provide banks with sufficient liquidity is viewed as one of the leading factors contributing to the depth of the Great Depression.²²⁹ As a leading scholar on the Great Depression, Fed Chairman Ben Bernanke was clearly attuned to this dynamic, and his comments during and subsequent to the Crisis often focus on the importance of liquidity.²³⁰ Hence, the Fed's many programs may be viewed as part of a broader effort to transfer more aggregate liquidity into the financial system.

official credit and liquidity puts, and became fully backstopped, just like the traditional banking system.”).

²²⁵ See *supra* Part II.A.

²²⁶ See POZSAR ET AL., *supra* note 224, at 2 (“[W]hat distinguishes shadow banks from traditional banks is their lack of access to public sources of liquidity such as the Federal Reserve’s discount window . . .”).

²²⁷ See OFFICE OF INSPECTOR GEN., SECTION 13(3) LENDING FACILITIES, *supra* note 218, at 5 (noting that at the peak “the combined usage of the lending facilities reached \$600 billion”).

²²⁸ See, e.g., Ben S. Bernanke, *Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression*, AM. ECON. REV., June 1983, at 257, 263–67 (arguing that “the disruption of the financial sector by the banking and debt crises raised the real cost of intermediation between lenders and certain classes of borrowers”).

²²⁹ See BEN S. BERNANKE, ESSAYS ON THE GREAT DEPRESSION 42–43, 45 (2004) (noting that the Fed was unwilling to assume the responsibility to fight bank runs); FRIEDMAN & SCHWARTZ, *supra* note 40, at 357–59; Bernanke, *supra* note 228, at 263–67, 272–74.

²³⁰ See, e.g., Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Sys., Lecture at George Washington University School of Business: The Federal Reserve and the Financial Crisis (Mar. 20, 2012), available at <http://www.federalreserve.gov/mediacenter/files/chairman-bernanke-lecture1-20120320.pdf> (“[P]roviding short-term credit to financial institutions during a period of panic or crisis can help calm the market, can help stabilize those institutions and can help mitigate or bring to an end a financial crisis.”).

This list is far from exhaustive; numerous other factors influenced the Fed's actions during this period and the ramifications of those actions. For example, most of the Fed's temporary facilities lacked a meaningful tool for distinguishing between solvent and insolvent recipients, despite the longstanding maxim to the contrary. This may reflect a belief that such distinctions are very difficult to make in a short time frame, particularly when liquidity shortages are undermining pricing accuracy.²³¹ Another consideration, more specific to the Fed's silence in the face of the alternative discount windows, is that the Fed may have believed that the market's need for government-backed liquidity exceeded the amount that the public wanted to see injected. The movement of liquidity through the alternative discount windows occurred not only without involvement by the Fed but also largely outside the public eye. This may have reduced public accountability, but it may also have facilitated the transfer of more liquidity than would have occurred otherwise.

None of these explanations necessarily justify the trade-offs inherent in the Fed's creation of the temporary facilities. With the benefit of hindsight, we can see that there was no meaningful inflection point, returning the financial system to a more positive and stable course, until after Lehman Brothers failed, government support increased significantly, and reliable information about the financial health of specific institutions was made public.²³² Because it was only after the Fed and other government actors had effectively backstopped every core component of the banking and shadow banking systems that the Crisis came to an end, it is hard to know whether the Fed's intermediate efforts were on net beneficial. Nonetheless, the Fed's actions need not be assumed to be righteous to reflect genuine shortcomings in the capacity of the Discount Window to respond to the liquidity shortages that can arise in a modern financial system. These shortcomings may enable the alternative discount windows to serve a socially useful function.

3. *The Benefits*

The potential benefits of the alternative discount windows largely mirror the benefits of the Fed's temporary facilities. First, because

²³¹ See Jeffrey N. Gordon & Christopher Muller, *Avoiding Eight-Alarm Fires in the Political Economy of Systemic Risk Management* 47 (European Corporate Governance Inst., Working Paper No. 277/2010, 2010) (noting that "at a time of systemic financial distress, 'liquidity' and 'solvency' are not so clearly divided"). *But see* Schwartz, *supra* note 28, at 59 (challenging this contention).

²³² See POZSAR ET AL., *supra* note 224, at 2 ("The run on the shadow banking system, which began in the summer of 2007 and peaked following the failure of Lehman in September and October 2008, was stabilized only after the creation of a series of official liquidity facilities and credit guarantees that replaced private sector guarantees entirely.").

banks rely on deposits and FHLBank advances for purposes other than meeting short-term liquidity shortfalls, banks' reliance on the alternative discount windows need not be construed as a signal of distress. Thus, like the TAF, the alternative discount windows may serve as mechanisms through which banks can access government-backed liquidity without the stigma associated with the Discount Window. For the same reason, the alternative discount windows may help shield banks from excessively harsh market discipline.

The capacity of the alternative discount windows to respond to other limitations inherent in the Discount Window are more mixed. Because only banks can access the alternative discount windows, they are little more effective than the Discount Window in responding to liquidity shortages that arise primarily in the shadow banking system. To be sure, some of the additional liquidity transferred through the alternative discount windows may have helped indirectly to reduce these liquidity shortages. There are myriad connections between the banking and shadow banking systems.²³³ Just as liquidity shortages in the shadow banking system can lead to liquidity shortfalls at banks, providing additional liquidity to banks can help avert further liquidity strains and promote the transfer of liquidity to the shadow banking system. Additionally, the Fed took separate actions, such as enabling depository institutions to provide massive amounts of liquidity support to broker-dealer affiliates, which facilitated the movement of liquidity from banks into other areas of the financial system.²³⁴ The alternative discount windows may thus have helped to alleviate liquidity strains in the shadow banking system, but they did so in an imperfect and potentially costly manner.

Framed more broadly, the alternative discount windows likely facilitated the transfer of more liquidity to banks and the financial system in general than would have occurred in their absence, particularly during the early stages of the Crisis.²³⁵ There is also evidence suggesting that liquidity shortfalls during this period had adverse effects on borrowers who had relationships with affected banks and the communities in which they operated, supporting the potential value of the increased liquidity transfers.²³⁶ To the extent that

²³³ See, e.g., *id.* at 2, 10, 19 (describing the connections between the banking and shadow banking systems).

²³⁴ See Saule T. Omarova, *From Gramm-Leach-Bliley to Dodd-Frank: The Unfulfilled Promise of Section 23A of the Federal Reserve Act*, 89 N.C. L. REV. 1683, 1729–46 (2011) (describing the ways that the Fed provided extensive exemptions from section 23A of the Federal Reserve Act as a way of enabling banks to use their liquidity to provide support for key components of the shadow banking system).

²³⁵ See *id.* at 1726–29.

