BANKING AS A SOCIAL CONTRACT

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ABSTRACT

The narrative that has emerged in the aftermath of the COVID-19 financial crisis has focused on non-bank financial intermediation as the primary vulnerability that plagued financial markets starting in March of 2020, and the exogenous nature of a public health crisis as a unique precipitating event. As a result, the crisis has largely been viewed as vindication for financial regulation as it applies to banks, with the Federal Reserve playing the role of heroic rescuer of the financial system. This article offers the first critical analysis of the performance of systemically important banks during the financial system component of the COVID-19 crisis, and alternative narratives for the destabilization that occurred, as well as the Fed's role in financial stability regulation and financial system rescues.

This article frames the function that systemically important banks serve as a form of "social contract" with the public sovereign to provide liquidity to "real" economy households and businesses. This article charts the course of this relationship from the New Deal era's banking framework, to financial modernization and the Global Financial Crisis of 2008, to the landmark reforms of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and concludes with the COVID-19 financial crisis. This critical analysis reveals the disconnects between the policy objective of financial stability and the actions taken by policymakers, and yields important insights into the political economy, regulatory philosophy, and substantive impacts underlying how the Fed deploys its regulatory and "safety net" lending authorities.

In recent decades, banking's social contract has frayed, as the Fed has emphasized "tailored" regulation. This policy approach has failed to prevent two major financial crises, as well as intermittent, and recurring, disruptions. As a result, the Fed has played an ever-expanding role supporting a range of "shadow banking" markets. This status quo is rife with misaligned incentives and distributional consequences, as systemically important banks produce great profits

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that exacerbate inequality in good times and disclaim their social responsibility in bad times. A better framework would hold the systemically important banks that occupy a singular position in the U.S. financial system to the social contract by ensuring that they are able to withstand a range of ongoing and emerging threats to financial stability.

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INTRODUCTION

During the COVID-19 pandemic, the Federal Reserve "did unbelievable things" to preserve the basic functioning of the financial markets, providing

unprecedented financial support to prevent a full-scale banking crisis.[1] The narratives that have emerged in the aftermath of this panic have focused on non-bank financial intermediation as the primary vulnerability plaguing financial markets,[2] and the exogenous nature of a public health crisis as a precipitating event.[3] As a result, the COVID-19 crisis has largely been viewed as a vindication for the regulation of bank holding companies (BHCs), with the Fed's actions as the only logical means of preserving the stability of the financial system.[4]

This narrative is incomplete. It ignores the ubiquitous role of systemically important BHCs in the modern financial markets, and the role that the failure of these institutions to provide financial intermediation services has played in undermining proper market functioning. Systemically important banks' inability to provide critical services when they have been needed most has led to repeated, and increasingly unprecedented, government interventions in the financial markets, including the market for U.S. Treasuries, "one of the largest and most liquid securities markets in the world."[5] As some policymakers have suggested, the recent pattern consisting of two broad-scale financial panics in the span of 13 years, as well as a series of smaller disruptions and interventions in the money markets, implies that something is amiss in our financial system.[6] Similarly troubling is the significant assistance provided to the banking sector from fiscal, monetary, and

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[1] Jeanna Smialek & Deborah Solomon, *A Hedge Fund Bailout Highlights How Regulators Ignored Big Risks*, N.Y. TIMES (July 23, 2020), https://www.nytimes.com/2020/07/23/business/economy/hedge-fund-bailout-dodd-frank.html.

[2] *See*, *e.g.*, Randal K. Quarles, Vice Chair for Supervisor of the Bd. of Governors and Chair of the Fin. Stability Bd. of the Fed. Rsrv. Sys., *The FSB in 2021: Addressing Financial Stability Challenges in an Age of Interconnectedness, Innovation, and Change* 2, Remarks at the Peterson Inst. for Int'l Econ. (Mar. 30, 2021) (stating that "nonbank financial intermediation and cross-border payments … are priority areas that will have significant impact on the financial landscape going forward"), https://www.federalreserve.gov/newsevents/speech/files/quarles20210330a.pdf; *see also* Janet L. Yellen, Sec'y, U.S. Dep't of the Treasury, Remarks at the Open Session of the meeting of the Fin. Stability Oversight Council (Mar. 31, 2021) (highlighting nonbank financial risks and the US Treasury markets as "particularly important" and "major challenges"), https://home.treasury.gov/news/press-releases/jy0092.

[3] Jeanna Smialek & Deborah B. Solomon, *The Financial Crisis the World Forgot*, N.Y. TIMES (Mar. 16, 2021) (noting that there is "little popular outrage over the March 2020 meltdown, both because it was set off by a health crisis – not bad banker behavior – and because it was resolved quickly"), https://www.nytimes.com/2021/03/16/business/economy/fed-2020-financial-crisis-covid.html.

[4] Yellen, *supra* note 2 ("Increased capital and liquidity requirements imposed after the 2008 financial crisis helped banks weather the pandemic-induced crisis.").

[5] S. Rep. No. 103-109, at 7, 103d Cong., 1st Sess. (1993).

[6] Neel T. Kashkari, President and Chief Exec. Officer of Fed. Rsrv. Bank Minneapolis, *Capital Markets and Banking Regulation*, Speech at the Conf. of Institutional Invs. (Sept. 18, 2020) ("What kind of absurd financial system do we have that requires the central bank to bail it out every decade? How can it possibly be this fragile?"), https://www.minneapolisfed.org/speeches/2020/capital-markets-and-banking-regulation.

regulatory authorities during the COVID-19 pandemic, in the form of fiscal support, emergency lending, and regulatory forbearance.[7]

Taking a holistic view of the contemporary financial system, beginning with the global financial crisis of 2008 (GFC), yields a nuanced storyline about the causes of, and lessons to be drawn from, the COVID-19 financial crisis. Examining this unique period, comprised of high-impact crises and episodes of more minor turbulence, helps to reveal patterns of chronic instability hidden just beneath the façade of the financial system. In its role as financial stability regulator, provider of essential "safe" assets, and lender of last resort (LOLR) to financial markets, the Fed is a singular actor within this system. The Fed's willingness to allow the unconstrained buildup of speculative credit without robust regulation, followed by repeated monetary support, is an often overlooked but important hallmark of financial stability policy from the GFC era to the COVID-19 crisis.

Ultimately, it becomes increasingly clear that, while there have been some incremental improvements in the resilience of the financial sector, critical vulnerabilities remain unaddressed. Chief among these vulnerabilities is the failure to fashion a suite of rules that ensure systemically important financial institutions internalize the costs that they impose on society when they are unable to fulfill their core financial intermediation functions.[8] This policy trajectory is problematic because, rather than furthering the central banking mantra of "market neutrality," it subordinates the public interest to the interests of private shareholders and leads to greater inequality even during times of relative stability.[9]

This article seeks to make several contributions that may be useful to banking law and policy in drawing a more comprehensive picture of the roles of, and connections between, systemically important BHCs, nominally unregulated

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[7] Ronald J. Feldman & Jason Schmidt, *Government Fiscal Support Protected Banks From Huge Losses During the COVID-19 Crisis*, Fed. Rsrv. Bank Minneapolis (May 26, 2021) (estimating that banks may have been protected from somewhere between $130 billion and $230 billion in potential loan losses as a result of government actions during the pandemic), https://www.minneapolisfed.org/article/2021/government-fiscal-support-protected-banks-from-huge-losses-during-the-covid-19-crisis; *see also* David Bodovski, Hannah Firestone, Seung Jung Lee & Viktors Stebunovs, "Bank Lending Conditions during the Pandemic," FEDS NOTES (Oct. 15, 2021) (the United States implemented fiscal supports and contingent guarantees during COVID-19 exceeding 10% of GDP), https://www.federalreserve.gov/econres/notes/feds-notes/bank-lending-conditions-during-the-pandemic-20211015.htm; *see also* INT'L MONETARY FUND, *Global Financial Stability Report: Preempting a Legacy of Vulnerabilities* 20 (2021) (without fiscal and monetary support policies and regulatory forbearance, "the estimated proportion of capital-deficient bank assets would have roughly doubled"), https://www.imf.org/en/Publications/GFSR/Issues/2021/04/06/global-financial-stability-report-april-2021.

[8] Mark Van Der Weide, *Implementing Dodd–Frank: Identifying and Mitigating Systemic Risk*, 36 J. ECON. PERSP. 108, 110 (2012). This perspective conflicts with other accounts that focus on market structure and regulatory fragmentation as the critical causes of financial instability. *See* Yesha Yadav, *The Failed Regulation of U.S. Treasury Markets*, 121 COLUM. L. REV. 1173 (2021).

[9] *See infra* Section IV.A.

"shadow banking," and the Fed as the central bank and systemic risk regulator. By situating systemically important banks, the Fed, in its capacity as both a regulator and a lender, and the public as mutual parties to a "social contract," it builds on recent scholarship that has pursued new descriptive accounts of the nature of money and banking, particularly banks' status as quasi-public entities that enjoy special privileges.[10] Contrasting the theoretical framework of financial stability regulation as a device to enforce banks' contractual obligation to society against the actual policies, actions, and events that transpired from the GFC to the COVID-19 crisis yields important insights into the Fed's execution of financial stability policy that should be of growing relevance in the nascent field of law and macroeconomics as it applies to financial regulation.[11] In particular, more successful financial stability policy can help to address distributional issues that are beyond the reach of monetary policy during stable times, and clear the way for more bandwidth and impact for fiscal policy during crises.[12]

The practical insights provided by this article are also relevant to a range of other policy issues. Such issues include the post-pandemic episodes of financial instability that occurred in February and March of 2021, from the ongoing vulnerability in the Treasury market to banks' involvement with the failed hedge fund Archegos.[13] It should also benefit long-term efforts to address emerging systemic risks such as climate change and digital assets.[14] Finally, the role of macroprudential regulation as a tool to preserve financial stability will also be of

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[10] Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143 (2017); *see* ARTHUR E. WILMARTH, JR., TAMING THE MEGABANKS: WHY WE NEED A NEW GLASS-STEAGALL ACT (2020); *see also* MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION (2016).

[11] *See generally* Yair Listoken, *Law and Macroeconomics: The Law and Economics of Recessions*, 34 YALE J. ON REGUL. 791 (2017). It may also offer some analyses that are useful to recent economic and legal political economy analyses at the intersections of central banking, financial markets and regulation. *See* David Aikman et al., *Rethinking Financial Stability* 38 (Bank of Eng., Working Paper No. 712, 2018) (noting that some post-GFC regulatory authorities are "quite discretionary in nature" and "involve regulators making overtly distributional choices," taking "central banks and regulators more explicitly into the political-economy realm…."), https://www.bankofengland.co.uk/working-paper/2018/rethinking-financial-stability; *see also* Carolyn Sissoko, *The Collateral Supply Effect on Central Bank Policy* 3 (2020) (describing recent international political economy (IPE) literature), https://ssrn.com/abstract=3545546; Daniela Gabor, *Critical Macro-finance: A Theoretical Lens*, 6 FIN. SOC'Y 45 (2020).

[12] For an example of the exiting financial stability regulation literature, see Hilary J. Allen, *A New Philosophy for Financial Stability Regulation*, 45 LOY. UNIV. CHIC. LAW J. 173, 194 (2013).

[13] INT'L MONETARY FUND, *supra* note 7, at 2-6; *see also* Liz McCormick, Tracy Alloway & Stephen Spratt, *A $21 Trillion Treasuries Mystery is Bedeviling Global Markets*, BLOOMBERG (Mar. 2, 2021), https://www.bloomberg.com/news/articles/2021-03-02/a-21-trillion-treasuries-mystery-is-bedeviling-global-markets.

[14] Graham S. Steele, *Confronting the "Climate Lehman Moment": The Case for Macroprudential Climate Regulation*, 30 CORNELL J. L. & PUB. POL'Y 109 (2020); *see also* Saule T. Omarova, *New Tech vs. New Deal: Fintech as a Systemic Phenomenon*, 36 YALE J. REGUL. 735 (2019).

continued relevance as the Fed navigates its post-COVID-19 monetary policy framework emphasizing low interest rates, historically large deficits, and a glut of bank reserves.[15] Thus, while the global pandemic may have been an unexpected triggering event, it would be unwise for policymakers to discount the COVID-19 crisis as an anomaly, as panics, recessions, and other systemic events originate from all manner of endogenous and exogenous sources, very few of which are foreseeable. [16]

This article proceeds in the following parts. Section I proposes a framework for conceptualizing banks as parties to a "social contract" to support financial and economic activity, and uses this arrangement as a device to understand the metamorphosis of banking from the New Deal framework to the "financial modernization" of the 1990s and 2000s. Section II documents the events and causes of the global financial crisis as well as the Fed's responses, first to support money markets and large banking organizations and subsequently as the lead architect of a macroprudential approach to financial stability regulation under the Dodd-Frank Wall Street Reform and Consumer Protection (Dodd-Frank) Act. Section III traces the performance of the financial system in the lead-up and onset of the COVID-19 pandemic, followed by a reprisal of the Fed's extraordinary, GFC-style financial market interventions. Section IV seeks to draw lessons from these experiences, especially the distributional implications of policymakers' bias toward *post hoc* interventions over *ex ante* regulation, before proposing an agenda for a macroprudential policy that reinforces banks' implicit social contract.

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[15] INT'L MONETARY FUND, *supra* note 7, at 26; *see also* Darrell Duffie, *Still the World's Safe Haven? Redesigning the U.S. Treasury Market After the COVID-19 Crisis* 3 (Hutchins Ctr. Working Paper No. 62, 2020) (the "size of the Treasury market may "have outgrown the capacity of dealers to safely intermediate the market on their own balance sheets, raising questions about the… safe-haven status of U.S. Treasuries and concerns over the cost to taxpayers of financing growing federal deficits"), https://www.brookings.edu/research/still-the-worlds-safe-haven.

[16] PERRY MEHRLING, THE NEW LOMBARD STREET: HOW THE FED BECAME THE DEALER OF LAST RESORT 20 (2011). *See also* Daniel K. Tarullo, *Time-Varying Measures in Financial Regulation*, 83 L. CONTEMP. PROBLS. 1, 4 (2020). COVID-19 is not the first "exogenous" shock requiring Fed intervention, for example, the Fed purchased $150 billion in government bonds, made $45 billion in discount window loans to help stabilize the U.S. banking system in the wake of the attacks of September 11, 2001. *See* WILMARTH, JR., *supra* note 10. Farther back in history, central banks have intervened during World War 1, World War 2, and the Vietnam War. *See* Andrew Hauser, Exec. Dir. for Mkts. Bank of Eng., *From Lender of Last Resort to Market Maker of Last Resort via the Dash for Cash - Why Central Banks Need New Tools for Dealing with Market Dysfunction* 5, Speech at Thomson Reuters Newsmaker (Jan. 7, 2021), https://www.bankofengland.co.uk/-/media/boe/files/speech/2021/january/why-central-banks-need-new-tools-for-dealing-with-market-dysfunction-speech-by-andrew-hauser.pdf.

I. BANKING AS A SOCIAL CONTRACT

Banks serve an important societal function by providing "liquidity" that ensures that households and businesses are able to meet their financial obligations, even during times of financial stress.[17] Banks originally did this largely through deposits, loans, and other advances. In exchange for performing their side of this "social contract," banks have enjoyed special privileges and been subject to significant constraints. In the leadup to the GFC, however, policymakers permitted banks to increasingly engage in an ever-expanding assortment of activities that can be subject to disparate legal treatment, notwithstanding their functional equivalence. The result was the creation of Global Systemically Important Banks (GSIBs)—entities that have fundamentally altered how banks primarily provide liquidity. The relaxation of banks' public obligations and restrictions has amounted to a *de facto* renegotiation of banking's social contract.

A. The New Deal Settlement as Contract Enforcement

Banks produce a type of security, in the form of a deposit, that is effectively riskless and informationally insensitive, meaning that holders do not need to worry about events like insolvency, because someone will always honor these obligations.[18] Banks' centrality to the financial system lies in their ability to "create money" through deposits,[19] and to transform a variety of assets and liabilities, or lend against various forms of collateral, in order to finance new activities.[20] When a bank provides liquidity, an implicit, off-balance-sheet commitment becomes an on-balance-sheet deposit,[21] created by a bank through its relationship with the central bank. These credits and debits are transmitted through a payments system infrastructure built with the banking system at its core.[22]

The legitimacy of bank-created liabilities derives from the banking laws that provide for chartering, protection from a publicly provided "safety net," and close supervision and regulation, under the view that banks "perform important

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[17] *See* Anil K. Kashyap, Raghuram Rajan, & Jeremy C. Stein, *Banks as Liquidity Providers: An Explanation for the Coexistence of Lending and Deposit-Taking*, 57 J. FIN. 33, 34-35 (2002); *see also* Nada Mora, *Can Banks Provide Liquidity in a Financial Crisis?*, 95 ECON. REV. 31, 38 (2010).

[18] Gary Gorton, Yale University, Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007, Address before the Federal Reserve Bank of Atlanta's 2009 Financial Markets Conference (May 11-13, 2009) at 7, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1401882.

[19] Hockett & Omarova, *supra* note 10, at 1158-61.

[20] Gabor, *supra* note 11, at 50.

[21] Alice Abboud et al., *COVID-19 as a Stress Test: Assessing the Bank Regulatory Framework* 3, 11 (Fin. and Econ. Discussion Series, Divs. of Rsch. & Stat. and Monetary Affs., Fed. Rsrv. Bd., Working Paper No. 2021-024, 2021), https://doi.org/10.17016/FEDS.2021.024.

[22] MICHAEL S. BARR, HOWELL E. JACKSON & MARGARET E. TAHYAR, FINANCIAL REGULATION: LAW AND POLICY 759-60 (1st ed. 2016).

public utility functions."[23] The National Bank Act gave federally charted banks the limited authority to engage in the "business of banking," and identified a list of permissible banking activities in the "bank powers clause."[24] The Banking Act of 1933 extended federal oversight to all commercial banks, and separated commercial and investment banking, a provision commonly known as the "Glass-Steagall" Act.[25] Structural separations and firewalls were erected to prevent the diversion of banking resources into excessive credit practices and speculative activities.[26] To restrict the use and abuse of banking powers through legal affiliation structures, the Bank Holding Company Act of 1956 (BHCA) required any Bank Holding Company (BHC) to limit its activities and investments to banking, managing or owning banks, or to a set of activities determined to be closely related to banking.[27]

The banking system is also supported by a public "safety net." The Banking Act created the Federal Deposit Insurance Corporation (FDIC) with authority to provide deposit insurance, supervise certain state-chartered banks, and resolve troubled institutions. The Federal Reserve Act created the central bank, in part, as a "lender of last resort" (LOLR) to which banks can pledge assets in exchange for liquidity.[28] The Fed is authorized to make secured loans to member banks in "exceptional and exigent circumstances,"[29] and to lend to "any individual, partnership, or corporation" in "unusual and exigent circumstances."[30] These and other provisions undergird the LOLR function, the use of the central bank's balance

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[23] Saule T. Omarova & Margaret E. Tahyar, *That Which We Call a Bank: Revisiting the History of Bank Holding Company Regulation in the United States*, 31 REV. BANKING & FIN. L. 113, 152 n.146 (2012). The interbank money markets have been called the "plumbing" of the financial system, consisting of markets and instruments that are "valves and pipes," respectively. Darrell Duffie, *Replumbing Our Financial System: Uneven Progress*, 9 INT'L. J. CENT. BANKING 251, 252 (2013).

[24] 12 U.S.C. § 24 (2008).

[25] Banking Act of 1933, Pub. L. No. 73-66, 48 Stat. 182 (1933). While Glass-Steagall prohibited activities involving corporate securities, banks were still allowed to deal in Treasury and municipal securities. *See* RON CHERNOW, THE HOUSE OF MORGAN: AN AMERICAN BANKING DYNASTY AND THE RISE OF MODERN FINANCE 540 (2010).

The law also gave the Fed authority to limit the rate of interest that banks could pay to attract time and savings deposits, and prohibited interest payments on demand deposits. *See* Pub. L. No. 73-66, at § 11. Many states had usury caps on consumer loans; the deposit interest rate restrictions were intended to ensure that banks would be guaranteed certain profit margins on their loans, without having to gather deposits by competing to pay higher interest rates or take on riskier loans. The Fed implemented these restrictions through its Regulation Q.

[26] *Inv. Co. Inst. v. Camp*, 401 U.S. 617, 629-33 (1971) (describing the various policy concerns motivating the Glass-Steagall Act's activity and affiliation restrictions).

[27] 12 U.S.C. § 1841 *et seq*. A BHC is generally a corporation that owns one or more banks. *See* 12 U.S.C. § 1841(a).

[28] BARR, JACKSON & TAHYAR, *supra* note 22, at 45.

[29] Parinitha Sastry, *The Political Origins of Section 13(3) of the Federal Reserve Act*, 24 ECON. POL'Y REV. 1, 18 (2018) (citing section 10B of the Federal Reserve Act).

[30] *Id.* at 19-23 (citing the third paragraph to section 13 of the Federal Reserve Act).

sheet for creating money, "maintaining the efficacy of the payments system and offsetting a contraction of high-powered money," and thereby stabilizing the financial system and the economy.[31] LOLR allows banks, or in its most expansive interpretation any eligible institution holding an eligible asset, to replace any such asset with central bank money.[32]

The edifice of public support and constraints that have been constructed around banking have long been understood as an outgrowth of the industry's vital importance in supporting the people and businesses participating in the "real economy."[33] The Fed as the central bank "determines the *volume* of lending; banks decide *who* gets the credit."[34] This system "vests substantive control over the allocation of risks and returns in financial markets in private actors operating on a micro-level and assigns the responsibility for ensuring financial stability to public actors operating on a macro-level."[35] Through "close regulation and supervision of financial markets and institutions," public authorities "keep profit-seeking private market participants from abusing their micro-level freedom to generate macro-level risks."[36]

This relationship between the central bank and regulated BHCs involves a set of benefits and detriments, in contract terminology. The Fed provides reserves

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[31] *Id.* at 27 (discussing the various definitions of LOLR).

[32] Anna Gelpern & Erik F. Gerding, *Inside Safe Assets*, 33 YALE J. REGUL. 363, 402 (2016). The LOLR role is meant to be distinct from a credit guarantee, but, as discussed below, the manner in which it is employed can at times render this distinction difficult to parse. *See id.*

[33] *See, e.g.*, H. Rep. No. 84-609, at 2 (1955) (describing banking as the "lifeblood of [the] economy, money, and credit"); *see also* United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 372 (1963) (describing banking as a "highly regulated industry critical to the Nation's welfare").

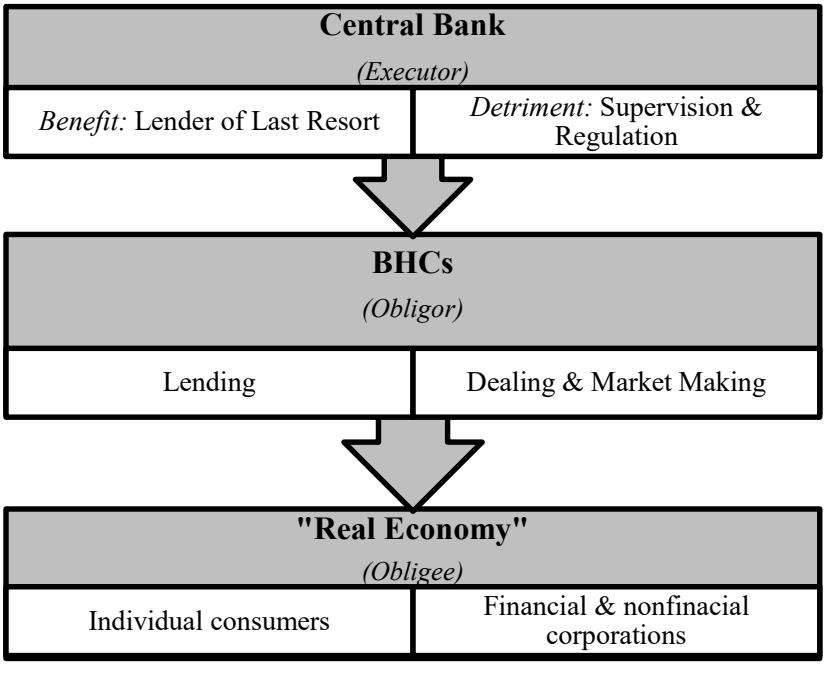
[34] *Examining the GAO Report on Government Support for Bank Holding Companies*, *Subcomm. on Fin. Insts. and Consumer Prot., Comm. on Banking, Hous., and Urb. Affs*., U.S. Senate, S. Hearing, 113th Cong. 113–364, at 127 (Jan. 8, 2014) (statement of Allan H. Meltzer, the Allan H. Meltzer University Professor of Political Economy, Carnegie Mellon University Tepper School of Business) (emphasis added); *see also* James Tobin, *Financial Innovation and Deregulation in Perspective*, 3(2) BANK OF JAPAN MONETARY & ECON. STUDIES 19, 19 (1985) (banks are "the institutions through which central bank operations of monetary control are transmitted to the economy at large"). Hockett and Omarova have conceptualized banks as private franchisees of the public franchisors, the central bank and the treasury. *See* Hockett & Omarova, *supra* note 10.

[35] Omarova, *supra* note 14, at 749; *see also* Daniel K. Tarullo, Distinguished Jurist Lecture, Univ. of Pa. L. Sch., *Financial Stability Regulation* 1, 2 (Oct. 10, 2012) ("Much of the New Deal legislation … was in direct response to what we would today call systemic concerns, including banking panics and excessive leverage in equity markets.").

[36] Omarova, *supra* note 14, at 749; *see also* Tobin, *supra* note 34, at 20-21. Striking the appropriate balance between supporting productive credit that facilitates stable economic growth, while not encouraging and subsidizing speculative credit that threatens financial stability, is not just the responsibility of regulation; it is also an important aspect of the LOLR responsibility. *See* MEHRLING, *supra* note 16, at 17, 56; *see also* WILMARTH, JR., *supra* note 10, at 140. (citing 12 U.S.C. § 301 providing that regional reserve banks consider whether "undue use is being made of bank credit for the speculative carrying of or trading in securities, real estate, or commodities" by a member bank when providing loans and other services to such member bank).

and safe assets to BHCs, which in turn provide liquidity to the "real economy." The Fed enforces this commitment through supervision and regulation, to ensure that the banking system does not abuse its powers and privileges.[37] This arrangement comprises a "social contract between the state and (private) banks to guarantee at par convertibility via monetary policy and banking regulation."[38] It is a tripartite agreement, with the Fed acting as the executor of banks' commitment to provide special services to the public.

Figure 1: Banking as a social contract



In this system, the Fed's responsibility to preserve the stability of the financial system is ultimately in service of safeguarding the functioning of industry and the "real economy."[39] Having established the basic conceptual framework of

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[37] Emma Coleman Jordan, *The Hidden Structures of Inequality: The Federal Reserve and a Cascade of Failures*, 2 UNIV. PA. J. L. PUB. AFFS. 107, 157 (2017) (the Fed can be described as "[T]he lead government conceptualist with responsibility for articulating coherent rationale for government regulation of our system of private financial institutions."); *see also* Tarullo, *supra* note 35, at 2 ("[T]he creation of the Federal Reserve had been intended at least as much as a financial stability measure as an instrument of monetary policy.").

[38] Daniela Gabor & Jakob Vestergaard, *Towards a Theory of Shadow Money* (Apr. 2016), https://www.ineteconomics.org/uploads/papers/Towards_Theory_Shadow_Money_GV_INET.pdf.

[39] HON. ROBERT L. OWEN, THE FEDERAL RESERVE ACT: ITS ORIGIN AND PRINCIPLES 99 (1919) (the creation of the Federal Reserve System "assures [businesspeople] absolutely against the danger of financial panic, due to hoarding of currency or sudden denial of legitimate credit."); *id.* at 43-44

banking as social contract, the following sections will discuss GSIBs' recent performance under, as well as the Fed's role as lead enforcer of, banking's social contract.

B. Weakening the Contract

The post-New Deal banking regulations and Federal safety net coincided with a "quiet period" of 74 years without any major banking panics.[40] While tight regulation preserves financial stability by constraining the outsized growth of credit untethered to real economic output, it also creates conflicts between banks' profitability and their societal obligations.[41] Over time, innovative financial institutions have sought to engage in the "functional *amplification and replication of* the core banking franchise" but "without paying the 'franchise fees' imposed on banks," through regulation and chartering.[42] Critics argued that, rather than ensuring the safety and stability of money and banking, the banking laws created an "unprofitable straitjacket" that "discouraged competition and restricted innovation[.]"[43] Regulators accommodated this argument by gradually redefining the activities in which it is permissible for national banks to engage,[44] and allowing nonbank subsidiaries to expand their securities activities.[45]

Congress completed the effort to "modernize" the banking system, in 1999 passing the Gramm-Leach-Bliley Act (GLBA), authorizing BHCs to invest in and trade in a variety of securities, commodities, and derivatives, and creating financial holding companies (FHCs), a new category of BHC permitted to engage in a

("[I]t is the prevention of panic, the protection of our commerce, the stability of business conditions, and the maintenance in active operation of the productive energies of the nation which is the question of vital importance."); *see also* S. Hearing 113–364, at 12 (statement of Dr. Allan H. Meltzer that the Fed has "public responsibility … to protect the payments system because a breakdown of the payments system stops all or most economic activity").

40 Gorton, *supra* note 18. At the same time, it is worth noting that the savings and loan crisis and the failure of Penn Central bank in the 1980s, and the failure of the hedge fun Long-Term Capital Management in 1998, occurred during this period.

41 Gelpern & Gerding, *supra* note 32, at 395 (bank regulation is a perpetual game of "cat and mouse" pitting public regulation and guarantees and private profit seeking.); *see also* Aikman et al., *supra* note 11, at 27-28 (analogizing financial regulation to "bloodhounds in pursuit of greyhounds," in "an on-going, evolutionary race to adjust regulatory rules to limit avoidance incentives").

42 Hockett & Omarova, *supra* note 10, at 1164.

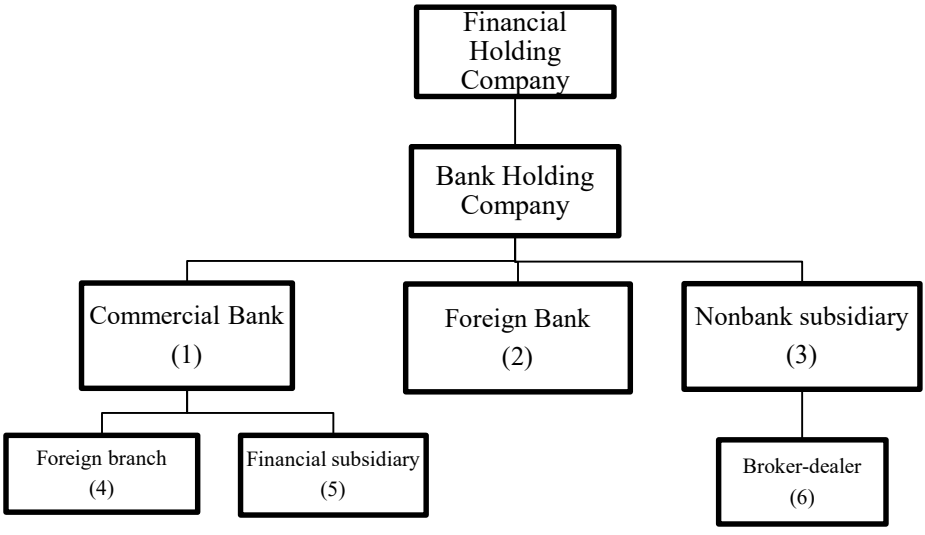
43 FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT (2011), at 33.