²³⁶ See, e.g., ACHARYA ET AL., *supra* note 2, at 20–28 (showing that corporate borrowers with relationships to foreign banks that had more limited access to dollar liquidity in the wake of the August 2005 credit crunch paid higher interest rates than similar corporate

limitations inherent in the Discount Window, and limits on the Fed, resulted in the provision of too little liquidity support, the alternative discount windows may have helped to bring the amount of support provided closer to the socially optimal level.²³⁷ At the same time, because they are available only to banks, the alternative discount windows are not well suited to respond directly to many of the Discount Window's shortcomings.

B. Some Drawbacks

The alternative discount windows were not formulated to play this role. It is thus not surprising that they are not all that well suited to it. This subpart addresses the main costs that arise from their operation.

1. *Inefficient Risk Assumption*

As a bank approaches insolvency, it has an incentive to engage in socially excessive risk taking, as the bank's shareholders still enjoy unlimited upside should the gamble pay off while having little to no downside exposure. The bad incentives facing a bank so positioned are not a product of a bank's access to liquidity and thus are not a moral hazard that arises directly from access to a lender of last resort. Nonetheless, the ability to convert illiquid assets into highly liquid ones significantly increases the capacity of an insolvent bank to engage in welfare-destroying activities by providing the bank with assets that it may readily redeploy in riskier ways.²³⁸

borrowers who obtained syndicated loans through U.S. banks that were relatively less affected); Juan Carlos Gozzi & Martin Goetz, *Liquidity Shocks, Local Banks, and Economic Activity: Evidence from the 2007–2009 Crisis* 6 (Nov. 12, 2010) (unpublished manuscript), available at <http://ssrn.com/abstract=1709677> (finding that metropolitan areas “where banks relied more heavily on wholesale funding experienced larger decreases in employment and establishments during the crisis” and noting that their “findings are consistent with the idea that adverse shocks to bank liquidity had a negative effect on economic activity”).

²³⁷ As explained above, the analysis here assumes without exploring that it is appropriate to treat the Fed's lending operations as liquidity-creation mechanisms. See *supra* note 46.

²³⁸ This practice is commonly known as asset substitution. That banks must pay a relatively high rate for some of the funds they receive through the alternative discount windows, most notably those obtained by offering high interest rates on insured deposits, may limit the amount of asset substitution in which they can engage by setting a higher bar for the expected returns a project must earn. That said, this higher bar may also exacerbate the challenge, particularly if there is no meaningful external factor limiting the range of high-risk loans and other investments that a bank may make. Cf. Mark J. Flannery, *Financial Crises, Payment System Problems, and Discount Window Lending*, 28 J. MONEY, CREDIT & BANKING 804, 819 (1996) (“If the Fed sets a penalty rate on loans during [certain types of] financial crisis[es], it may suffer a winner's curse vis-à-vis private lenders, potentially increasing its cost of intervention.”).

Both the alternative discount windows and the temporary facilities instituted by the Fed lack a meaningful check on the solvency of the bank receiving the funds.²³⁹ Whether and to what extent government-backed liquidity actually engendered inefficient risk taking during the early stages of the Crisis is not clear. While liquidity-constrained banks reduced their willingness to extend loans in the early stages of the Crisis, bank loans actually increased over the first year of the Crisis.²⁴⁰ Another significant change in banks' risk exposures between August 2007 and September 2008 was that "large banks . . . appreciably increased their holdings of MBS and ABS securities and trading assets."²⁴¹ There are numerous explanations for these patterns other than excessive risk taking. For example, many of the loans resulted from firms drawing down on outstanding lines of credit and the transfer of loans that had been "warehoused" in anticipation of a securitization transaction that never materialized back onto the balance sheet of the originating bank.²⁴² Nonetheless, in light of these patterns, it cannot be ruled out that some banks used the liquidity access they enjoyed early in the Crisis to extend loans and acquire assets that entailed socially suboptimal levels of risk.

More to the point, both theory and evidence suggest that banks in poor financial health disproportionately use the alternative discount windows to access additional liquidity. The FHLBanks can make advances conditional upon borrower characteristics, but in practice most FHLBanks tend to lend freely to any bank that has an adequate rating from its primary regulator—an approach that excludes only a small proportion of troubled banks.²⁴³ Moreover, FHLBanks have little reason to do more. Because of their overcollateralization requirements and the statutory preferences given to the FHLBanks when a bank is dissolved, no FHLBank has ever lost money on an advance despite the failure of many banks with significant outstanding advances.²⁴⁴ The FDIC is more likely than the FHLBank to suffer a loss as a result of a decision by an FHLBank to provide an advance to a

²³⁹ See Schwartz, *supra* note 28, at 66.

²⁴⁰ See, e.g., *id.*; Acharya & Mora, *supra* note 120, at 17.

²⁴¹ Acharya & Mora, *supra* note 120, at 13, tbl.A2; see also Zhiguo He et al., *Balance Sheet Adjustments in the 2008 Crisis* 11–14 (Nat'l Bureau of Econ. Research, Working Paper No. 15919, 2010), available at <http://ssrn.com/abstract=1560067> (describing changes in commercial bank balance sheets and the growth of the banking sector during the Crisis).

²⁴² See Acharya & Mora, *supra* note 120, at 11.

²⁴³ See Dusan Stojanovic et al., *Do Federal Home Loan Bank Membership and Advances Increase Bank Risk-Taking?*, 32 J. BANKING & FIN. 680, 684 (2008) ("[I]n practice FHLBanks define an 'unacceptable' supervisory rating as a CAMELS 4 or 5 composite. At year-end 2005, only 44 US banks (0.59%) posted such a rating, and just 34 of those banks were FHLBank members." (footnote omitted)).

²⁴⁴ *Id.* at 683.

financially unsound bank.²⁴⁵ Thus, FHLBanks cannot be expected to provide advances only to creditworthy banks.

The situation is different but no less troubling with respect to insured deposits. In this context, the funds are coming not from the FDIC but from the market.²⁴⁶ Again, however, the providers of the liquidity—depositors—have little incentive to assess a bank's financial health because, again, the FDIC is the party most likely to suffer a loss should the bank receiving the funds fail. And, the FDIC has limited authority to intervene in this relationship.²⁴⁷ These incentives, in conjunction with the evidence from the Crisis and the S&L debacle indicating that financially distressed banks tended to rely on FHLBank advances and insured deposits attracted with the promise of higher interest rates more than other banks, suggest these patterns will continue absent intervention.²⁴⁸ There is thus reason to be concerned that the liquidity provided through the alternative discount windows is disproportionately likely to be deployed in ways that reduce social welfare.

2. Systemic Risk

Closely related to concerns about moral hazard are questions of institutional competence. During the Crisis, for example, individual FHLBanks significantly increased their overcollateralization requirements to minimize the credit risk arising from the provision of advances.²⁴⁹ FHLBanks made these decisions on an individualized basis to protect their individual financial health.²⁵⁰ Yet, by affecting the ability of member banks to access liquidity and the terms on which they could do so, the FHLBanks were simultaneously making decisions that had significant systemic consequences. The FHLBanks have neither the incentives nor competence necessary to address these effects.²⁵¹ The situation is no less problematic with respect to insured deposits. As just described, consumers—the suppliers of insured deposits—are basing their decisions on the costs and benefits to

²⁴⁵ See Rosalind L. Bennett et al., *Should the FDIC Worry About the FHLB? The Impact of Federal Home Loan Bank Advances on the Bank Insurance Fund* 6 (FDIC Ctr. for Fin. Research, Working Paper No. 2005-10, 2005), available at http://www.fdic.gov/bank/analytical/cfr/2005/wp2005/CFRWP_2005_10_Bennett_Vaughan_Yeager.pdf (stating that the evidence points to an increase, albeit nontrivial, in Deposit Fund losses due to FHLBank advances).

²⁴⁶ Stojanovic et al., *supra* note 243, at 683–84.

²⁴⁷ See *supra* note 199 and accompanying text.

²⁴⁸ See *supra* Part II.A.

²⁴⁹ See, e.g., Fed. Home Loan Bank of S.F., Annual Report (Form 10-K), at 3 (Mar. 27, 2009); Fed. Home Loan Bank of Topeka, Annual Report (Form 10-K), at 32 (Mar. 26, 2009); OFFICE OF INSPECTOR GEN., FHFA'S SUPERVISORY FRAMEWORK FOR FHLBs' ADVANCES, *supra* note 108, at 7.

²⁵⁰ See Ashley et al., *supra* note 147, at 33–34.

²⁵¹ See Stojanovic et al., *supra* note 243, at 683.

themselves, not the costs and benefits to the system; and, the FDIC has limited capacity to intervene in ways that might address the systemic consequences of changes in the volume, terms, and allocation of insured deposits. Thus, in contrast to the Discount Window and other temporary facilities instituted by the Fed, the alternative discount windows lie outside the control of a regulator that has the competence to appreciate the systemic ramifications of how liquidity is provided and the incentives to ensure that it is provided in ways that promote systemic stability.

A final challenge is that both of the alternative discount windows are subject to external constraints that the Fed does not face and that may reduce their utility in precisely the circumstances in which they are most needed. Banks' reliance on FHLBank advances declined as the Crisis deepened.²⁵² This occurred, at least in part, because the FHLBanks too faced higher funding costs, and this reduced the relative attractiveness of the terms they could offer on advances.²⁵³ Similarly, when banks are at the core of a financial crisis, deposits may become less sticky and the terms banks must offer to retain and attract them can become less attractive (from the bank's perspective), reducing banks' capacity to use insured deposits as a source of liquidity.²⁵⁴ As a result, FHLBank advances and insured deposits can become more costly precisely when banks most need liquidity. This is in stark contrast to the terms of the Discount Window. Because the Fed exercises full control over the terms of Discount Window loans and faces no external constraint on the amount of liquidity it can provide, it can make, and has made, terms more favorable as conditions worsen.²⁵⁵ This is likely to be the appropriate response if the aim is to ensure that government-backed liquidity is most readily available when its absence might doom otherwise healthy institutions and give rise to other troubling systemic effects.

3. *Liquidity Risk*

Another drawback of banks' ability to access liquidity from sources other than the Fed is that access to government-backed liquidity may reduce banks' incentives to maintain socially optimal levels of

²⁵² See Ashcraft et al., *supra* note 94, at 554 (“[T]he FHLB System found itself ‘guilty by association’ and saw its borrowing costs (and hence advance rates) rise and its own availability of term funding limited. As a result, the Discount Window became the more attractively priced liquidity facility and saw a significant increase in borrowings.”).

²⁵³ See *supra* Part III.A.2.

²⁵⁴ See *id.*

²⁵⁵ See Gordon & Muller, *supra* note 231, at 29 (stating that “the Fed can lend to [banks] without limit” and “[t]he Fed also has considerable discretion to redefine the parameters of collateral that it will accept”). While the Fed may have to consider how to fund lender-of-last-resort operations to the extent it seeks to sterilize those activities, support has been readily provided when needed. See *supra* note 190 and accompanying text.

liquidity reserves. Liquidity is costly for a bank to maintain.²⁵⁶ Banks thus have an incentive to reduce their liquidity reserves to the fullest extent practical.²⁵⁷ The less liquidity a bank retains, the greater its liquidity risk and its fragility. When banks in general have less liquidity, the system as a whole becomes less stable. This has long been recognized and is the primary rationale for imposing a “penalty rate” when a bank seeks liquidity from the lender of last resort.²⁵⁸ While there may be reasons for reducing that penalty during periods of systemic distress, the imposition of the penalty under normal conditions plays a critical role in incenting banks to maintain sufficient liquidity.

For reasons relating to the institutional competence issues just discussed, neither depositors nor the FHLBanks have the incentives and means to ensure that banks maintain healthy liquidity reserves. The alternative discount windows similarly lack a mechanism for ensuring that banks are paying a rate that is penalized to the appropriate extent, balancing the long-term aim of encouraging banks to maintain sufficient liquidity and possible short-term concerns about systemic liquidity shortfalls. Hence, even though banks may pay a slight premium if they seek to increase their use of the alternative discount windows as a source of liquidity under normal conditions, there is little reason to expect that the premium they will pay is anywhere near the optimal level. Assuming the premium is too small much of the time, access to the alternative discount windows may enable banks to maintain insufficient liquidity reserves, increasing systemic fragility. New liquidity requirements are being imposed on banks following the Crisis, which should help reduce this risk, but those requirements are unlikely to eliminate it, making this an ongoing challenge.²⁵⁹

²⁵⁶ See ORACLE, LIQUIDITY RISK: THINKING BEYOND COMPLIANCE 4 (2012), available at <http://www.oracle.com/us/industries/financial-services/liquid-risk-compliance-wp-1872381.pdf> (stating that “the cost of liquidity will increase as banks look to lengthen their funding maturity profiles, move away from volatile short-term wholesale funding, and adjust their balance sheets with higher-quality assets that are traditionally more expensive and historically lower yielding”); Morten Bech & Todd Keister, *On the Liquidity Coverage Ratio and Monetary Policy Implementation*, BIS Q. REV., Dec. 2010, at 49, 52, http://www.bis.org/publ/qrpdf/r_qt1212g.pdf (noting that the liquidity coverage ratio (LCR) requirement instituted by Basel III forcing banks to hold a sufficient stock of highly liquid assets may be costly for banks to meet).