44 Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed The "Business of Banking"*, 63 UNIV. MIA. L. REV. 1041 (2009).

45 Arthur E. Wilmarth, Jr., *The Road to Repeal of the Glass-Steagall Act*, 17 WAKE FOREST J. BUS. & INTELL. PROP. L. 441 (2017).

broader range of financial activities, such as securities underwriting and dealing and insurance.[46]

Figure 2: Stylized Financial Holding Company Structure



This deregulation resulted in the rapid growth of both "shadow banking" markets and GSIBs. The legal reforms during this period had their own internal logic, in the sense that many financial institutions had already crafted means to arbitrage the New Deal banking scheme, and these changes ostensibly brought activities under the umbrella of "regulated" BHCs, however, there was no corresponding modernization of the regulatory apparatus applicable to the new financial colossuses or shadow banking activities.[47]

1. Shadow Banking

During the era of modernization, shadow banking grew in importance as a system of "financial markets and activities that mimic the economic substance of bank-like credit-money creation without being subject to the same kind of regulatory oversight."[48] The assets and liabilities that constitute the lifeblood of the

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[46] Dafna Avraham, Patricia Selvaggi & James Vickery, *A Structural View of U.S. Bank Holding Companies*, 7 ECON. POL'Y REV. 65 (2012).

[47] Daniel K. Tarullo, *Financial Regulation: Still Unsettled a Decade After the Crisis*, 33 J. ECON. PERSP. 61, 63 (2019).

[48] Omarova, *supra* note 14, at 753; *see also* Daniel K. Tarullo, *Shadow Banking After the Financial Crisis* (June 12, 2012), https://www.federalreserve.gov/newsevents/speech/files/tarullo20120612a.pdf; *see also* Perry Mehrling et al., *Bagehot was a Shadow Banker: Shadow Banking, Central Banking, and the Future of Global Finance*, *in* SHADOW BANKING WITHIN AND ACROSS NATIONAL

shadow banking include money market funds (MMFs), repurchase agreements ("repos"), commercial paper (CP),[49] and credit derivatives.[50] Shadow banking markets have come to proliferate throughout the financial system,[51] growing into a vital form of alternative "currency" for dealer banks and their customers.[52] By 2007, short-term money market funding exceeded the value of insured banking deposits.[53]

These short-term claims attempt to functionally replicate banking, but there are critical operational distinctions.[54] The financial alchemy of shadow banking lies in its attempt to transform riskier, less liquid assets into "seemingly credit-risk free, short-term, money-like instruments[.]"[55] For example, MMFs are required to invest in "safe" and diverse short-term debt instruments, including short-term government securities, corporate commercial paper, repos, and CDs; repos are short-term in duration, collateralized, and protected by the bankruptcy laws; CP is also-short term, and CP sponsors often offer credit guarantees. The shadow banking system largely consists of a chain of interconnected intra-financial system claims: MMFs

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BORDERS 72 (2015) ("shadow banking" is "money market funding of capital market lending…."), https://doi.org/10.1142/9156.

[49] *But see* Gabor & Vestergaard, *supra* note 38, at 2 (defining "shadow money" as exclusively "repo liabilities, promises backed by tradable collateral"). MMFs are registered with the SEC as investment companies under the Investment Company Act of 1940; instead of taking deposits and paying interest like a bank, they issue shares and pay dividends, with a requirement that their net asset value (NAV) never falls below $1. *See* Wilmarth, Jr., *supra* note 10, at 458. Repos are short-term loans collateralized by securities, typically Treasuries, U.S. Agency securities, and agency-backed Mortgage-Backed Securities (MBS), but also corporate bonds, municipal bonds, and other asset-backed securities. *See* Duffie, *supra* note 23, at 259. Commercial paper is a short-term IOU contract issued primarily by corporations to fund their immediate spending. *See* Tobias Adrian, Karin Kimbrough & Dina Marchioni, *The Federal Reserve's Commercial Paper Funding Facility*, 17 ECON. POL'Y REV. 25, 26 (2011).

MMFs in particular were a means of arbitraging Reg. Q, which, over time, became functionally ineffective before eventually being repealed, along with the relevant provision of the Banking Act, by the Dodd-Frank Act, effective in July of 2011. *See* Bd. of Governors of the Fed. Rsrv. Sys., Prohibition Against Payment of Interest on Demand Deposits, 76 Fed. Reg. 42015 (July 18, 2011).

[50] Erik F. Gerding, *Credit Derivatives, Leverage, and Financial Regulation's Missing Macroeconomic Dimension*, 8 BERKELEY BUS. L. J. 29, 43–44 (2011).

[51] John Crawford, Lev Menand & Morgan Ricks, *FedAccounts: Digital Dollars*, 89 GEO. WASH. L. REV. 113, 121 (2021).

[52] Gorton, *supra* note 18, at 41.

[53] Marcin Kacperczyk & Philipp Schnabl, *When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–2009*, 24 J. ECON. PERSP. 29, 31–32 (2010); *see also* Morgan Ricks, *Regulating Money Creation After the Crisis*, 1 HARV. BUS. L. REV. 75, 86 (2011); PETER HÖRDAHL & MICHAEL R KING, DEVELOPMENTS IN REPO MARKETS DURING THE FINANCIAL TURMOIL, BANK FOR INT'L SETTLEMENTS QUARTERLY REV. 37, 39 (Dec. 2008) (as of the end of 2007, the "[U]S repo market exceeded $10 trillion (including double-counting of repos and reverse repos), corresponding to around 70% of US GDP….").

[54] Gorton, *supra* note 18, at 30.

[55] Zoltan Pozsar et al., *Shadow Banking*, 19 ECON. POL'Y REV. 1, 7 (2013).

invest in CP, lend via the repo market, and offer significant funding to banks; banks, broker-dealers, and hedge funds are active on various sides of the repo market; and banks issue and sponsor a variety of CP to finance all manner of assets and liabilities.[56]

Private entities capture more of the profit from shadow banking by nominally assuming the risk, through either implicit or explicit commitments by sponsors to honor, guarantee or otherwise support these markets under any and all circumstances.[57] This creates a "risk illusion" that leads to "pervasive underpricing of the risks embedded in these money-like instruments and made them an artificially cheap source of funding."[58] Having "yet to show its ability to stand on its own, since it has grown up largely as a parasitical growth on the old system," however, shadow banking's independence is illusory.[59]

In the first instance, collateral-based secured lending markets depend upon "shadow base money" in the form of sovereign liabilities issued and guaranteed by public authorities.[60] Publicly provided legal protections and support enable the synthesis of an ever-expanding pool of "safe" assets to serve as collateral to accommodate ever-growing volume of shadow banking transactions.[61] Public authorities have also become the repeated buyers of last resort for shadow banking assets during panics.

2. Systemically Important Banks

GSIBs, banks that operate through an FHC model with systemic footprints across a range of financial services, are the outgrowth of financial modernization, and their size, scale, and scope make them the essential nodes in modern financial markets.[62] The 8 designated U.S. GSIBs account for approximately 66% of the $20

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[56] For example, large banks sourced 35% of their short-term, wholesale funding from MMFs and only about 3% of prime MMF assets are invested in nonfinancial firms, meaning they are "essentially vehicles to … provide financing to large … banks…." Samuel G. Hanson, David S. Scharfstein & Adi Sunderam, *An Evaluation of Money Market Fund Reform Proposals*, 63 INT'L MONETARY FUND ECON. REV. 984, 987 (2015). Likewise, the triparty repo market is "critical source of funding for many systemically important broker-dealers that make markets in U.S. government securities." 82 Fed. Reg. 41260. Finally, the largest beneficiaries of CP are financial companies and the market for nonfinancial CP is "trivial." RICKS, *supra* note 10, at 36.

[57] Tarullo, *supra* note 48, at 9-10.

[58] *Id.* at 9.

[59] Mehrling et al., *supra* note 48, at 86.

[60] Hockett & Omarova, *supra* note 10, at 1173-75.

[61] Mehrling et al., *supra* note 48, at 79. The safety of assets often depends on legal construction and proximity to the central bank. *See* Gelpern & Gerding, *supra* note 32, at 383-84, 387-404.

[62] For the most recent list of GSIBs, *see 2020 List of Global Systemically Important Banks (G-SIBs),* FIN. STABILITY BD. 1–3 (2020), https://www.fsb.org/wp-content/uploads/P111120.pdf.

trillion in assets held by all U.S. BHCs.[63] As depicted in Table 1, they operate in an average of 52 different legal jurisdictions, have over $16 trillion in total financial exposures, are responsible for over $13 trillion in assets under management (AUM), hold over $123 trillion in assets under custody (AUC), and process *more than $1 quadrillion* in global payments annually. They also offer critical services and infrastructure to a variety of traditional banking and shadow banking markets.[64]

Table 1: U.S. GSIB financial footprints[65]
Year-end 2020 ($ billions)

GSIB	Total Exposures	Payments Activity	AUC	AUM	Average Jurisdictions
JPMorgan Chase	4,132	402,736	31,369	2,716	56
Bank of America	3,292	138,342	3,501	1,408	52
Citigroup	2,866	176,568	18,671	222	96
Wells Fargo	2,256	53,842	3,477	787	33
Goldman Sachs	1,541	13,066	1,438	2,145	50
Morgan Stanley	1,353	15,636	3,125	781	46
BNY Mellon	464	194,232	32,420	2,200	40
State Street	311	95,195	29,052	3,467	39
Total	**16,215**	**1,089,617**	**123,053**	**13,726**	**52**

GSIBs have "played a central role in the development of shadow banking activities, particularly in the origination, warehousing, securitizing, and funding of credit."[66] As Table 2 illustrates, GSIBs are deeply intertwined with nonbank financial markets, on both the asset and liability sides of their balance sheets, holding $4.5 trillion in nonbanking assets and relying upon $2.5 trillion in funding from the wholesale markets. While their domestic commercial banking subsidiaries hold an average of 62% of their total consolidated assets, nonbanking entities comprise approximately 99.85% of GSIBs' legal structures.[67]

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[63] FIN. STABILITY OVERSIGHT COUNCIL, *2020 Annual Report* (2020), https://home.treasury.gov/system/files/261/FSOC2020AnnualReport.pdf.

[64] For example, GSIBs are dominant providers of custody services as well as clearing services in the triparty repurchase agreement market. *See* Bd. of Governors of the Fed. Rsrv. Sys., Request for Information Relating to Production of Rates, 82 Fed. Reg. 41259, 41260 (Aug. 30, 2017) (Bank of New York Mellon (BNY Mellon) and JPMorgan Chase serve as the two clearing banks in the tri-party repo market).

[65] Fed. Rsrv. Form FR Y-15; company Form 10-K filings.

[66] Pozsar et al., *supra* note 55, at 9.

[67] *See* Avraham, Selvaggi & Vickery, *supra* note 46. Several caveats should be noted: this figure does not include State Street Corp; the percentage of banking assets range from as low as 11% for the former investment banks Goldman Sachs and Morgan Stanley to as high as 93% for Wells Fargo;

Table 2: GSIBs as shadow banking nexus[68]
First quarter 2021, $ billions

GSIB	Total assets (TCA)	Risk-weighted assets (RWA)	RWA/ TCA (%)	Nonbank assets (NBA)	NBA/ RWA (%)	Short-term wholesale funding (STWF)	STWF/ RWA (%)
JPMorgan	3,689	1,548	42	811	52	591	38
Bank of America	2,970	1,488	50	647	43	464	31
Citigroup	2,314	1,238	54	725	59	382	31
Wells Fargo	1,960	1,214	62	226	19	149	12
Goldman Sachs	1,302	617	47	1,098	178	347	56
Morgan Stanley	1,159	439	38	907	207	348	79
BNY Mellon	465	164	35	71	43	108	66
State Street	317	115	36	14	12	50	44
Total	14,176	6,823	48	4,499	66	2,439	36

GSIBs act as primary dealers and "market makers" to the capital markets, clearing the market by holding an inventory of securities and buying or selling in response to market demand.[69] This role comes with an implicit commitment to make markets function effectively as an off-balance sheet contingent liability for GSIBs, in both good times and bad.[70] GSIBs are also prime brokers, intermediaries between nonbank borrowers, usually hedge funds, and lenders like MMFs, using their balance sheets to exchange collateral and funds between these shadow

and assets held under commercial banks can also be used for nonbanking activities through financial subsidiaries (depicted by (5) in Figure 2). *See* 12 U.S.C. § 24a.

68 Fed. Rsrv. Form FR Y-15.

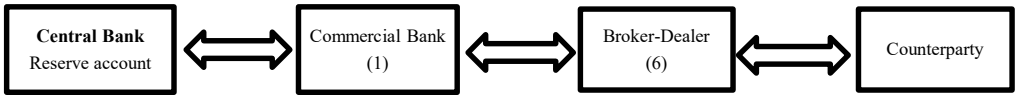
69 JOINT ECONOMIC COMMITTEE, *A Study of the Dealer Market For Federal Government Securities* 15 (1960) (market making in the Treasury market is usually referred to as "the well-known fact that the market for Government securities is an over-the-counter market, and that securities dealers clear the market by buying … or selling"). Market makers must quote prices at which they will buy or sell a security and stand ready to purchase such securities, in amounts proscribed by regulators. Market makers make money from the spread between the prices at which they buy the securities and the price at which they sell them, known as the "bid-ask spread," which tend to be greater for less liquid stocks, due to the increased risk to the market maker.

70 Sissoko, *supra* note 11, at 5 (arguing that the "commitment of a market maker" is "another kind of off-balance-sheet bank commitment … not based on contractual commitments").

banks.[71] Prime brokerage is a concentrated business, with U.S. and global GSIBs providing 85% of hedge funds' borrowing as of 2020.[72]

There is a "balance sheet fusion" between GSIBs' brokerages and insured depository institution (IDI) bank affiliates in the same BHC structure.[73] For example, publicly supported bank deposits finance shadow banking activities through "reserve-draining intermediation" wherein a banking affiliate ((1) in Figure 2, above) drains reserves from its Fed master account into cash deposits that it lends to a broker-dealer ((6) in Figure 2, above) through an internal repo transaction.[74]

Figure 3: Bank funding of shadow banking



GSIBs' broker-dealer affiliates (6) also originate derivative trades with clients, and then enter into back-to-back trades with their bank affiliate (1) to gain access to the "safety net."[75] These transactions illustrate the "strong synergistic relationship between broker-dealers' role in short-term liquidity provision and the traditional banking function of deposit taking."[76]

When dealer activities aren't being funded through publicly insured deposits, they can be financed directly through the Fed, by broker-dealers (6)

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[71] In repo, banks can run a "matched book" where the collateral and duration of two transactions match, engage in maturity transformation when they lend at a longer term than they borrow, or collateral transformation by lending against lower quality collateral than they pledge. *See* GARA AFONSO ET AL., *The Market Events of Mid-September 2019* 6 (2020). Dealers can also facilitate "sponsored" repo, giving MMFs, hedge funds, and other financial companies direct access to a clearing service that stands on both sides of the dealer's trades, providing access to the market without consuming balance sheet space because the trades are netted. *See id.* at 7-8.

[72] FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 63, at 108. U.S. GSIBs supply 50% of the credit, while foreign GSIBs provide 35%. *See id.* As of 2013, banks and other brokers lent $1 trillion to hedge funds via prime brokerage. *See* Tarullo, *supra* note 48, at 4.

[73] Jordan, *supra* note 37.

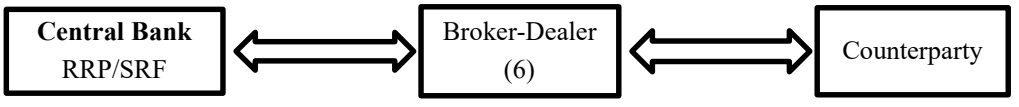
[74] Ricardo Correa, Wenxin Du & Gordon Liao, *U.S. Banks and Global Liquidity* 16–17 (Nat'l Bureau of Econ. Rsch., Working Paper No. 27491, 2020), http://www.nber.org/papers/w27491; *see also* Sissoko, *supra* note 11, at 11 (describing the role of JPMorgan Chase using its commercial bank as repo market maker and clearing bank, using its ability to monetize related assets). In general, extensions of credit from commercial banks to affiliates engaging in dealing or market making must be conducted "on market terms" under section 23B of the Federal Reserve Act. *See* 12 CFR § 225.4(g)(1).