²⁵⁷ See Bech & Keister, *supra* note 256, at 52 (“Insofar as meeting the LCR requirement is costly for banks, it is conceivable that some banks may not exceed the regulatory threshold by a considerable margin, which could allow the LCR to impact the implementation of monetary policy.”) (emphasis added).

²⁵⁸ Freixas et al., *Review of the Literature*, *supra* note 16, at 158–59.

²⁵⁹ See BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, BASEL III: THE LIQUIDITY COVERAGE RATIO AND LIQUIDITY RISK MONITORING TOOLS 2 (2013) (stressing that the LCR is not sufficient to measure all dimensions of a bank’s liquidity profile, thus requiring the Basel Committee to develop a set of tools to monitor the liquidity risk exposures of banks); Statement of the Shadow Fin. Regulatory Comm. on the Basel Proposed Rules on Liquidity Regulation and a Suggestion for a Better Approach (Sept. 12, 2011),

4. *Information and Leverage*

A primary reason for the Fed to serve as the lender of last resort is the potential synergies between this role and other roles that it fulfills. One type of synergy is informational. Through its open market operations, for example, the Fed gains first-hand insight into market conditions on a daily basis. This is in addition to the information the Fed enjoys as a result of its oversight authority. Nonetheless, significant information asymmetries between banks and the Fed persist.²⁶⁰ These information asymmetries not only inhibit the Fed's ability to serve as an effective lender of last resort but also can impair its ability to make wise decisions with respect to monetary policy and other matters.²⁶¹ Serving as the lender of last resort could help reduce these information asymmetries.

As an initial matter, if banks had little choice but to go to the Fed when unable to meet their liquidity needs in the market, the Fed would obtain a constant flow of information about the amount of liquidity flowing through the market and which banks are facing the greatest challenges accessing it. The existence of the alternative discount windows weakens the relationship between the demand for Fed-provided liquidity and the nature and magnitude of liquidity constraints in the market, thereby reducing the quality of the information conveyed by that demand.

A related challenge is that banks' ability to seek liquidity through the alternative discount windows reduces the amount of leverage that the Fed enjoys when extending loans through the Discount Window and other programs.²⁶² There are a number of ways that the Fed could use its role as lender of last resort to generate valuable

http://www.aei.org/files/2011/11/17/-statementno317_134640473279.pdf (stating that liquidity requirements will not eliminate liquidity risk from the banking system and are not a substitute for a lender of last resort).

²⁶⁰ The Fed's failure to appreciate the nature and extent of interconnections among banks is illustrated in its ongoing effort to adopt a rule limiting interbank exposures. In January 2012, the Fed proposed a rule prohibiting the largest banks from having credit exposures to one another in excess of 10% of their regulatory capital. Enhanced Prudential Standards and Early Remediation Requirements for Covered Companies, 77 Fed. Reg. 594, 600 (proposed Jan. 5, 2012) (to be codified at 12 C.F.R. pt. 252). In public letters and closed-door meetings, the banks argued that the proposed standard was unrealistic in light of their operations. See Judge, *Interbank Discipline*, *supra* note 62, at 1284–86, and sources cited therein. More than a year later, the rule has yet to be finalized and the Fed has signaled that it will likely modify its proposal, suggesting that the Fed misjudged the nature and degree of connections among them. Michael R. Crittenden, *Fed Slows Down Bid to Curb Banks' Exposure to One Another*, WALL ST. J. (Feb. 14, 2013, 5:04 PM), <http://online.wsj.com/article/SB10001424127887324616604578304481952496090.html>.

²⁶¹ See *supra* Part II.A.2.

²⁶² For a more complete discussion of these dynamics, see Kathryn Judge, *Thirteen Months* (Feb. 5, 2014) (unpublished manuscript) (on file with author).

information about market conditions.²⁶³ For example, when faced with persistent liquidity shortages of the type that characterized the Crisis, the Fed could attach information-generating conditions to certain liquidity facilities or to certain types of loans extended through the Discount Window.²⁶⁴ Alternatively, the Fed could use its leverage to impose solvency or other conditions that could send a positive signal to the market regarding a bank's financial health when the bank receives support through a particular facility, thereby counteracting the possible stigma. While there would be risks associated with imposing any such conditions, just as there were risks associated with the first round of stress tests, there could also be benefits that would justify those risks.²⁶⁵ The point here is not to assess when it may be appropriate to use such conditions but to illustrate why they may be warranted and how the alternative discount windows weaken the Fed's capacity to impose conditions as a way of furthering information-related aims.

5. *Collateral Costs*

Most of the issues addressed thus far are greater issues with respect to FHLBank advances than insured deposits because of the greater magnitude of those liquidity transfers and the ease with which banks can access advances. Yet, a particular reason to be concerned about banks' efforts to attract insured deposits with the lure of high interest rates is that those deposits must come from somewhere. The higher the interest rate a bank is offering, the more willing a depositor will be to transfer some or all of his funds from his current bank to the troubled bank. Particularly with respect to time deposits like CDs, the relatively minor effort required to move funds from one bank to another may be outweighed by the additional interest earned.²⁶⁶ This puts pressure on the bank losing the funds. A healthy bank may find

²⁶³ *Id.*

²⁶⁴ The Fed did this in modest ways in connection with many of the facilities it instituted under section 13(3), but information generation does not appear to have been a primary aim of these conditions. See OFFICE OF INSPECTOR GEN., SECTION 13(3) LENDING FACILITIES, *supra* note 218, at 36–37, 49–50, 61–62, 74–75, 87–88, 101–03 (describing the conditions imposed in connection with each of the Fed's temporary facilities).

²⁶⁵ W. Scott Frame et al., Supervisory Stress Tests, Model Risk, and Model Disclosure: Lessons from OFHEO 4 (Apr. 3, 2013) (unpublished manuscript), available at http://www.frbatlanta.org/documents/news/conferences/13fmc_gerardi.pdf (discussing the inherent risks of stress testing, specifically model risk, or the risk of mismeasurement).

²⁶⁶ See OFFICE OF INSPECTOR GEN., SECTION 13(3) LENDING FACILITIES, *supra* note 218, at 84 (“[I]nvestors [of CDs] may quickly remove their investments, leaving the fund with insufficient positive cash flow.”); Jonathan R. Macey & Geoffrey P. Miller, *Bank Failures, Risk Monitoring, and the Market for Bank Control*, 88 COLUM. L. REV. 1153, 1197–98 (1988) (“[CD holders] will demand higher rates of return on these certificates if the stock returns of the bank with whom they are placing their funds exhibits high volatility—a strong proxy for risk.” (footnote omitted)).

that much of its deposit base is less sticky than it had anticipated. And, in an environment where liquidity is scarce, the healthy bank likely will be compelled to respond, whether by offering higher rates of interest itself, reducing its lending activity, or otherwise. Increasing funding costs and reducing the lending activity of healthy banks are precisely the types of effects that the government seeks to minimize during crisis periods. Hence, an important reason to seek to prevent distressed banks from using high interest rates to attract insured deposits is to protect healthy banks from having to compete with banks facing skewed incentives.

There may also be adverse collateral consequences from banks' reliance on FHLBank advances as a source of short-term liquidity. Because FHLBank advances are fully collateralized and the FHLBanks enjoy a statutory super-lien, a bank's increased reliance on FHLBank advances will reduce the assets the bank has to cover the claims of uninsured depositors and other creditors, including the FDIC, should the bank fail.²⁶⁷ The failure of IndyMac in July 2008 illustrates why this may be problematic. According to a report by the Office of Inspector General, a leading cause of IndyMac's failure was its lack of core deposits, enabled in significant part by its disproportionately high level of reliance on FHLBank advances.²⁶⁸ The closure of IndyMac ultimately cost the FDIC insurance fund approximately \$10.7 billion and resulted in significant losses on its uninsured deposits.²⁶⁹ The FHLBank of San Francisco, which had advances outstanding to IndyMac Bank of \$10.1 billion at the time it was closed, was repaid in full.²⁷⁰ Given everything else that was happening in July 2008 and the months that followed, it is hard to trace the ramifications of the losses imposed on uninsured depositors and the FDIC insurance fund, but there are reasons to be concerned about both. The imposition of losses on uninsured depositors can make depositors quicker to run and so increase bank fragility, a consequence that is particularly undesirable in the midst of a financial crisis. Losses to the insurance fund deplete the resources available to aid depositors of other financial institutions, potentially encouraging regulatory forbearance and increasing the probability that the fund will either need taxpayer support or be unable to repay insured depositors at other institu-

²⁶⁷ Ashcraft et al., *supra* note 94, at 558.

²⁶⁸ OFFICE OF INSPECTOR GEN., DEP'T OF THE TREASURY, AUDIT REPORT OIG-09-032, SAFETY AND SOUNDNESS: MATERIAL LOSS REVIEW OF INDYMAC BANK, FSB 9-10 (2009).

²⁶⁹ *Id.* at 1.

²⁷⁰ Press Release, Fed. Home Loan Bank of S.F., FDIC Establishes Successor to IndyMac Bank (July 11, 2008), <http://www.fhlbsf.com/about/news/releases/7-11-08-indy-mac-successor.aspx>.

tions.²⁷¹ These risks are particularly great when, as was the case in July 2008, a bank's failure is but one of many and an insurance fund faces probable losses in excess of its resources.²⁷²

C. Other Consequences

Most of the effects of the operation of the alternative discount windows identified thus far can relatively easily be categorized as benefits or drawbacks. The operation of the alternative discount windows, however, also give rise to other issues that may be just as important in light of our democratic regime but that are not as easily categorized as wholly positive or negative. This subpart considers three such consequences.

1. *Reduced Transparency*

When banks access liquidity through the alternative discount windows, these actions appear to be less salient to the market than borrowing through the Discount Window, and a bank's use of these alternative discount windows for liquidity support may never be fully disclosed. The effects of this reduced transparency are mixed, and they may depend on the values one seeks to maximize. Prior to the Crisis, the Fed generally did not make any disclosures regarding loans it extended through the Discount Window, presumably reflecting the Fed's belief that nondisclosure furthered legitimate policy aims, such as reducing concerns about stigma and encouraging banks to borrow when it was socially optimal for them to do so.²⁷³

At the same time, in response to the Fed's actions during the Crisis, Congress changed the law to require the Fed to disclose to whom it provides funds and on what terms.²⁷⁴ Public disclosure is delayed to reduce the risk that concerns about stigma and other adverse short-term consequences will deter borrowing, but it is

²⁷¹ Sharon Stangenes, *Regulator: Don't Forget S&I Insurance Funding*, CHI. TRI. (Nov. 23, 1992), http://articles.chicagotribune.com/1992-11-23/business/9204170334_1_federal-deposit-insurance-corp-loan-deposits-thrift-supervision (stating that the "insurance drain from the savings and loan debacle almost emptied the coffers of the [FDIC]").

²⁷² BAIR, *supra* note 113, at 82 (describing the anticipated losses from the closure of IndyMac and how those losses contributed to the rapid depletion of the insurance fund, pushing it into "negative territory" in 2009).

²⁷³ In response to requests made pursuant to the Freedom of Information Act (FOIA), the Fed released detailed information about its lending activities during the Crisis, including loans extended through the Discount Window. See *Bloomberg L.P. v. Bd. of Governors of the Fed. Reserve Sys.*, 649 F. Supp. 2d 262, 265 (S.D.N.Y. 2009), *aff'd*, 601 F.3d 143 (2d Cir. 2010) (ruling that the Fed had to release specific information pursuant to FOIA requests made by Bloomberg L.P.).

²⁷⁴ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1103(b), 124 Stat. 1376, 2118 (2010) (amending and adding ¶ (s) to 12 U.S.C. § 248 (2012)).

mandatory in all cases.²⁷⁵ The requirement that all loans eventually be disclosed despite the potential costs suggests that Congress, and the public, desire more openness about these matters. Particularly considering that the provision of liquidity can have significant distributional effects, even if the aim is to promote the overall stability of the financial system, the desire for more transparency and the discourse it enables may be appropriate.²⁷⁶ In this light, banks' capacity to access government-backed liquidity in less transparent ways may be viewed as compromising this legitimate aim.

2. *Reduced Accountability*

Closely related to reduced transparency is reduced accountability; for similar reasons, the ramifications are likely to be mixed. On the one hand, accountability is core to a functional democratic regime, and creating mechanisms to hold financial regulators accountable for their actions, including the provision of liquidity, is one of the major themes in the Dodd-Frank Act.²⁷⁷ On the other hand, accountability to the public and elected officials can impede effective policymaking. That these interests sometimes compete is well recognized and is one of the reasons for the extreme independence that the Fed currently enjoys.²⁷⁸

The decisions implicit in the Dodd-Frank Act to allow the Fed to continue to serve as the lender of last resort and, for the most part, to allow the Fed to maintain its exceptional degree of independence mean that the Fed can still provide liquidity to banks and other financial institutions even when public opinion weighs strongly against such activity.²⁷⁹ But the Fed is not immune from public pressure. And, Congress has more than once narrowed the Fed's lender-of-last-resort authority when it has been used in ways that proved politically unpopular.²⁸⁰ Thus, concerns about public perceptions or political backlash may cause the Fed to alter its actions, including by reducing the liquidity transfers it makes, in ways that may not be socially optimal.

²⁷⁵ 12 U.S.C. § 248(s)(2).

²⁷⁶ Judge, *Soft Constraints*, *supra* note 54.

²⁷⁷ See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376, pmb. (2010) (stating that the Act's purpose is "[t]o promote the financial stability of the United States by improving accountability . . . in the financial system").