[75] *See*, *e.g.*, Hockett & Omarova, *supra* note 10, at 1196-97.

[76] Correa, Du & Liao, *supra* note 74, at 8-9.

pledging assets or cash in exchange for cash or collateral from its reverse repo and repo lending facilities.[77]

Figure 4: Central bank funding of shadow banking



GSIB dealers' access to central banks as a source of funding and their role dealing in the short-term funding markets position GSIBs as "lenders-of-second-to-last-resort."[78] When private dealers are unable to support these markets, the Fed must then act as the "dealer of last resort."[79] Financial modernization thus resulted in the "transformation of the largest banks from low return on-equity (RoE) utilities that originate loans and hold and fund them until maturity with deposits, to high RoE entities" that use their core banking functions to facilitate a range of shadow banking, much of which is ultimately supported by public authorities.[80]

II. RENEGOTIATING THE SOCIAL CONTRACT

The modern formulation of banking as a social contract is relatively new. Whereas the New Deal structure had endured for nearly 70 years, it took less than a decade for financial modernization to result in a crisis. The causes and consequences of the GFC, as a shadow banking panic transmitted by systemically important BHCs, contradicted the prevailing wisdom that the diversification of universal banks provide stability benefits.[81] Rather than being stabilizing forces

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[77] *Id.* at 34.

[78] *Id.* at 8.

[79] MEHRLING, *supra* note 16, at 106-07, 131, 134.

[80] *See* Pozsar et al., *supra* note 55. This interpretation of the relationship between the central bank, BHCs, and the "shadow banking" system is consistent with recent findings about the creation of the Federal Reserve leading to the transformation of large banks "from being a provider of productive diversification to being a nonproductive pass–through conduit for shadow banks accessing cheaper liquidity without facing costlier regulations." HAELIM ANDERSON, SELMAN EROL & GUILLERMO ORDOÑEZ, *Interbank Networks in the Shadows of the Federal Reserve Act* 3 (2020), https://www.nber.org/papers/w27721.

[81] Research had already begun to complicate this prevailing narrative prior to the 2008 crisis. *See* Kevin J. Stiroh & Adrienne Rumble, *The Dark Side of Diversification: The Case of U.S. Financial Holding Companies*, 30 J. OF BANKING & FIN. 2131 (2006). Ironically, Congress had expressed deep skepticism toward these claims during the early 1980s, in the wake of losses at large U.S. banks resulting from their exposures to oil price shocks and foreign sovereign debt defaults. *See* H. Rep. No. 98-175, 45, 98th Cong., 1st Sess. (1983) ("In the past, the greater size and asset diversification of the larger banks was used to justify the discriminatory capital standards of the agencies. Reference was frequently made to the foreign lending of the large banks as contributing to their portfolio

and sources of liquidity for markets and corporate and household borrowers, as demanded by the social contract, GSIBs became *transmitters* of risk and systemic vulnerability, forcing the Fed to stage an intervention.

A. The Global Financial Crisis as Contract Failure

Shadow banking played a significant role in the GFC, from nonbank broker-dealers to the short-term funding markets.[82] Shadow banking is "depository banking in a different form, but banking nevertheless," which means that, like traditional banking, it is "vulnerable to panic."[83] These panics occur when informationally insensitive "depositors" – in this case, the investors in shadow money instruments relying on private sector guarantees – suddenly become informationally sensitive, and a "run" ensues.[84] MMFs, repo, and various forms of CP experienced funding squeezes, with creditors pulling their funds in a manner akin to a traditional "run on the bank," that spread throughout the financial system.[85] At the same time, large corporations drew on their unfunded lines of credit held at banks, creating additional run-type pressures.[86]

In response to contractions in short-term funding markets, and with private financial institutions unable to stabilize the financial system because the viability of large dealers was then in question, the Fed established a series of facilities to support dealers, repo markets, and a range of other instruments.[87] For example, the Fed supported assets held in MMFs,[88] using $50 billion from the Treasury's

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diversification and reduced need for risk absorbing capital. The events of the past year clearly document the fallacy of such arguments."). The Basel 2 International Capital Accord, adopted prior to the GFC, was nonetheless based upon the flawed premise that more diverse, sophisticated global banks should be permitted to subjected to more permissive solvency standards by calculating their own capital requirements using their superior internal modeling and risk management skills. *See* WILMARTH, JR., *supra* note 10, at 216-220.

82 FIN. CRISIS INQUIRY COMM'N, *supra* note 43, at xx.

83 Gorton, *supra* note 18, at 10.

84 *Id.*; *see also Vic*toria Ivashina & David Scharfstein, *Bank Lending During the Financial Crisis of 2008*, 97 J. FIN. ECON. 319 (2010) (describing refusals to roll over CP and collateral calls by repo lenders as a "bank run … instigated by short-term creditors, counterparties, and borrowers who were concerned about the liquidity and solvency of the banking sector").

85 FIN. CRISIS INQUIRY COMM'N, *supra* note 43, at 367-68 (Wachovia, the large insured commercial bank and thrift, suffered a "'silent run' by uninsured depositors and unsecured creditors sitting in front of their computers, rather than by depositors standing in lines outside bank doors[,]" including CP, brokered deposits, and repos).

86 Ivashina & Scharfstein, *supra* note 84.

87 Darrell Duffie, *Prone to Fail: The Pre-Crisis Financial System*, 33 J. ECON. PERSPECT. 85 (2019).

88 *Id.* at 93.

Exchange Stabilization Fund (ESF),[89] to backstop over $3 trillion in MMF assets.[90] While no public money was paid out to cover MMF losses,[91] this program expanded the "safety net" by providing a form of insurance to financial products created as an arbitrage scheme to evade banking restrictions.[92]

Table 3: The Fed's Financial Crisis Lending Programs[93]
Terms, Conditions & Benefits

Program	Design	Benefits	Peak amounts
Term Auction Facility (TAF)	Auctioned 1 and 3-month discount window loans to depository institutions to address strains in term interbank lending markets	Offered loans at rates 22 to 39 basis points below market rates	$493 billion
Primary Dealer Credit Facility (PDCF)	Overnight cash loans to primary dealers against eligible collateral to address strains in the repo market.	Allowed smaller haircuts for riskier collateral like corporate bonds, allowing borrowers to receive bigger loans	$130 billion
Term Securities Lending Facility (TSLF)	Loans of U.S. Treasury securities to primary dealers against eligible collateral to address strains in the repo market	• Allowed borrowers to use collateral at 32 basis points lower than the market rate. • Allowed borrowing against collateral that was too risky to be accepted in the market, e.g., private-label mortgage- backed securities (MBS)	$236 billion
Commercial Paper Funding Facility (CPFF)	Purchased asset-backed commercial paper (ABCP) and unsecured commercial paper	Provided 3-month funding at interest rates 44 to 92 basis points below the market rate for corporate debt	$348 billion
Total			$1,207 billion

The FDIC also contributed by guaranteeing all new debt issued by banks; combined with its guarantees of noninterest-bearing transaction accounts, the FDIC temporarily guaranteed almost $346 billion in bank liabilities, 79% of which were issued by the 19 largest banks.[94] Finally, the Fed provided regulatory

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89 Russell Munk, *Exchange Stabilization Fund Loans to Sovereign Borrowers: 1982–2010*, 73 LAW & CONTEMP. PROBS. 215, 215 (2010); *see also id.* at 238.

90 *See* CONG. OVERSIGHT PANEL FOR TARP, *March Oversight Report: The Final Report of the Congressional Oversight Panel* (2011), https://www.govinfo.gov/content/pkg/CPRT-112JPRT64832/pdf/CPRT-112JPRT64832.pdf.

91 Kacperczyk & Schnabl, *supra* note 53, at 45.

92 David Zaring, *Administration by Treasury*, 95 MINN. L. REV. 187, 233 (2010).

93 U.S. Gov't Accountability Off. (GAO).

94 CONG. OVERSIGHT PANEL FOR TARP, *supra* note 90, at 30, 36. The FDIC's program, the Temporary Liquidity Guarantee Program (TLGP), was initiated to stabilize banks' short-term

forbearance in the form of exemptions from the legal firewalls between banks and their nonbank affiliates, enabling banks to backstop their affiliates' shadow banking activities, including in conjunction with emergency mergers, acquisitions, or conversions into BHCs.[95]

While the Treasury Department's Troubled Asset Relief Program (TARP) bailout programs received the most public scrutiny during the crisis, TARP never exceeded 19% of the total amount outstanding under all of the government's financial stability programs.[96]

Table 4: Average Financial Support for BHCs by Size[97]
2008 Global Financial Crisis

Assets	Ratio of Support to Assets
≥ $250 billion	11.24%
$50-250 billion	10.28%
$10-$50 billion	5.35%
$1-10 billion	3.05%
$500 million - $1 billion	2.22%
< $500 million	1.54%

As a result of the significant nondeposit funding employed by FHCs' nonbank-dealer affiliates,[98] the largest FHCs were disproportionate recipients of government programs.[99] The scope of these interventions illustrate the interconnectedness of the shadow banking markets,[100] the relationship between

funding, in particular in response to instability in the CP market. *See* S. REP. NO. 111-176 at 6-7 (2010).

95 *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 (2011).

96 CONG. OVERSIGHT PANEL FOR TARP, *supra* note 90, at 37.

97 U.S. Gov't Accountability Off. (GAO).

98 Daniel K. Tarullo, *Thinking Critically about Nonbank Financial Intermediation* (2015), https://www.federalreserve.gov/newsevents/speech/files/tarullo20151117a.pdf. The structure of the broker-dealer business model means that clients can either pull their short-term repo funding or hedge fund clients can seek to pull their collateral; in either instance, a dealer needs to produce cash by selling assets that can lead to "fire sales," creating spillover effects across financial markets. *See* Darrell Duffie, *The Failure Mechanics of Dealer Banks*, 24 J. ECON. PERSPECT. 51 (2010).

99 U.S. GOV'T ACCOUNTABILITY OFF., *Government Support For Bank Holding Companies: Statutory Changes to Limit Future Support Are Not Yet Fully Implemented* 31 (2013), https://www.gao.gov/assets/gao-14-18.pdf.

100 CONG. OVERSIGHT PANEL FOR TARP, *supra* note 90, at 43 (describing the Fed's Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF), which provided loans to commercial banks to purchase asset-backed CP (ABCP) from MMFs).

large FHCs and shadow banking markets, and thus the dependence of regulated FHCs on the Fed's market supports.[101]

The GFC demonstrated how, contrary to the conventional wisdom that diversification provides stability benefits, an FHC's "broker-dealer and asset management activities are not parallel, but serial and complementary activities to FHCs' banking activities."[102] Consolidating the entire credit ecosystem under a single BHC structure in a process that is "highly dependent on liquid wholesale funding and debt capital markets" means that, when a BHC experiences distress, the "capital efficiency" of unregulated shadow banking can suddenly become a capital deficiency with potentially systemic consequences.[103]

The Fed's use of its balance sheet to support shadow banking assets and liabilities during the GFC created an important precedent, signifying a structural shift in the relationship between a public institution and what had theretofore been ostensibly private markets. The Fed's support subsidized risky behavior by offering market participants terms that were more permissive than those prevailing in the marketplace.[104] In doing so, it also created expectations of potential future support, accompanied by the prospect of moral hazard, that would require further regulation to mitigate.[105]

B. Dodd-Frank and "Tailoring" as Contract Negotiations

As the legislative response to the GFC, Dodd-Frank sought to create a "new framework to prevent a recurrence or mitigate the impact of financial crises that could cripple financial markets and damage the economy."[106] Congress vested significant responsibility, authority, and discretion, in the hands of the Fed to safeguard the stability of the financial system.[107] The primary basis for the Fed's macroprudential regulation is section 165 of Dodd-Frank, which requires the Fed

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101 U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 99, at 16. Again, this is consistent with recent studies of the behavior of banks after the passage of the Federal Reserve Act. *See* Anderson, Erol, & Ordoñez, *supra* note 80, at 3 (concluding that "role of financial-center banks was transformed, as they went from being a *provider of private liquidity insurance* to being a *conduit for public liquidity insurance*" (emphasis in original)).

102 Pozsar et al., *supra* note 55, at 10.

103 *Id.*

104 U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 99, at 14-27.

105 Kacperczyk & Schnabl, *supra* note 53, at 48.

106 S. REP. NO. 111-176, at 2.

107 The law contained an estimated 330 provisions that expressly indicated in the text that rulemaking was either required or permitted, 67 of which the Fed was responsible for, the second most of any agency behind the Securities and Exchange Commission. *See* CURTIS W. COPELAND, CONG. RSCH. SERV., R41380, RULEMAKING REQUIREMENTS AND AUTHORITIES IN THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT 4, 7 (2010).

to craft "enhanced prudential standards" for the largest BHCs.[108] The Fed is authorized to establish these macroprudential standards in order to "prevent or mitigate risks to the financial stability of the United States that could arise from the material financial distress or failure, or ongoing activities, of large, interconnected financial institutions[.]"[109] This authority occupies an ambiguous legal space somewhere between a mandate for the Fed to promote financial stability through BHC regulation and an additional basis for the Fed's prudential regulations.[110] Section 165 is a broad provision, giving the Fed considerable discretion in its implementation,[111] including the power to issue *any* prudential standards that it "determines are appropriate."[112]

The law does not define the conditions sufficient to achieve a state of "financial stability,"[113] but other relevant Dodd-Frank provisions offer some guidance. For example, one section identifies entities that "could pose a threat to

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[108] 12 U.S.C. § 5365. An amendment to the law has changed the provision's applicability, but it clearly applies to all BHCs with $250 billion or more in total assets, and could apply to bank holding companies with $100 billion or more in assets. *See* CONG. RSCH. SERV., R45073, *ECONOMIC GROWTH, REGULATORY RELIEF, AND CONSUMER PROTECTION ACT (P.L. 115-174) AND SELECTED POLICY ISSUES* 32–35 (2018).

[109] 12 U.S.C. § 5365(a)(1).

[110] Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations, 79 Fed. Reg. 17240, 17263 (Mar. 27, 2014) (referring to section 165 as the "financial stability mandate of the Dodd-Frank Act"); *see also* Omarova & Tahyar, *supra* note 23, at 129 ("[T]he post-crisis reform is reinventing the [Bank Holding Company Act] … as the basic infrastructure for systemic risk regulation across the entire financial services sector."); Tarullo, *supra* note 35, at 4-5 (citing section 165 as a provision where "financial stability is used as a stated goal motivating a new regulatory or supervisory authority without itself being the standard used in the realization of that authority").

The Senate-passed financial reform bill would have amended the Federal Reserve Act to create a more general, but nonetheless explicit, financial stability responsibility for the Fed, *see* Restoring American Financial Stability Act, S. 3217, tit. XI, § 1158(b) (111th Cong., 2010), but this provision was omitted when the House and Senate bills were reconciled through a bicameral conference committee.

[111] Van Der Weide, *supra* note 8, at 110. At the same time, section 165 was characterized by architects of Dodd-Frank as a mechanism to *constrain* the Fed's discretion by requiring it to act on its regulatory responsibilities. *See* Cheyenne Hopkins, *'New' Powers in Reg Reform Feel Familiar*, AM. BANKER, (Apr. 5, 2010) (quoting a former Treasury official that the Dodd-Frank Act "would not merely authorize, but require, regulators to take stronger actions with respect to constraining risk-taking by the largest firms," because "[w]e learned painfully in the last crisis that authority, while necessary, is insufficient"), https://www.americanbanker.com/news/new-powers-in-reg-reform-feel-familiar.

[112] 12 U.S.C. § 5365(b)(1)(B)(iv).

[113] Tarullo, *supra* note 35, at 8 (Dodd-Frank "provides only limited guidance to regulators on how to implement financial stability where it is established as a standard[.]"); *see also id*. at 9 ("[O]ne does not really find in the statute or in its legislative history an implicit theory of financial stability from which to infer" how regulators should pursue financial stability policy.). The term "systemically important" appears on eight pages of Dodd-Frank, and the law uses the term "systemic risk" 39 times, but neither term is defined.

… financial stability," based upon certain enumerated factors,[114] including both attributes that make the company's business model more fragile, but also the company's importance as a source of liquidity and credit to households, corporations, and financial markets and companies.[115] In addition, the law defines activities that should be regulated "for financial stability purposes" as those which "could create or increase the risk of significant liquidity, credit, or other problems spreading" among financial markets or low-income, minority, or underserved communities.[116] While the precise meaning of the terms encompassed in Dodd-Frank's financial stability title are open to interpretation,[117] strengthening the resilience of large BHCs so that they can "continue serving as financial intermediaries for the U.S. financial system and sources of credit to households, businesses, state governments, and low-income, minority, or underserved communities during times of stress" is an important objective of the Dodd-Frank scheme.[118]

The Fed implemented section 165 through a policy of "macroprudential regulation," a term generally understood as "an effort to control the *social costs* associated with excessive balance sheet shrinkage on the part of multiple financial institutions hit with a common shock."[119] As the sole class of financial institutions currently identified by the U.S. government as "systemically important,"[120] GSIBs are the focal point of the Fed's implementation of the macroprudential policy framework. Protecting the broader wellbeing of society by preserving the balance sheet capacity of large financial institutions to serve as market makers, absorbing inflows of assets during fire sales, or provide loans or credit lines to nonfinancial

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114 12 U.S.C. § 5323(a)(1).

115 12 U.S.C. § 5323(a)(2).

116 12 U.S.C. § 5330(a).

117 MetLife Inc. v. Fin. Stability Oversight Council, 177 F. Supp.3d 219, 227 (D.D.C. 2016) ("The phrase 'could pose a threat to the financial stability of the United States' is open to numerous interpretations.").

118 Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations, 79 Fed. Reg. at 17243.

119 Samuel G. Hanson, Anil K. Kashyap & Jeremy C. Stein, *A Macroprudential Approach to Financial Regulation*, 25 J. ECON. PERSPECT. 1 (2011); *but see* Ben S. Bernanke, Implementing a Macroprudential Approach to Supervision and Regulation 2, May 5, 2011 (the goal of macroprudential regulation is "minimiz[ing] the risk of financial disruptions that are sufficiently severe to inflict significant damage on the broader economy"), https://www.federalreserve.gov/newsevents/speech/files/bernanke20110505a.pdf.

120 Bd. of Governors of the Fed. Rsrv. Sys., Large Institution Supervision Coordinating Cmte., *available at* https://www.federalreserve.gov/supervisionreg/large-institution-supervision.htm. While the GSIB label applies to 8 U.S. BHCs, their business models are not uniform. This group consists of four universal banks, two BHCs that were formerly investment banks, and two BHCs that focus primarily on custody services.

borrowers is therefore understood as a central goal of the Fed's financial stability policy.[121]

The 2016 presidential election truncated the Dodd-Frank implementation effort. The new administration's "deregulatory agenda"[122] supplied the Fed with political cover to focus on "mak[ing] regulation efficient, effective, and appropriately tailored[.]"[123] Beginning in 2017, the focus of macroprudential policy shifted from ensuring the stability of the financial system, to ensuring that rules applicable to large BHCs were "tailored" to fit their business models.[124]

Congress held hearings on whether macroprudential rules had been adequately tailored,[125] culminating in the passage of a 2018 law, the Economic Growth, Regulatory Relief and Consumer Protection Act (EGRRCPA). EGRRCPA elevated the "tailoring" language contained in section 165 from

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[121] Tobias Adrien & Hyun Song Shin, *Money, Liquidity, and Monetary Policy*, 99 AM. ECON. REV. 600, 603 (2009) ("[L]iquidity should be understood in terms of the growth of balance sheets (i.e., as a flow), rather than as a stock."); *see also* Mehrling et al., *supra* note 48, at 85 ("Just as the 'boom' character of expansion can be understood as a consequence of the dealer balance sheet expansion producing plentiful market liquidity, so too can the 'bust' character of contraction be understood as a consequence of dealer balance sheet contraction producing scarce market liquidity."); Hauser, *supra* note 16, at 2 (during COVD-19 there was a "growing imbalance between the size of key markets, and the balance sheet capacity of banks and dealers who have traditionally helped transfer risk smoothly between investors and borrowers").

[122] Tarullo, *supra* note 16, at 2.

[123] Core Principles for Regulating the United States Financial System, Exec. Order No. 13772, 82 Fed. Reg. 9965 (Feb. 3, 2017). As an independent agency, the Fed was not legally bound by the terms of the Executive Order.

[124] According to the Fed Chair, "tailoring," which he defined as "try[ing to] make sure that [the Fed's] regulation is no more burdensome than it needs to be," would now be "at the heart" of the Fed's regulatory efforts. *Monetary Policy and the State of the Economy*, Cmte. on Fin. Svcs., U.S. House of Representatives, S. Hrg. 115–76, at 21 (2018); *see also* Jerome H. Powell, Member, Bd. of Governors of the Fed. Rsrv. Sys., Statement before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, June 22, 2017, at 5 (stating the Fed "should continue to tailor [its] requirements to the size, risk, and complexity of the firms subject to those requirements"), https://www. federalreserve.gov/newsevents/testimony/files/powell20170622a.pdf; *cf.* Randal K. Quarles, *Getting It Right: Factors for Tailoring Supervision and Regulation of Large Financial Institutions* 3, Remarks to the American Bankers Ass'n Summer Leadership Mtg., July 18, 2018 (describing tailoring as an effort to "streamline [the Fed's] framework in a manner that more directly addresses firm-specific risks"), https://www.federalreserve.gov/newsevents/speech/files/quarles20180718a.pdf. The Fed's Vice Chair for Supervision likewise endorsed the objective of tailoring as "good public policy." *Id.* at 1. Dodd-Frank had amended the Federal Reserve Act to create the position of Vice Chairman for Supervision to "develop policy recommendations for the Board regarding supervision and regulation of depository institution holding companies and other financial firms supervised by the Board," and to "oversee the supervision and regulation of such firms." Pub. L. No. 111–203, Tit. XI, at § 1108 (codified at 12 U.S.C. § 242).

[125] *Examining the Regulatory Regime for Regional Banks*, Cmte. on Banking, Housing, and Urban Aff., U.S. Senate, S. Hrg. 114–11, Mar. 24, 2015.

discretionary to mandatory,[126] with the support of Fed policymakers.[127] Post-EGRRCPA, financial regulation had an "apparently exclusive focus … on deregulatory measures."[128] The result was a "kind of low-intensity deregulation, consisting of an accumulation of non-headline-grabbing changes[.]"[129]

1. Enhanced Prudential Standards

As the primary bank solvency measures, capital and leverage regulations are among the most important components of post-crisis macroprudential policy.[130] Capital is a measure of a bank's loss-absorbing liabilities relative to its investments.[131] The Fed's macroprudential capital rules were constructed to

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[126] When passed in 2010, the relevant provision of section 165, titled "tailored application," stated that the Fed "may … differentiate among companies on an individual basis or by category[.]" *See* Pub. L. No. 111-203, tit. I, at § 165(a)(2)(A). EGRRCPA amended section 165 to replace "may" with "shall." *See* The Economic Growth, Regulatory Relief, and Consumer Protection Act, Pub. L. No. 115–174, tit. IV, § 401(a)(1)(B)(i), 132 Stat. 1297 (2018); *see also* Quarles, *supra* note 124, at 1 (noting that EGRRCPA, "directs [the Fed] to further tailor [its] supervision and regulation of large banks").

[127] S. Hrg. 115–76, at 21. The necessity of this particular aspect of EGRRCPA could be lost on even the keenest observers, as prior to EGRRCPA's passage the Fed had sought to tailor a number of its macroprudential standards. *See* 79 Fed. Reg. at 17243 (the enhanced prudential standard regime "increases in stringency based on the nature, scope, size, scale, concentration, interconnectedness, and mix of the activities" and the Fed has "tailored the application of and its supervisory expectations regarding" a number of these standards "based on the size and complexity of covered companies."); *see also* Daniel K. Tarullo, *Rethinking the Aims of Prudential Regulation* 6, Fed. Rsrv. Bank of Chi. Bank Structure Conference, May 8, 2014 (stating the Fed "has essentially created several categories within the universe of banking organizations," and the "unitary approach of the pre-crisis period has been abandoned").

[128] Tarullo, *supra* note 47, at 79.

[129] Daniel K. Tarullo, *Taking the Stress Out of Stress Testing* (2019), https://ourfinancialsecurity.org/wp-content/uploads/2019/05/Tarullo-AFR-Talk.pdf. This approach mirrored, in many ways, the Fed's regulatory philosophy in the lead-up to the GFC, and suggests an un-learning of some important lessons from the 2008 crisis. *See*, *e.g.*, S. Rep. 111-176, at 27-28 (quoting former Fed Chair Volcker that monetary policy is "considered now their primary responsibilities" and that regulation had perhaps "not been pursued with sufficient avidity all the time"); *see also* FIN. CRISIS INQUIRY COMM'N, *supra* note 43, at 34 (quoting former Fed Chair Alan Greenspan describing his approach to regulation that "[t]hose of us who support market capitalism in its more competitive forms might argue that unfettered markets create a degree of wealth that fosters a more civilized existence. I have always found that insight compelling").

[130] Hanson, Kashyap & Stein, *supra* note 119, at 7-12. They are also the first enhanced prudential standards provided by section 165. *See* 12 U.S.C. § 5365(b)(1)(A)(i).

[131] The more capital an institution has, the more it can invest or assume losses, while less capital means fewer available resources to absorb losses or make further investments. The banking capital framework, known as prompt corrective action (PCA), requires the Federal banking agencies to establish minimum capital standards, including restrictions on capital distributions and growth, as regulatory capital minimums are breached, in order to ensure the least possible loss to the FDIC's Deposit Insurance Fund (DIF). *See* 12 U.S.C. § 1831.

include a series of buffers that are "intended to allow banks to build up capital in good times and draw it down in bad times," with restrictions on capital distributions and bonus payouts when GSIBs dip below their regulatory minimums.[132] Under the capital framework, banks that fall below a minimum ration of Tier 1 Common Equity (CET1), a measure of core shareholder equity and retained earnings, to risk-weighted assets (RWA) are subject to progressive restrictions on capital distributions, such as stock buybacks, dividends, and bonus payouts.[133] The Fed also instituted an additional layer of loss absorbency for GSIBs, "calibrated to take into account the disproportionate impact the failure of one of these firms would have on the financial system as a whole."[134] These GSIB surcharges are determined by five factors: cross-jurisdictional activity, size, interconnectedness, short-term wholesale funding, and complexity.[135] The GSIB surcharge is incorporated with the capital conservation buffer, meaning that, in theory, when a GSIB falls below the combined ratio of CET1 plus its GSIB surcharge, it must progressively limit capital distributions, like dividends, stock buybacks, and bonus pools. There is also an optional countercyclical capital buffer (CCyB), a macroprudential policy tool meant to "increase during periods of rising vulnerabilities in the financial system and reduce when vulnerabilities recede."[136]

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[132] Abboud et al., *supra* note 21, at 15.

[133] These rules are known as Risk-Based Capital because the measurement of a bank's assets is adjusted based upon perceived risk, a process known as risk weighting. Banks are subject to a 7% ratio, resulting from the combination of a minimum 4.5% ratio of CET1 to RWA, as well as an additional capital conservation buffer of 2.5%, applicable to the largest BHCs. *See* Ofc. of the Comptroller of the Currency & Bd. of Governors of the Fed. Rsrv. Sys., Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule, 78 Fed. Reg. 62018 (Oct. 11, 2103). These rules were based upon the Basel 3 International Capital Accords, developed by the Basel Committee for Bank Supervision to fill glaring weaknesses in the pre-crisis capital regulatory framework. So-called "advanced approaches" FHCs – then defined as those with $250 billion or more in total assets or $10 billion or more in foreign exposures – are required to calculate their capital ratios using both the standard approach, using a set of standard regulatory-determined models, as well as an internal modeling approach, and then apply whichever result is less favorable. *See* 78 Fed. Reg. at 62029.

[134] Tarullo, *supra* note 47, at 74. The GSIB surcharge was described as the "most important" institution-specific regulation with systemic, macroprudential objectives. Tarullo, *supra* note 16, at 2.

[135] Bd. of Governors of the Fed. Rsrv. Sys., Regulatory Capital Rules: Implementation of Risk-based Capital Surcharges for Global Systemically Important Bank Holding Companies, 80 Fed. Reg. 49081, 49087 (Aug. 14, 2015). This calculation method was adopted by the Fed; under the Basel agreement, surcharges are calculated under an alternative method, known as Method 1, using a substitutability factor rather than STWF, and resulting in a surcharge that, at the time of implementation, ranges from only 1 to 2.5%.

[136] 12 C.F.R. Appx. A to Part 217. The CCyB is intended to guard against losses to the banking system by building resilience and at the same time avoiding some of the broader impacts of monetary

Unlike Risk-Based Capital (RBC), which seeks to calculate the value of an asset based upon its perceived credit risk, a bank leverage ratio counts all assets equally.[137] Post-GFC, large BHCs are subject to a supplementary leverage ratio (SLR), a minimum of Tier 1 Capital to "total leverage exposure," a broader measure of assets including off-balance-sheet exposures like securitizations, derivatives, and securities financing.[138] Because of their systemic footprints, GSIBs are also subject to an Enhanced Supplementary Leverage Ratio (eSLR) requirement at their IDIs consolidated BHCs. [139] GSIBs that fall below the eSLR are subject to graduated restrictions on capital distributions like dividends, stock buybacks, and discretionary bonus payments.[140]

Section 171 of the Dodd-Frank Act, known as the "Collins Amendment," requires the Fed to apply the "generally applicable" capital and leverage requirements for IDIs to BHCs on a consolidated basis.[141] This sets banks' capital rules as a floor, requiring the Fed to apply the IDI's PCA rules at the consolidated BHC level, in effect ensuring that highly leverage nonbank affiliates are protected by additional financial resources at the BHC. Dodd-Frank also codified the requirement for BHCs to serve as a "source of strength" to their IDIS and other subsidiaries,[142] and added a basic requirement for FHCs to be "well capitalized and well managed."[143]

To complement these static capital requirements, the Fed created a dynamic process, the Comprehensive Capital Analysis and Review (CCAR) rule, an annual "stress test" of the largest BHCs' capital adequacy under adverse economic conditions, applying predictive economic modeling to banks' balance sheets and

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tightening. *See* Lael Brainard, *Assessing Financial Stability Over the Cycle* 13 (Dec. 7, 2018), https://www.federalreserve.gov/newsevents/speech/files/brainard20181207a.pdf.

137 As noted above, risk weighting reduces GSIBs' total consolidated assets by an average of 48%. *See infra* Table 2. As a result of their inclusion of all assets, leverage ratios are lower than RBC ratios.

138 78 Fed. Reg. at 62031; *see also* Tarullo, *supra* note 47, at 65. The SLR applies only to the largest BHCs because "these banking organizations tend to have more significant amounts of off-balance sheet exposures that are not captured by the current leverage ratio." 78 Fed. Reg. at 62031.

139 Ofc. of the Comptroller of the Currency, Bd. of Governors of the Fed. Rsrv. Sys. & Fed. Deposit Ins. Corp., Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and Their Subsidiary Insured Depository Institutions, 79 Fed. Reg. 24528 (May 1, 2014). The agencies' SLR rule cites Section 165 of the Dodd-Frank Act as its legal basis. *See id.* at 24529.