²⁷⁸ See Judge, *Soft Constraints*, *supra* note 54.

²⁷⁹ See Cooley et al., *supra* note 60, at 64 (stating that "the Fed is widely viewed as among the most independent of government agencies" and that "the Dodd-Frank bill does not materially alter this reality").

²⁸⁰ See *supra* Part I.B.

At the same time, at least some segments of the American public clearly believe that far greater accountability is warranted.²⁸¹ A lack of public trust in financial institutions and those that regulate them can have troubling long-term consequences, and limited accountability may perpetuate such distrust.²⁸² Ultimately, there is no easy answer to the question of how accountable a lender of last resort should be. Perhaps the only thing that can be said with certainty is that the operation of the alternative discount windows reduces transparency and the capacity for Congress or the public to hold any single regulator accountable for decisions to provide banks access to government-backed liquidity.

3. *Reduced Coordination and Control*

The final issue worth highlighting is closely related to the other two—when a bank has multiple avenues for accessing government-backed liquidity, coordination challenges arise and the Fed enjoys less leverage in its role as lender of last resort. This can have real costs, such as reducing the Fed’s access to information and its ability to impose information-generating conditions on loans.²⁸³ But, it may also have real benefits. The Fed has at times been excessively hesitant to provide banks access to liquidity, and that hesitancy can inflict real damage on the economy.²⁸⁴ The alternative discount windows cannot fully compensate for such stinginess, but they do have the capacity to mitigate its effects. Framed more broadly, greater centralization and control tend to facilitate more effective policymaking, but efficacy is not a good thing when the policies being pursued are wrong.

V

IMPLICATIONS

This Part addresses implications. It first addresses why reform is warranted and ways to change the programs giving rise to the alternative discount windows to reduce the tendency for banks, particularly troubled banks, to use each in lieu of going to the Fed. It then considers the importance of further study on the role that a lender of last resort should play in a modern financial system.

²⁸¹ See RON PAUL, *END THE FED* 141–48 (2009) (discussing how the Fed’s “destructive nature makes it a tool of tyrannical government”).

²⁸² Mark J. Roe, *Capital Markets and Financial Politics: Preferences and Institutions*, 7 *CAPITALISM & SOC’Y*, art. 3, at 3, 5–7 (2012) (“Simply put, if a nation’s polity does not support a strong capital market, that nation will not have a strong capital market.”).

²⁸³ See *supra* Part IV.B.4.

²⁸⁴ See *supra* notes 227–76 and accompanying text.

A. Alternative Discount Windows

One response to the dynamics revealed here would be to allow the alternative discount windows to continue to function in their current forms. Their operation likely increases the net transfer of government-backed liquidity into banks during times of financial distress, does so in a way that avoids the stigma of the Discount Window, and potentially gives rise to other benefits. Moreover, there are some constraints inherent in each of the alternative discount windows, limiting the degree to which banks can rely on them to circumvent market discipline or avoid the Discount Window. Only members of the FHLBank System can access advances, and a bank's access to advances is constrained by the bank's ability to provide eligible collateral. Similarly, the process of attracting insured deposits takes time and effort in addition to a willingness to pay higher rates.

While these benefits are real, they are likely outweighed by the costs and other drawbacks of maintaining the current regime. The historical operation of the alternative discount windows makes clear that they are used—and are likely to continue to be used—disproportionately by troubled banks. Their operation can adversely affect healthy banks and it reduces transparency and accountability at a time when public will is pushing in the opposite direction. Moreover, the aim need not be, and as a practical matter cannot be, to shut down these alternatives entirely. This subpart accordingly considers ways that the identified drawbacks may be lessened and regulatory accountability increased by modifying the underlying programs. In light of the different costs associated with each alternative discount window and the very different aims each program is meant to otherwise achieve, the responses look quite different.

1. *Federal Home Loan Banks*

The questions surrounding whether the FHLBank System sufficiently serves legitimate policy aims to justify the costs of its operations complicate the issue of how best to address the more narrow set of policy issues raised here. This section accordingly offers a range of possible interventions, starting with one narrowly tailored to the issues here at stake and concluding with an approach that would address the more fundamental questions surrounding the FHLBanks' ongoing operations.

a. *Communication*

At the very minimum, there should be a closer working relationship between the FHLBanks and the Fed. Currently, there appears to

be little formal or informal communication between these entities.²⁸⁵ The FHLBanks have access to confidential information regarding the Fed's assessments of the banks it supervises, as it can only lend to banks that have received an adequate rating from their primary regulator, but there is little indication of information flowing in the other direction.²⁸⁶ Moreover, each pursues its agenda largely independent of the other.²⁸⁷ To the extent that banks are relying on FHLBank advances in lieu of the Discount Window when facing liquidity constraints, this is problem.

An initial step could be to establish formal lines of communication whereby the FHLBanks provide the Fed updates regarding banks' borrowing patterns, the terms of the advances banks are receiving, and the collateral they are posting. Because banks rely on FHLBank advances for a variety of funding purposes other than meeting short-term liquidity needs, this could result in a deluge of information that is of limited utility to the Fed. Accordingly, it may be appropriate for the amount of information conveyed to vary, increasing when there is reason to suspect that a particular bank is using FHLBank advances to meet liquidity needs or when the system as a whole is under strain. For example, the FHLBanks could be required to provide more granular information when (1) member banks of an FHLBank collectively increase their use of advances by a notable margin within a finite time frame, such as 5% within a one-week period or 10% within a one-month period; (2) an individual bank significantly increases its reliance on FHLBank advances in a relatively short time frame, such as 10% within a one-week period or 15% in any one-month period; or (3) the Fed requests additional information. A variety of other trigger structures are also possible. The aim is to balance excessive information flow and the costs of conveying that information with the value of ensuring that the Fed learns of relevant changes in banks' reliance on FHLBank advances and has access to detailed information about banks' use of FHLBank advances when appropriate.

b. *Intermediate Steps*

A second and somewhat more aggressive reform would give a regulator that is more accountable to the public, and that has better incentives, some degree of control over banks' access to FHLBank

²⁸⁵ See Ashcraft et al., *supra* note 94, at 580 (outlining how the Fed and FHLBanks "complemented and competed" with each other during the financial crisis); *Investor Relations*, *supra* note 186 (noting that each FHLBank is a "separate entity, with its own board of directors, management, and employees").

²⁸⁶ See *Federal Home Loan Bank System: Lending and Collateral Q&A*, FHLBANKS OFF. FIN. 1 (Nov. 13, 2013), http://www.fhlb-of.com/ofweb_userWeb/resources/lendingqanda.pdf (stating that membership to an FHLBank "is limited to regulated depository institutions").