140 78 Fed. Reg. at 51106. The eSLR is constructed as the benchmark for "well capitalized" under PCA for the IDI; for the holding company, the "enhanced" portion of the SLR ratio is considered a 2% buffer, similar to the capital conservation buffer. *Id.* at 51100-01.

141 12 U.S.C. § 5371(b).

142 Pub. L. No. 111-203, at § 616(d), codified at 12 U.S.C. § 1831o–1.

143 Pub. L. No. 111-203, at § 606(a).

plans for capital distributions.[144] The Fed required large BHCs to submit annual capital plans – their proposals for distributing capital to shareholders – for review and approval.[145] For a capital plan to receive approval, BHCs were to maintain the minimum 4.5% CET1 ratio throughout every scenario, planned capital distributions included.[146]

Table 5: GSIB capital and leverage ratios[147]
Minimum CET1 requirements for capital payouts

Rule	Ratio	Denominator
GSIB capital	8%-11.5%	Risk-weighted assets
eSLR	5%	Total leverage exposures
CCAR	4.5%	Risk-weighted assets

These enhanced prudential standards have particular impacts upon GSIBs' dealer activities. First, they tie a GSIB's capital requirements to its use of wholesale funding,[148] resulting in higher average surcharges than those required under the international Basel 3 Accord, and capture certain hedge fund lending activities, including repo, based upon counterparty, duration, and structure.[149]

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144 The Fed has noted that CCAR is "not mandated by the Dodd-Frank Act, [but] the [Fed] believes that it is appropriate to hold large bank holding companies to an elevated capital planning standard because of the elevated risk posed to the financial system by large bank holding companies and the importance of capital in mitigating these risks." Bd. of Governors of the Fed. Rsrv. Sys., Capital Plans, 76 Fed. Reg. 35351, 35352 (June 17, 2011).

145 Bd. of Governors of the Fed. Rsrv. Sys., Capital Plans, 76 Fed. Reg. 74631 (Dec. 1, 2011).

146 Bd. of Governors of the Fed. Rsrv. Sys., Amendments to the Capital Plan and Stress Test Rules, 80 Fed. Reg. 43637, 43638 (July 23, 2015). The Fed had also initially left open the possibility that it might incorporate the SLR, as well as some or all of the GSIB surcharge, into firms' required CCAR minimums. *See id.* at 43638-39. That proposal has never been implemented. *See* Tarullo, *supra* note 129, at 6.

147 From the Fed. Rsrv.

148 Tarullo, *supra* note 48, at 12-13.

149 AFONSO ET AL, *supra* note 71, at 7-8 ("matched book" repo transactions are captured by the capital rules but "sponsored repo" is not due to transaction netting conventions). In addition, the leverage ratio attempts to measure some assets that receive favorable netting treatment as derivatives contracts, thereby allowing the 8 U.S. GSIBs to reduce their total consolidated assets by nearly $2.4 trillion, combined, relative to more stringent international accounting rules. *See* David Feliba & Rehan Ahmad, *The World's 100 Largest Banks, 2021*, S&P Global Market Intelligence (Apr. 23, 2021), https://www.spglobal.com/marketintelligence/en/news-insights/research/the-worlds-100-largest- banks-2021.

Table 6: Impact of short-term wholesale funding on U.S. GSIB surcharges[150]

A Comparison of Method 1 & Method 2 Surcharges, 2015

GSIB	Method 1	Method 2	% difference
BNY Mellon	1%	1%	--
State Street	1%	1.5%	+ 50%
Wells Fargo	1%	2%	+ 100%
Morgan Stanley	1%	3%	+ 200%
Goldman Sachs	1.5%	3%	+ 100%
Bank of America	1.5%	3%	+ 100%
Citigroup	2%	3.5%	+ 75%
JPMorgan Chase	2.5%	4.5%	+ 80%
Mean			**+ 88%**

Second, the enhanced leverage ratios incorporate assets that are otherwise viewed as riskless under capital rules, including a GSIB's borrowing to finance inventories of Treasuries and certain repos.[151] The denominator also measures off-balance-sheet assets and other forms of shadow banking collateral used in routine dealer activities, such as derivatives collateral received and pledged, written credit derivatives on a notional basis, off-balance sheet security financing transaction exposure, off-balance-sheet unfunded lending commitments, and off-balance-sheet standby letters of credit and other guarantees.[152] Third, as part of the stress tests, GSIBs with large trading operations are required to replicate a global market shock and to stress their trading books, private-equity positions, and counterparty exposures to ensure they can continue intermediating during capital market disruptions.[153] Finally, the Collins Amendment ensures that all capital and leverage rules apply not just to banks, but to nonbank subsidiaries as well; should the

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150 From the Fed. Rsrv.

151 Jeremy C. Stein, *The Fire-Sales Problem and Securities Financing Transactions* 10-11 (2013), https://www.federalreserve.gov/newsevents/speech/files/stein20131004a.pdf. *But see* Correa, Du, & Liao, *supra* note 74, at 17 (so-called "reserve-draining" intermediation does not impact the bank's balance sheet for leverage ratio purposes).

152 NINA BOYARCHENKO ET AL., *Bank-Intermediated Arbitrage* (2018), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr858.pdf.; *see also* Pozsar et al., *supra* note 55, at 10 ("The exposure of BHCs to shadow bank entities increases the effective leverage of the BHC, even though that might not be obvious from looking at the balance sheet because much shadow banking activity is designed to be conducted off balance sheet. The implicit leverage in turn exposes BHCs to credit and liquidity risk and represents an important source of systemic risk.").

153 The list of BHCs subject to the global market shock scenario and the counterparty default scenario are available here: https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200206a.htm.

functional regulator of a nonbank dealer subsidiary of an FHC relax its solvency standards, the BHC could still provide capital support.[154]

This structure is designed to preserve a GSIB's capital base so that it can continue to support the "real economy" by providing liquidity through lending, dealing and market making through both the peaks and troughs of the economic cycle. The macroprudential framework treats capital distribution as a secondary concern behind institutional solvency, and places private shareholders that profit from a bank's public powers and privileges in a first-loss position ahead of the public that stands behind the banking system. In addition, the capital planning component of the CCAR process was a significant symbolic and substantive government intervention, with the Fed acting as the public's representative under the social contract and serving as the ultimate arbiter of GSIBs' annual capital allocation processes.

Such was the state of play when a change in Fed leadership led the shift toward "tailoring" that decreased macroprudential capital, leverage, and stress testing requirements. The Fed issued a rule to replace the flat capital conservation buffer add-on with a floating "stress capital buffer" (SCB). The SCB proposal was meant to "improve the efficiency and risk-sensitivity" of the capital framework,[155] ironically, by replacing a flat percentage requirement with a complex formula based upon a number of assumptions.[156] The Fed eliminated the "quantitative objection" contained in the original CCAR regime, and also largely relieved BHCs from seeking prior approval to distribute capital in excess of the amounts outlined in their capital plans.[157] The Fed thus retreated from its role as public intervenor in

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[154] For example, in 2004, the SEC relaxed its Net Capital Rule, the minimum solvency standard applicable to SEC-supervised broker-dealers. *See* Kara M. Stein, *Remarks Before the Peterson Institute of International Economics* (June 12, 2014), https://www.sec.gov/news/speech/remarks-peterson-institute-international-economics.

[155] Bd. of Governors of the Fed. Rsrv. Sys., Regulations Q, Y, and YY: Regulatory Capital, Capital Plan, and Stress Test Rules, 85 Fed. Reg. 15576, 15577 (Mar. 18, 2020).

[156] Examples include forward-looking projected losses, a BHC's expected dividend payouts over an arbitrary (and generally industry-friendly) time horizon, and subjective measurements of the perceived riskiness of a BHC's assets. Other examples of the rule's subjectivity and embedded value judgments include the Fed's assumption that a BHC will maintain a static balance sheet under stress, *see* 85 Fed. Reg. at 15579-80, a fact contradicted by crisis experience; arbitrary calculations concerning BHCs' dividend payout amounts; and determinations that limiting capital distributions to an average of distributions over prior quarters will sufficiently preserve capital during a crisis, *see id*. at 15581.

[157] 85 Fed. Reg. at 15582-15583. The Fed had previously narrowed the bases upon which it could issue qualitative objections for issues like risk management and control deficiencies. *See id.* at 15582. Notably, in 2018, two GSIBs had exceeded their permitted capital distributions, but, rather than failed their stress tests, the Fed issued a "conditional non-objection," a first-of-its-kind dispensation allowing them to pay out $5 billion more in shareholder distributions and avoid re-taking the stress test. *See* Liz Hoffman & Lalita Clozel, *Morgan Stanley, Goldman Got Help From Fed on Stress Tests*, WALL ST. J. (July 2, 2018, 9:29 PM), https://www.wsj.com/articles/wall-street-gets-the-friendlier-fed-its-been-waiting-for-1530558419.

BHCs' capital planning processes, deferring to management in all but the most exceptional of circumstances.

GSIBs also began using a tactic known as "window dressing" to manage their balance sheets around reporting dates and accounting conventions in order to reduce the size of their derivatives exposures, thereby lowering their reported GSIB surcharge scores.[158] Further, Fed research has found that GSIB surcharges have remained substantially below the optimum levels required to meet the surcharges' financial stability goals, particularly for GSIBs that rely on significant amounts of short-term wholesale funding.[159] During this period, the Fed never used the CCyB,[160] missing an opportunity to increase the resilience of GSIBs at the peak of the economic cycle and lessen their incentives to pull back on lending during a downturn.

The Fed also eased its SLR requirements. In addition to its delay incorporating the SLR into stress tests and capital plans for some BHCs, the Fed removed the stress tests' basic stress leverage ratio. The SCB proposal initially included a "stress leverage buffer" which was then omitted from the final rule,[161] effectively removing the binding restriction on banks' capital distributions.[162] The Fed expressed concerns that GSIBs' eSLR could "reduce participation in or increase costs for lower-risk, lower-return businesses, such as secured repo financing, central clearing services for market participants, and taking custody deposits, notwithstanding client demand for those services."[163] It therefore

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158 Jared Berry, Akber Khan & Marcelo Rezende, *How Do U.S. Global Systemically Important Banks Lower Their Capital Surcharges?*, FEDS Notes (Jan. 31, 2020), https://doi.org/10.17016/2380-7172.2480. For other examples of the impacts of GSIBs' business decision making as a tool for managing GSIB surcharge scores, see Zach Fox & Francis Garrido, *Systemically Important Banks Increase Cross-Border Exposures*, S&P Global Market Intelligence (Nov. 12, 2018, 9:56 AM), https://platform.mi.spglobal.com/web/client?auth=inherit#news/article?id=47534821&cdid=A-47534821-12333. Engaging in this type of gaming can have financial stability implications, as large BHCs' balance sheet compression around regulatory reporting periods was cited as a factor contributing to the repo market disruptions that occurred in 2019. *See infra* section III.A.2.

159 Wayne Passmore & Alexander H. von Hafften, *Are Basel's Capital Surcharges for Global Systemically Important Banks Too Small?*, Fin. and Econ. Discussion Series 2017-021 (2017) (finding that GSIB surcharges should be raised 375 to 525 bps for all GSIBs, include a short-term funding metric that further boosts capital surcharges 175 to 550 bps for certain GSIBs, and create an additional lower bucket with a capital surcharge of 225 bps for very large banks that are not currently subject to any GSIB surcharge), https://doi.org/10.17016/FEDS.2017.021.

160 Press Release, "Federal Reserve Board votes to affirm the Countercyclical Capital Buffer (CCyB) at the current level of 0 percent," Bd. of Governors of the Fed. Rsrv. Sys. (Mar. 6, 2019, 4:45 PM), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20190306c.htm.

161 85 Fed. Reg. at 15582.

162 Tarullo, *supra* note 47, at 72.

163 Ofc. of the Comptroller of the Currency & Bd. of Governors of the Fed. Rsrv. Sys., Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for U.S. Global Systemically Important Bank Holding Companies and Certain of Their Subsidiary Insured

proposed lowering the eSLR from a flat add-on above the basic SLR to an amount equal to 50% of a GSIB's surcharge.[164]

Echoing the Fed's criticisms of the leverage ratio, BHCs that specialize in providing custody services lobbied for the exclusion of central bank deposits in the asset calculation in the SLR and eSLR,[165] on the basis that custody services are low-risk and administrative in nature. EGRRCPA provided the requested relief by statutorily excluding deposits at the Fed and certain other foreign central banks that are "linked to fiduciary or custodial and safekeeping accounts" from the denominator of the SLR and eSLR, a change that especially benefited the two U.S. GSIB custody banks.[166] Like any other GSIBs, however, custody banks are FHCs that engage in shadow banking functions that have experienced stress during panics.[167] In addition, even assets that are "safe" credit risks can be vulnerable to liquidity or operational risk, a historically relevant issue for custody banks[168] that became a factor during COVID-19 as banks transferred to remote work.

Depository Institutions; Total Loss-Absorbing Capacity Requirements for U.S. Global Systemically Important Bank Holding Companies, 83 Fed. Reg. 17317, 17319-20 (Apr. 19, 2018).

[164] *Id.* at 17321. Reducing the eSLR, Fed leadership argued, was "critical to mitigating any perverse incentives and preventing distortions in money markets and other safe asset markets[,]" an argument that would continue during and after the COVID-19 crisis. *See* Jerome H. Powell, Member, Bd. of Governors of the Fed. Rsrv. Sys., Statement before the Cmte. on Banking, Housing, and Urban Aff. 8, U.S. Senate, June 22, 2017, https://www.federalreserve.gov/newsevents/testimony/files/powell20170622a.pdf; *see also* S. Hrg. 115–76, at 27 (testimony of Fed Chair Jerome Powell that the eSLR "seem[ed] to be deterring some low-risk wholesale-type activities that we really want financial institutions to engage in").

[165] Letter from State Street Corp., Joint Notice of Proposed Rulemaking – Enhanced Supplementary Leverage Ratio Standards for Certain Bank Holding Companies and their Subsidiary Insured Depositary Institutions 13 (Oct. 21, 2013), https://www.federalreserve.gov/SECRS/2013/October/20131030/R-1460/R-1460_102113_111418_579521830781_1.pdf; *see also* Letter from State Street Corp., Joint Notice of Proposed Rulemaking – Regulatory Capital Rules: Regulatory Capital, Proposed Revisions to the Supplementary Leverage Ratio 4-8 (June 13, 2014), https://www.fdic.gov/regulations/laws/federal/2014/2014-supplementary_leverage_ratio-3064%E2%80%93AE12-c_08.pdf.

[166] Pub. L. No. 115–174, tit. IV, at § 402.

[167] For example, BNY Mellon was required to support at least five of its MMFs, resulting in a $425 million after-tax loss. *See* FIN. CRISIS INQUIRY COMM'N, *supra* note 43, at 357. State Street's asset-backed commercial paper (ABCP) conduits deteriorated during the crisis, leading to a 60% drop in the bank's stock price, requiring the bank to transfer the conduits back onto its balance sheet for support. Custody banks received significant assistance from crisis-era support programs, including the FDIC's Temporary Liquidity Guarantee Program. *See* Statement by Martin J. Gruenberg, Member, Board of Directors, FDIC, "Revisions to the Supplementary Leverage Ratio Capital Rule for Custody Banks," Mar. 29, 2019 Thus, when banking agencies crafted the original SLR and eSLR rules, they considered the custody argument, and had chosen to address them using a solution that balanced the burdens on custody operations during a crisis "flight to safety" against the risks from potential "hot money" outflows. *See* 79 Fed. Reg. 24528, 24535 (May 1, 2014).

[168] Fin. Stability Oversight Council, 2018 Annual Report 110 (revised June 20, 2019) ("[A] temporary service disruption [at BNY Mellon], such as an operational failure, could impair the [Treasury repo] market, as participants may not have a ready alternative platform to clear and settle

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These are not the Fed's only macroprudential regulations. For example, liquidity regulation is a central part of the post-crisis framework.[169] This discussion does not focus on liquidity regulations because they do not "penalize" banks for holding "safe" assets, and activities like matched book repo dealing do not incur any liquidity exposure under liquidity rules.[170] Although they may restrict or otherwise influence BHCs balance sheet allocation during normal times, if supervisors allow dealers to draw on their liquidity buffers, then they should not impact the capacity to provide liquidity during panics.[171]

2. Activity Restrictions

In addition to bolstering GSIBs through macroprudential regulations, Dodd-Frank sought to refocus certain aspects of the GSIB business model on supporting productive, rather than speculative, economic activities. As was the case with the enhanced prudential standards, however, Dodd-Frank's activity limits underwent a degradation from robust to "tailored."

Section 619 of Dodd-Frank, the provision known as the "Volcker Rule," prohibits "banking entities," defined as IDIs, BHCs, and their subsidiaries or affiliates, from engaging in proprietary trading.[172] Banks are also prohibited from

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these transactions."), https://home.treasury.gov/system/files/261/FSOC2018AnnualReport.pdf; *see also* Ofc. of Fin. Research, *Size Alone is Not Sufficient to Identify Systemically Important Banks* 8, OFR Viewpoint 17-04 (Oct. 2017) (in 1985, BNY Mellon "received a $23 billion discount-window loan from the Federal Reserve after an operational failure left the firm unable to redeliver securities it had received as an intermediary from other institutions").

169 The basic contours of liquidity rules require large BHCs to maintain a minimum amount of "safe" and liquid assets in good times, that they are then expected to monetize in times of stress. Banking regulators finalized a Liquidity Coverage Ratio (LCR) rule, which is part of bank liquidity standards required by Basel III and section 165 of the Dodd-Frank Act, requiring BHCs to hold a minimum level of investments easily converted into cash. *See* Ofc. of the Comptroller of the Currency, Bd. of Governors of the Fed. Rsrv. Sys., & Fed. Deposit Ins. Corp., Liquidity Coverage Ratio: Liquidity Risk Measurement, Standards, and Monitoring, 79 Fed. Reg. 61,440 (Oct. 10, 2014). Advanced approaches banks must hold minimum amounts of high-quality, liquid assets (HQLA) that can be converted easily and quickly into cash during a 30-day period of financial and economic stress. An asset can qualify as a HQLA if it is less risky, has a high likelihood of remaining liquid during a crisis, is actively traded in secondary markets, is not subject to excessive price volatility, can be easily valued, and is accepted by the FRB as collateral for loans. HQLA are subject to haircuts based upon their risk profiles, and sorted into categories.

170 Stein, *supra* note 149, at 9.

171 Similarly, the "Volcker Rule" should not be a factor, all else being equal, because the rule does not apply to trading U.S. government obligations, such as Treasury securities, or market making activities generally. *See* 12 CFR § 248.6(a)(1).

172 The provision is named after its intellectual architect, former Fed Chair Paul Volcker. *See* Press Release, "Remarks by the President on Financial Reform," The White House, Jan. 21, 2010, https://obamawhitehouse.archives.gov/the-press-office/remarks-president-financial-reform.

acquiring or retaining any ownership interest in or sponsoring a hedge fund or a private equity fund in excess of 3% of the total ownership interests of the fund, nor are such ownership interests or sponsorships allowed to exceed 3% of the Tier 1 capital of the banking entity.[173]

The Volcker Rule was framed as the modern successor to Glass-Steagall,[174] while nonetheless permitting FHCs to "continue to engage in client-oriented, risk-reducing, or other traditional banking activities that facilitate the formation and deployment of capital."[175] For example, the rule does not apply to market making or trading Treasury securities.[176] Prime brokerage is also exempted, notwithstanding the fact that "prime brokerage could expose banking entities … to heightened risk, as evidenced during the crisis by the 'run' on many financial institutions by their prime brokerage clients."[177]

Section 716 of Dodd-Frank, known as the "Lincoln Amendment," prohibited LOLR support and FDIC insurance or guarantees to entities that engage in certain swaps and security-based swaps activities, largely equity, credit, commodity, and other structured derivatives.[178] Estimates found that the provision would only apply to 6% of the notional value of the derivatives dealt by the 11 large BHCs covered by the amendment, arguably a small subset of the riskiest derivatives, and that the four largest bank derivatives dealers accounted for 94% of the covered derivatives.[179] Nonetheless, during the legislative debate, the Fed resurfaced specious arguments about the financial stability benefits of modern financial conglomerates, arguing that the Lincoln Amendment "'would make the U.S. financial system less resilient and more susceptible to systemic risk' because 'forcing [commercial and hedging activities] out of insured depository institutions would weaken both financial stability and strong prudential regulation.'"[180]

These activity limits were also subsequently "tailored" into more permissive standards. The Fed Chair testified to Congress that the Lincoln

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173 Pub. L. No. 111-203, at § 619.

174 Sen. Jeff Merkley & Sen. Carl Levin, *The Dodd-Frank Act Restrictions on Proprietary Trading and Conflicts of Interest: New Tools to Address Evolving Threats*, 48 HARV. J. LEGIS. 515 (2011).

175 *Id.* at 539.

176 12 CFR § 248.6(a)(1).

177 Merkley & Levin, *supra* note 174, at 547.

178 Pub. L. No. 111-203, at § 716. The provision's requirement that BHCs conduct certain classes of swaps activities out of separately capitalized affiliates, such as a broker-dealer, rather than their insured banks, gave rise to the provision's nickname as the "Swaps Pushout Rule." *See* John Crawford & Tim Karpoff, *The Swaps Pushout Rule: Much Ado About the Wrong Thing?*, 6 HARV. BUS. LAW REV. ONLINE 16 (2015).

179 *Perspectives on the Swaps Push-Out Rule*, U.S. GOV'T ACCOUNTABILITY OFF., *Perspectives on the Swaps Push-Out Rule* (2017), https://www.gao.gov/assets/gao-17-607.pdf.

180 The Swaps Regulatory Improvement Act, H. REP. NO. 113-229, pt. 2, at 2 (2013) (quoting Letter from Ben Bernanke, Chairman of the Board of Governors of the Federal Reserve System, to Senator Chris Dodd (May 12, 2010)).

Amendment was "proving difficult," and would "likely increase costs of people who use the derivatives and make it more difficult for the bank to compete with foreign competitors[.]"[181] In December 2014, Congress included a provision in its annual appropriations bill significantly narrowing the Lincoln Amendment,[182] effectively applying it to just four bank swaps dealers and only $265 billion in notional swaps value, as opposed to an estimated 11 dealers and $10.5 trillion in notional value as originally enacted.[183]

Fed officials also voiced concerns about various aspects of the Volcker Rule and its impacts.[184] The coordinated rulemaking implementing the Volcker Rule was a protracted undertaking that lasted for more than three years, with the final rule issued in December 2013.[185] The Volcker Rule regulation was then revised in 2019 to exempt a range of short-term trading holdings from the proprietary trading ban, and change the metrics for measuring which trading activities are subject to the rule.[186] In 2020, the restrictions against investments in certain types of private funds were also relaxed.[187] These amendments reduced the estimated amount of trading assets subject to the rule by 25% at the holding company level and 46% at the insured bank level, the impacts of which would "effectively undo the Volcker Rule prohibition on proprietary trading."[188] As a result, the rule would "no longer impose a meaningful constraint on speculative proprietary trading by banks and bank holding companies[.]"[189]

Finally, in a further dilution of the firewall between banks and their nonbank affiliates, in the summer of 2020, the Fed finalized a rule exempting banks' derivatives trades with nonbank affiliates from the requirement that banks collect initial, exposure-reducing margin.[190] The proposal argued that the initial margin requirement drove banks to borrow "increasing amounts of cash in the debt

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181 *Id.* at 3-4.

182 Crawford & Karpoff, *supra* note 178.

183 U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 179, at 20-22.

184 Cheyenne Hopkins & Ian Katz, *Regulators Consider Easing Volcker Trading Rules*, BLOOMBERG (Nov. 7, 2014, 12:30 PM), https://www.bloomberg.com/news/articles/2014-11-07/regulators-consider-easing-volcker-trading-rules.

185 Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships with, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536 (Jan. 31, 2014).

186 Lalita Clozel, *Banks Get Some Relief in Volcker-Rule Changes*, WALL ST. J., https://www.wsj.com/articles/regulators-ease-proprietary-trading-compliance-for-biggest-banks-11566311407 (last updated Aug. 20, 2019, 4:51 PM).

187 Pete Schroeder, *U.S. Banking Regulators Ease Rules Around Firm Investments, Internal Trading*, REUTERS (June 25, 2020, 7:14 AM), https://www.reuters.com/article/us-usa-banks-trading/u-s-banking-regulators-ease-rules-around-firm-investments-internal-trading-idUSKBN23W2AJ.

188 Martin J. Gruenberg, Statement on the Volcker Rule (Aug. 20, 2019), https://www.fdic.gov/news/speeches/spaug2019b.html.

189 *Id.*

190 Margin and Capital Requirements for Covered Swap Entities, 85 Fed. Reg. 39754 (July 1, 2020).

markets to fund eligible collateral, placing additional demands on their asset-liability management structure[.]"[191]

3. Lender of Last Resort

Dodd-Frank also cabined the Fed's emergency lending authority under the third undesignated paragraph of section 13 of the Federal Reserve Act, the provision used to launch the myriad money market support programs during the GFC. These reforms were meant to preserve the Fed's LOLR authority while preventing the moral hazard associated with rescuing individual companies.[192] The Fed is generally required to limit its 13(3) assistance to programs with broad-based eligibility, prohibited from assisting insolvent institutions, and subject to enhanced transparency and reporting requirements.[193] Policymakers frequently argued that this would limit the Fed's discretion in another crisis, and that emergency lending authority should instead be expanded.[194] However, Fed staff conceded that they would likely not be constrained from re-launching the emergency support programs for the repo, CP, and other credit markets again,[195] foreshadowing the coming events of the COVID-19 crisis.

Further narrowing the scope of financial sector supports the Emergency Economic Stabilization Act (EESA), the 2008 law that created the TARP program, prohibited the Treasury Department from using the ESF to guarantee any future MMF support programs.[196] Dodd-Frank then restricted FDIC's authority to provide unlimited guarantees for bank debt by requiring a joint determination by the FDIC and Fed of a "liquidity event" and subjecting any guarantees to limits and Congressional approval.[197]

As Congress was narrowing the Fed's LOLR authority in some respects, the Fed was expanding it by creating a reverse repo lending facility (RRP) to help

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191 Margin and Capital Requirements for Covered Swap Entities, 84 Fed. Reg. 59970, 59976 (Nov. 7, 2019). The rule change allegedly made it possible for bank-affiliated dealers to reallocate approximately $39.4 billion in cash and "safe" assets collateral to invest in higher yielding assets or distribute to shareholders. *See* Letter from Tara Kruse, Glob. Head of Infrastructure, Data and Non-Cleared Margin, Int'l Swaps & Derivatives Ass'n, Inc., to Off. Of Chief Counsel, Off. of the Comptroller of the Currency, et al., at 4 (Dec. 9, 2019), https://www.isda.org/a/yUxTE/Final-ISDA_Margin-NPR-Comment-12.9.19.pdf.

192 S. REP. NO. 111-176, at 6 (2010).

193 12 U.S.C. § 343; *see also* 12 C.F.R. § 201.4(d) (2021).

194 Tarullo, *supra* note 47, at 77.

195 U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 99, at 53.

196 Emergency Economic Stabilization Act of 2008, Pub. L. No. 110–343, § 132(b), 122 Stat. 3765, 3798 (2008).

197 Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1105, 124 Stat. 1376, 2121-25 (2010).

manage its extraordinary monetary policy.[198] The RRP facility "effectively grants shadow banks – dealers and money funds – a checking account at the Federal Reserve for the very first time in U.S. monetary history."[199] RRP usage by money market lenders began increasing at the end of each quarter, coinciding with the GSIB surcharge and other regulatory reporting dates when banks engage in "window dressing" to minimize their scores; by shrinking their balance sheets, MMFs have fewer options, shifting their funds to the RRP facility.[200]

At the same time the regulatory pendulum was swinging, the financial market was in a fragile state. This culminated in the COVID-19 crisis when, as result of GSIBs' inability to provide needed liquidity to financial markets, the Fed reprised its dealer-of-last resort role on an even broader scale than it had in 2008.

III. REPUDIATING THE CONTRACT

While the onset of the COVID-19 pandemic ushered in a full-blown financial market crisis in response to governments' announced escalating COVID case numbers and stringent public health measures and business restrictions, the COVID-19 financial crisis cannot be understood in isolation. The financial panic,

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198 Josh Frost et al., *Overnight RRP Operations as a Monetary Policy Tool: Some Design Considerations,* Finance and Economics Discussion Series 2015-010, Wash.: Bd. of Governors of the Fed. Rsrv. Sys., 7–8 (2015), https://www.federalreserve.gov/econresdata/feds/2015/files/2015010pap.pdf. Given the large amount of reserves in the banking system following the extraordinary monetary policy measures following the 2008 crisis, the Fed determined that it needed another way to control the Fed funds rate and decrease the amount of reserves in the banking system. *See id.* at 4.

At the same time, a private task force, with participation from FRBNY and SEC staff and under the auspices of an FRBNY-sponsored industry advisory committee, addressed some specific vulnerabilities in a subset of the repo market known as the tri-party repo market, primarily by reducing the extension of intraday credit for triparty repo transactions and to improve risk management practices. *See* Task Force on Tri-Party Repo Infrastructure, Payments Risk Committee, Final Report (Feb. 15, 2012). Many of the recommendations, though not all, were eventually instituted. *See* Press Release, Update on Tri-Party Repo Infrastructure Reform, Fed. Rsrv. Bank of N.Y. (June 24, 2015). https://www.newyorkfed.org/newsevents/statements/2015/0624_2015.html.

199 Zoltan Pozsar, *Shadow Banking: The Money View* 10 (Off. of Fin. Rsch., Working Paper No. 14-04, 2014), https://www.financialresearch.gov/working-papers/files/OFRwp2014-04_Pozsar_ShadowBankingTheMoneyView.pdf. Indeed, 85% of the facility's uptake consisted of MMFs at its outset. Frost et al., *supra* note 198, at 10. The RRP could act as a public counterparty, displacing private lenders, a desirable outcome in the event that BHCs were to pull back from their dealer obligations. *See id.* at 12-13.

This has the potential to increase the available supply of safe asset collateral, but also to increase the risks of a market-wide "flight to safety" from private institutions to the Fed during strained conditions. *See id.* at 14-16, 18. While 13(3) emergency lending could help reduce this "flight to quality," it was thought that "some limitations in these tools and in the Federal Reserve's ability to employ some of them expeditiously suggest some caution regarding the efficacy of a potential response to disruptive flight-to-quality flows." *Id.* at 20.

200 Frost et al., *supra* note 198, at 10.

and government actions to prop up the financial system, must be understood within a broader context that incorporates the experience of the GFC and its responses, the novel undertaking of macroprudential regulation, as well as the signs of increasing fragility of our financial markets and institutions during this period.

A. The Pre-COVID Money Markets

The COVID-19 pandemic may have been the first crisis-magnitude test of the Fed's macroprudential approach, but it was not the only moment of fragility in the post-2008 crisis era. Gaining a full appreciation of the implications of the Fed's macroprudential policy decisions requires examining financial market events that transpired between the bookends of the 2008 and COVID crises. These episodes both foreshadowed the events to come during COVID and offered useful contrasts in their respective regulatory responses.