²⁸⁷ See Ashcraft et al., *supra* note 94, at 580.

advances. With respect to the issues discussed here, the Fed is one obvious candidate. It may be appropriate, for example, to authorize the Fed to limit the rate at which banks can increase their reliance on FHLBank advances under certain circumstances, like those outlined above. A default rule that a bank cannot increase its use of FHLBank advances by more than a set amount in a specified period of time without permission from the Fed could achieve this. Increased reliance could also trigger other rights or obligations, such as giving the Fed increased rights of access to information about a bank's financial condition and access to senior personnel.

It may also be possible to address many of the costs associated with banks' reliance on FHLBank advances to meet liquidity needs by increasing the authority of a different federal regulator, namely, the FDIC. The FDIC has less of a role in promoting systemic stability than the Fed, and it would not be as well positioned as the Fed to consider interactions between banks' use of FHLBank advances and other mechanisms for banks to access government-backed liquidity. Yet, because FHLBank advances can increase FDIC losses when a bank fails, the FDIC is incented to limit the capacity of troubled banks to access FHLBank advances when they are likely to use the funds so received to assume excessive risks. Additionally, if an institution is solvent, the FDIC would like it to remain so, so the FDIC has little incentive to overly restrict banks' ability to use FHLBank advances in appropriate circumstances. The type of authority to give the FDIC would be similar to that proposed for the Fed. The triggers might need to be modified, and likely should be based on the total advances outstanding relative to a bank's assets or other relevant measure, but the aim would be similar—giving a financial regulator, experienced in bank oversight and incentivized to limit the ability of financially distressed banks to access advances, greater authority to determine if that is occurring and to take preventative steps in response.

Ultimately, the question of whether to give this type of authority to the Fed, the FDIC, or some combination thereof depends on the extent to which the aim is to address the capacity of banks to use FHLBank advances in lieu of the Discount Window or to go further and address some of the other inefficiencies inherent in the current FHLBank System. The Fed is likely better suited to the first task, while the FDIC is more likely to also take on the latter responsibility.

c. Reexamine the FHLBank System

All of the reforms proposed thus far could reduce banks' use of FHLBank advances. Because advances are the core business of the FHLBanks, this may adversely affect their ability to achieve the aims for which they were created. The extent of interference, however, de-

depends on the extent to which the FHLBanks and their business of providing advances continues to achieve the aim of helping homeowners access loans. The data available raises significant questions about their efficacy in this regard.²⁸⁸ Moreover, while the FHLBanks also play other roles, providing advances remains their core function. Hence, another way to address the issues raised here would be to do so in conjunction with a more thorough analysis of whether and how to reform the FHLBank System to ensure it remains a socially useful program. Particularly considering the fact that the RefCorp bonds were paid off in full in 2011²⁸⁹ and the recognized need to reform the other GSEs, this may be an appropriate time to fundamentally rethink the System's existence and function.

2. *Insured Deposits*

Deposits present a different challenge. There was and always will be a relationship between deposit insurance and a lender of last resort. By making depositors less inclined to run, deposit insurance reduces the likelihood that banks will face a liquidity shortage that necessitates borrowing from a lender of last resort. But there is a difference between making deposits more sticky in general and enabling banks to retain and attract liquidity when facing financial distress. A deposit insurance scheme should seek to achieve the former while limiting the latter.

Because one of the primary social costs arising from banks' efforts to attract deposits by offering exceptionally high interest rates is the risk that other banks will lose deposits or be forced to offer artificially inflated rates, this should be the focus of any regulatory response. One response could be to provide the FDIC with a more meaningful check on banks' interest-rate policies and to have the FDIC institute a meaningful system for monitoring and limiting such behavior. Reforms along these lines were adopted in the wake of the S&L debacle to address the challenge as it was then understood and could be extended further in light of the ways that troubled banks retained and attracted insured deposits during the Crisis.²⁹⁰

The current regime failed to prevent financially distressed banks from using aggressive interest rates to retain and attract funds despite earlier reforms because those reforms targeted brokered deposits and relied on a bank's CAMELS rating and capitalization to signal whether the bank was troubled.²⁹¹ As reflected in the findings from Acharya

²⁸⁸ See *supra* Part II.A.1.

²⁸⁹ See Press Release, *supra* note 173.

²⁹⁰ See Moysich, *supra* note 136, at 187–88.

²⁹¹ See 12 U.S.C. § 1831f (2012) and rules promulgated thereunder; *The Federal Reserve Discount Window*, *supra* note 67.

and Mora, however, banks now use the lure of higher interest rates to retain and attract deposits directly, not just through brokers.²⁹² More importantly, the Crisis made clear that a bank's CAMELS rating and capitalization are poor leading indicators of whether a bank is likely to fail, and many of the troubled banks that used interest rates to retain and attract insured deposits could not have been identified using these metrics.²⁹³ This suggests that the FDIC likely should have more authority than it currently enjoys to intervene in a bank's interest-rate policies. At the same time, reverting to Regulation Q or giving free reign to the FDIC to limit the interest rates that a bank may pay on insured deposits would be an overreaction to the issues identified and could give rise to other costly distortions.

These interests can be balanced by providing the FDIC with the authority to intervene but only under specific conditions. In particular, it may be appropriate to allow the FDIC to intervene, perhaps in the form of a veto, when a bank seeks to offer an interest rate that is excessively high relative to that being offered by peer institutions or prevailing market rates. For example, the FDIC could impose a default rule allowing it to veto a bank's proposed interest-rate policy when the interest rates the bank seeks to offer deviate by more than a set number of basis points and a set number of standard deviations from the mean interest rate for that type of account. Because the triggers authorizing intervention would be established by interest rates currently offered at other institutions, such a regime should not introduce the types of distortions associated with earlier government efforts to limit interest rates. Such reforms should both reduce banks' ability to use insured deposits attracted or retained with high interest rates as a substitute for the Discount Window and limit the adverse effects that a troubled bank's efforts to attract and retain deposits would have on healthy institutions.

B. Future Study

In addition to suggesting the need to reform the FHLBank System and the deposit insurance scheme, this Article draws attention to the many unanswered questions regarding the role that a lender of last resort can and should play in a modern financial system. The value of a lender of last resort is well recognized and has only been reaffirmed by recent events. Yet the Crisis, and the Fed's responses to it, illustrate that the Discount Window is poorly suited to respond to many of the liquidity shortages that can plague a modern financial

²⁹² See *supra* Part II.A.2.

²⁹³ See BAIR, *supra* note 113, at 78–79 (stating that the list of “troubled banks” kept by the FDIC, based on their CAMELS ratings, was misleading and did not reflect the true health of the industry).

system. By being creative and aggressive in how it interpreted its authority, the Fed was able to respond to many of the liquidity shortages that arose, but there are reasons to question whether the Fed's actions, even if defensible under the circumstances, were optimal. Moreover, the Fed's authority under section 13(3) has been narrowed subsequent to the Crisis, making it more difficult, and in some cases impossible, for it to take the same actions it took during the Crisis should it face similar dynamics in the future.²⁹⁴ This suggests at least two lines of inquiry that merit further study: (1) the appropriate scope of authority to grant a modern-day lender of last resort, and (2) the principled norms that should guide how the lender of last resort exercises that authority.

The analysis here reveals that much of the Fed's creativity in setting up temporary liquidity facilities stemmed from changes in banking and the financial system more generally. The dramatic transformation in the nature of banking and the rise of the shadow banking system have fundamentally transformed the financial landscape and therefore changed the nature of the support the Fed reasonably believed it had to provide in order to help avert systemic collapse. As other commentators have recognized, however, there is a significant difference between a standing facility like the Discount Window and a temporary facility that the Fed can only establish after publicly declaring the existence of "unusual and exigent" circumstances and satisfying other requirements.²⁹⁵ Temporary facilities cannot provide the same general assurance to the market, reducing their capacity to prevent runs, and the very process of declaring that the conditions of section 13(3) are satisfied may alarm the same market participants that the Fed seeks to calm. It may, accordingly, be appropriate to study whether the Fed's authority to set up standing facilities should continue to be limited to the authority granted pursuant to section 10B, the basis for the Discount Window, or whether it should be expanded in light of changes in the financial system.

Just as important as the changes in the financial system that have occurred thus far are those that have yet to come. The financial system has proven remarkably dynamic, changing in response to regulation, technological improvements, and other innovations.²⁹⁶ There is little sign that this dynamism will slow in the years ahead. Central to the ability of the Fed to respond to unforeseen changes in the markets over the course of the Crisis was the breadth of the discretion it

²⁹⁴ See Dodd-Frank Wall Street Reform and Consumer Protection Act Pub. L. No. 111-203, § 1101, 124 Stat. 1376, 2113 (codified as amended at 12 U.S.C. § 343 (2012)) (limiting the Fed's authority to extend loans under section 13(3)).

²⁹⁵ See, e.g., Dudley, *supra* note 24.

²⁹⁶ See, e.g., Judge, *Fragmentation Nodes*, *supra* note 84, 669–84 (discussing the creation and innovation of mortgage-backed securities).

possessed under section 13(3) in its earlier incarnation. Hence, the analysis here also raises questions about whether the revised regime provides the Fed sufficient flexibility to respond to the myriad liquidity shortages that might arise in today's, and tomorrow's, financial system.²⁹⁷

That the authority granted to the Fed to serve as lender of last resort may be too narrow, when viewed solely in terms of maximizing the probability that the Fed will have the authority it needs to calm financial markets and address liquidity shortages, does not resolve the accountability issues that contributed to Congress's decision to narrow the Fed's authority under section 13(3). Transparency and accountability typically serve as cornerstones in establishing legitimacy, and there are no easy answers with respect to how to reconcile the tensions that arise when these aims conflict with other policy goals.²⁹⁸ One tool that has helped to reduce this conflict in the context of the Fed's role as lender of last resort is the existence of a robust set of norms about when and to whom a lender of last resort should lend.²⁹⁹ Soft constraints, like principled norms, can play this role by providing a set of guidelines that both shape Fed policy and provide a benchmark that others, including Congress and the public, can use to hold the Fed accountable. The challenge is that the most commonly invoked maxims still date back to Bagehot's admonitions from 1873, a time when the financial system looked very different from how it does today.³⁰⁰ And, as the analysis here has shown, those changes in the system create new questions and challenges for a lender of last resort. A related challenge, also reflected in the analysis here, is that scholars and policymakers have learned a lot since Bagehot's time, and the

²⁹⁷ Other scholars and policymakers have also started to ask questions along these lines. See, e.g., Diamond & Dybvig, *supra* note 17, at 417; Dudley, *supra* note 24.

²⁹⁸ There is a body of literature, primarily by economists, examining the tension between the demands of a democratic regime and the high degree of independence that economic theory and empirical studies suggest a central bank should enjoy. However, the focus is generally on the role of central banks in setting monetary policy, and this literature examines, without fully resolving, that underlying tension. See generally Rosa M. Lastra & Geoffrey P. Miller, *Central Bank Independence in Ordinary and Extraordinary Times*, in CENTRAL BANK INDEPENDENCE: THE ECONOMIC FOUNDATIONS, THE CONSTITUTIONAL IMPLICATIONS AND DEMOCRATIC ACCOUNTABILITY (Jan Kleineman ed., 2001) (outlining the benefits and costs of having an independent central bank); Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Sys., Remarks at the Institute for Monetary and Economic Studies International Conference: Central Bank Independence, Transparency, and Accountability (May 25, 2010), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20100525a.htm> (arguing for central bank independence while also discussing the need for transparency and accountability).

²⁹⁹ Judge, *Soft Constraints*, *supra* note 54, at 1–2.

³⁰⁰ NEIL IRWIN, THE ALCHEMISTS: THREE CENTRAL BANKERS AND A WORLD ON FIRE 28 (2013) ("At the 2009 Federal Reserve Bank of Kansas City conference in Jackson Hole, where contemporary central bankers gather every August, Bagehot's name was mentioned forty-eight times.").

lessons subsequently learned are necessarily missing from his teachings.³⁰¹ Hence, this Article also supports the need for further study regarding the norms that should govern action by a lender of last resort and whether such norms should vary depending on the nature of the liquidity shortage that the lender of last resort is seeking to address.

These two inquiries are, of course, intricately related, and they are also interconnected with the core issue here of whether and to what extent the alternative discount windows should be closed. For example, so long as the alternative discount windows remain open, imposing additional disclosure requirements on the Fed will only partially satisfy demands to know what banks are relying on government-backed liquidity and to what extent. Similarly, the availability of alternative mechanisms for accessing government-backed liquidity may alter the optimal role that the Fed should play in this regard. The aim here is not to resolve these difficult issues but to draw attention to their fundamental importance and the failure of much of the literature to keep up with recent developments.

CONCLUSION

Banks today have access to three distinct standing sources of government-backed liquidity. This is not a system that Congress, or anyone, intended to create. Like many inadvertent regimes, this one has some benefits. But it also gives rise to significant costs and other consequences like reduced transparency and accountability. When values beyond welfare maximization are at stake, there is no easy formula for determining the optimal response, and this Article does not purport to provide one. Nonetheless, in drawing attention to the existence and operation of the alternative discount windows, identifying the myriad effects of their operation, and proposing some responses, this Article serves as an important starting point for discussion about whether and how the programs giving rise to the alternative discount windows should be modified in light of their mixed effects.

³⁰¹ See generally Freixas et al., *Since Bagehot*, *supra* note 36 (describing many of the lessons learned since Bagehot's time).