1. The Treasury Market

In May and June of 2013, the Treasury market experienced a selloff and a decline in liquidity largely attributed to congressional testimony by then-Fed Chair Ben Bernanke about the Fed's intention to wind down its asset purchases under the quantitative easing (QE) program.[201] Dealer positions declined during the selloff period, as overall dealer risk-taking had during the post-crisis period.[202] Notwithstanding theories that post-crisis regulations capital and leverage limitations constrained dealer balance sheets from allowing them to provide liquidity, "dealers with greater ability to take on risk prior to the selloff actually sold off more[,]" concluding that "dealer behavior during the selloff appears to have been driven more by differences in risk appetite than by regulatory constraints."[203]

More than a year later, on October 15, 2014, the Treasury market again experienced unusual volatility, with the yields and the "bid-ask" spread, between the rates to buy and sell securities, widening to ranges generally only seen during three particularly consequential events since 1998.[204] That one of the safest asset classes in the world experienced such unexplained behavior "in so short a time with

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[201] Tobias Adrian et al., *Dealer Balance Sheet Capacity and Market Liquidity during the 2013 Selloff in Fixed-Income Markets*, FED. RSRV. BANK N.Y.: LIBERTY STREET ECONOMICS (Oct. 16, 2013), https://libertystreeteconomics.newyorkfed.org/2013/10/dealer-balance-sheet-capacity-and-market-liquidity-during-the-2013-selloff-in-fixed-income-markets.html. This episode was referred to as the "taper tantrum."

[202] *Id.*

[203] *Id.*

[204] U.S. DEP'T OF THE TREASURY ET AL., JOINT STAFF REP.: THE U.S. TREASURY MARKET ON OCTOBER 15, 2014 17 (2015), https://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_report_Treasury_10-15-2015.pdf.

no obvious catalyst [was] unprecedented in the recent history of the Treasury market."[205] A government postmortem cited as potential causes a variety of macroeconomic variables,[206] as well as changes in the market structure,[207] the composition of the counterparties in the Treasury market, and some unusual trading activity.[208] Importantly, the report concluded that there was limited evidence as to whether regulations had inhibited dealers' market-making and therefore bore any responsibility for dealers' inability to offer sufficient intermediation during the episode.[209]

2. The Repo Market

In September 2019, the repo markets experienced another dislocation, as overnight repo borrowing rates spiked to about 5%—a significant increase from their normal rate in the range of around 2%.[210] In response to the sudden spike in rates, and the associated risk that markets could begin to malfunction, the New York Fed's open markets desk announced its intention to conduct an overnight repo operation, making $75 billion in reserves available to the market for several days.[211]

Speculation about the causes of the sudden spike in rates in the repo market focused on two coinciding factors that may have simultaneously increased the supply of Treasury repo collateral reducing the cash available for investment: corporations withdrawing cash from MMFs and other vehicles to satisfy a quarterly tax payment on the same day that a sizeable Treasury auction settled.[212] Dealers engaging in "window dressing," shrinking their balance sheets to maximize their

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205 *Id.* at 1.

206 *Id.* at 17-18.

207 *Id.* at 41-44. The overall size of the Treasury market had nearly tripled from $4.3 trillion pre-GFC to $12.6 trillion in 2015. *See id.* at 40. This change can likely be attributed to a variety of factors from the Fed's QE policies to the demand for "safe" assets.

208 *Id.* at 33-34.

209 *Id.* at 38. Indeed, in Congressional testimony, the Fed said that available data did not support the argument that regulation had impacted market liquidity, particularly as applied to the Treasury market. *Examining Current Trends and Changes in the Fixed-Income Markets*, Joint Hearing before the Subcomm. on Securities, Insurance, and Investment and the Subcomm. on Econ. Pol'y, Comm. on Banking, Housing, and Urban Affs., 114th Cong. 114–319, at 9 (Apr. 14, 2016) (statement of Hon. Jerome H. Powell, Governor, Bd. Of Governors of the Fed. Rsrv. Sys.).

210 AFONSO ET AL., *supra* note 71, at 1.

211 Sriya Anbil, Alyssa Anderson & Zeynep Senyuz, *What Happened in Money Markets in September 2019?*, FEDS NOTES (Feb. 27, 2020), https://www.federalreserve.gov/econres/ notes/ feds-notes/what-happened-in-money-markets-in-september-2019-20200227.htm. The Fed also announced its intention to continue repo operations until the beginning of 2020. *See id.*

212 *Id.*; *see also* AFONSO ET AL., *supra* note 71, at 17-21.

reported ratios around the quarter-end reporting deadline for certain regulations, was again cited as a factor in the reduction of market liquidity.[213]

B. The COVID-19 Financial Crisis as Failure Redux

As with the markets that ossified during the GFC, the COVID-19 financial crisis implicated products that participants "may treat as cash equivalents during economic calm but not during crisis."[214] Markets reacted negatively to the anticipated economic impacts of pandemic-driven public health and policy developments in mid-to-late-March 2020, with bid-ask spreads between borrowing and lending in the Treasury-backed repo markets widening, disrupting a market with normally tight spreads.[215] CP borrowers also pulled back, worrying that lenders would not roll over their short-term financing in tightening economic conditions.[216] MMF investors withdrew $150 billion from funds that invest in CP due to a sudden desire for cash and concerns about MMFs' ability to liquidate their assets.[217] At the same time, needing access to credit to fill a sudden revenue gap, large Fortune 500 corporations drew down their standing revolving lines of credit at large banks,[218] much as they had done during the GFC. As businesses' credit demand increased, banks contracted the available supply of credit by raising borrowing costs and tightening lending standards.[219]

Liquidity in the Treasury markets declined, likely as a result of a

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[213] *Id.* at 8-9. Responsibility for the episode was also directed at bank regulation and supervision, especially liquidity regulations. *See, e.g.*, Nathan Stovall, *Financial Plumbing Prone to Clogging Amid Bank Liquidity Trap*, S&P GLOB. MKT. INTEL. (Oct. 31, 2019), https://www.spglobal.com/marketintelligence/en/news-insights/blog/financial-plumbing-prone-to-clogging-amid-bank-liquidity-trap. however, these regulations had been in place for some time before the market issues, reducing their likelihood as an explanation for a sudden disruption in the money markets years after their implementation. *See id.* at 2.

[214] Letter from Randal K. Quarles, Chairman, Fin. Stability Bd., to G20 Fin. Ministers and Cent. Bank Governors, at 3 (July 14, 2020), https://www.fsb.org/wp-content/uploads/P150720-1.pdf.

[215] Lorie K. Logan, Exec. Vice President, Mkts. Grp., Rsrv. Bank of N.Y., *The Federal Reserve's Recent Actions to Support the Flow of Credit to Households and Businesses*, Remarks before the Foreign Exch. Comm., Fed. Rsrv. Bank of N.Y. (Apr. 14, 2020), https://www.newyorkfed.org/newsevents/speeches/2020/log200414.

[216] *Id.*

[217] *Id.*

[218] Serena Ng, *Another Problem for the Fed: Banks Pressured as Clients Scramble for Cash*, WALL ST. J. (Mar. 16, 2020, 7:55 PM), https://www.wsj.com/articles/another-problem-for-the-fed-banks-pressured-as-clients-scramble-for-cash-11584356272; *see also* Arash Massoudi, Judith Evans, Joe Rennison, Stephen Morris & Eric Platt, *AB InBev Draws Down Entire $9bn Loan Facility*, FIN. TIMES (Mar. 16, 2020), https://www.ft.com/content/2e7ae3b6-679b-11ea-800d-da70cff6e4d3.

[219] *See* David Arseneau, José Fillat, Donald Morgan, Molly Mahar & Skander Van den Heuvel, *The Main Street Lending Program*, FED. RSRV. BANK OF BOS.: CURRENT POL'Y PERSPS. 5 (Sept. 24, 2021), https://www.bostonfed.org/publications/current-policy-perspectives/2021/the-main-street-lending-program.aspx.

combination of factors including financial companies selling assets to meet potential customer redemptions, levered hedge funds seeking to liquidate their positions and move into cash, and a lack of available dealer balance sheet from carrying higher-than-normal inventories of Treasuries and other assets.[220] As a result of dealers reaching the limits of their capacity to serve as market makers, private market participants were unable to absorb a variety of assets that included Treasuries and Treasury exchange-traded funds (ETFs).

Much of the responsibility for the Fed's COVID-19 interventions focused on nonbank risks, the preliminary consensus has been that the implosion of a cash basis trading strategy by levered hedge funds was a precipitating event for repo market dislocation,[221] and the measures supporting the repo market were framed as a "hedge fund bailout."[222] While hedge funds amplify risks and vulnerabilities,[223] many of these risks originate from, or flow through, FHCs, especially their prime brokerage services.[224] As a result, GSIBs' dealer function was implicated in the sudden evaporation of market liquidity, as major dealers pulled back from a number of markets and prime brokers withdrew credit from their hedge fund clients.[225] More generally, although GSIBs have reduced their reliance on the money markets, they still receive an average of 43% of their funding from the short-term wholesale markets.[226] Thus, as a consequence of its "tailoring" policies, the Fed put itself in the position of taking a number of actions that were consistent with, and at times identical to, its previous crisis-era actions, in order to support GSIBs so that they could continue providing liquidity, and in some cases directly filling the gaps left by GSIBs' retrenchment.

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220 FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 63, at 27-28.

221 *Id.* at 29. *But see* BD. OF GOVERNORS OF THE FED. RSRV. SYS., FINANCIAL STABILITY REPORT 34-35 (Nov. 2020) ("[S]o far, the evidence that large-scale deleveraging of hedge fund Treasury positions was the primary driver of the turmoil remains weak.").

222 Smialek & Solomon, *supra* note 1.

223 Yellen, *supra* note 2.

224 *See, e.g.*, BOYARCHENKO ET AL., *supra* note 150, at 9 (prime brokerage services include lending money or securities for the purposes of increasing hedge funds' leverage and improving returns on their clients' trades).

225 Jiakai Chen et al., *Did Dealers Fail to Make Markets during the Pandemic?*, FED. RSRV. BANK OF N.Y.: LIBERTY ST. ECON. (Mar. 24, 2021), https://libertystreeteconomics.newyorkfed.org/2021/03/did-dealers-fail-to-make-markets-during-the-pandemic.html; *see also* Randal K. Quarles, Vice Chair for Supervision, Bd. of Governors of the Fed. Rsrv. Sys., BANK FOR INT'L SETTLEMENTS (BIS), *What Happened? What Have We Learned From It? Lessons from COVID-19 Stress on the Financial System* (Oct. 19, 2020), https://www.bis.org/review/r201019d.htm ("The intense and widespread selling pressures appear to have overwhelmed dealers' capacity or willingness to absorb and intermediate Treasury securities."); *see also* Yellen, *supra* note 2 (noting that there was a "[R]eduction in the supply of liquidity by dealers…"); *see also* FINANCIAL STABILITY OVERSIGHT COUNCIL, *supra* note 63, at 108 (prime brokerage lending declined by $275 billion in March 2020, more than three times the contraction of repo market borrowing).

226 *See infra* Table 2.

1. Monetary Policy and LOLR

In essence, the COVID-19-era Fed reprised its 2008 role as the dealer or market maker of last resort to the short-term financing markets.[227] Beginning in mid-March 2020, the FOMC announced that it was "prepared to use its full range of tools to support the flow of credit to households and businesses" in order to counteract any potential negative economic consequences of COVID-19.[228] The Fed again employed section 13(3) to lend to primary dealers, support the purchase of MMF assets, offer repo loans, and support the CP market.[229] The U.S. Treasury made a $10 billion equity investment in a special-purpose vehicle (SPV) re-established to administer the CPFF and a $10 billion equity investment in the SPV administering TALF,[230] pursuant to the Coronavirus Aid, Relief, and Economic Security (CARES) Act, the emergency economic support legislation passed in response to the COVID-19 pandemic. The CARES Act also reversed EESA's limitations on the ESF, allowing the Treasury to invest $10 billion in credit protection from the ESF into the SPV administering the MMMLF.[231] In an expansion of its 2008 actions, the Fed provided additional capital market lending to nonfinancial corporations by creating a facility to purchase ETFs that hold corporate bonds, including junk bonds,[232] purchasing about $8 billion in shares of corporate bond ETFs as of July 2020.[233]

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[227] Perry G. Mehrling, *A Money View of the Pandemic*, B.U. GLOB. DEV. POL'Y CTR. (Mar. 26, 2020), http://sites.bu.edu/perry/2020/03/26/a-money-view-of-the-pandemic/.

[228] Press Release, Federal Reserve Issues FOMC Statement, Bd. Of Governors of the Fed. Rsrv. Sys. (Mar. 15, 2020), https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.

[229] *Id.*

[230] *See* Bd. of Governors of the Fed. Rsrv. Sys., Periodic Report: Update on Outstanding Lending Facilities Authorized by the Board under Section 13(3) of the Federal Reserve Act, at 3 n.2 (Aug. 8, 2020), https://www.federalreserve.gov/publications/files/nonlf-noelf-pdcf-mmlf-cpff-pmccf-smccf-talf-mlf-ppplf-msnelf-mself-msplf-8-10-20.pdf; *see also id.* at 6 n.6.

[231] Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116–136, § 4015, 134 Stat. 281, 481 (2020) [hereinafter *The CARES Act]*; *see also* Bd. of Governors of the Fed. Rsrv. Sys., *Report to Congress Pursuant to Section 13(3) of the Federal Reserve Act: Money Market Mutual Fund Liquidity Facility*, at 1-2 (2020), https://www.federalreserve.gov/publications/files/money-market-mutual-fund-liquidity-fac ility-3-25-20.pdf.

[232] Nick Timiraos, *Fed Unveils Major Expansion of Market Intervention*, WALL ST. J. (Mar. 23, 2020, 9:20 PM), https://www.wsj.com/articles/federal-reserve-announces-major-expansion-of-market-supports-11584964844.

[233] Matt Wirz & Tom McGinty, *Fed Discloses More Corporate Bond and ETF Purchases*, WALL ST. J. (July 10, 2020, 2:45 PM), https://www.wsj.com/articles/fed-bought-about-1-3-billion-corporate-bonds-in-late-june-11594396039. The Fed's ETF purchases effectively expanding the Federal "safety net" of support to encompass ETFs, as well as the three largest assets managers that are the predominate sponsors of such funds. *See* Cezary Podkul & Dawn Lim, *Fed Hires BlackRock to Help Calm Markets. Its ETF Business Wins Big.*, WALL ST. J. (Sept. 18, 2020, 1:31 PM), https://www.wsj.com/articles/fed-hires-blackrock-to-help-calm-markets-its-etf-business-wins-big-

As the below table demonstrates, the amounts lent were significantly lower than those provided in 2008. The Fed largely achieved its objective by *committing* to provide *as much support as necessary* to stabilize the markets. In a similarly important symbolic commitment, the CARES Act temporarily repealed the Dodd-Frank restrictions on the FDIC's bank debt guarantee authority by pre-authorizing any guarantees of bank debt that the FDIC might deem necessary.[234]

Table 8: Fed Emergency Lending During COVID-19[235]
Terms, Conditions & Restrictions

Program	Purpose	Peak outstanding	Issuer restrictions
Commercial Paper Funding Facility (CPFF)	Provide a liquidity backstop to commercial paper issuers of by purchasing 3-mo. unsecured CP and ABCP	$4.2 billion	None
Primary Dealer Credit Facility (PDCF)	Term loan facility providing funding to primary dealers	$34.5 billion	None
Money Market Mutual Fund Liquidity Facility (MMMLF)	Funding to U.S. IDIs and BHCs to finance their purchases of certain types of assets from MMFs	$51 billion	None
Term Asset-backed Securities Loan Facility (TALF)	Loans to U.S. companies secured by AAA-rated asset-backed securities (ABS) backed by consumer and business loans	$4.1 billion	None
Total:	$93.8 billion		

In furtherance of the purpose of the CARES Act to "provid[e] liquidity to the financial system that supports lending to eligible businesses, States, or municipalities[,]"[236] the law contained provisions restricting dividends and stock buybacks; however, these applied only to direct loan programs and lending programs targeted at mid-sized businesses.[237] Yet, no comparable restrictions were applied to the Fed's money market support programs. In December 2020, the Treasury Department rescinded the funds it provided to the Fed to support the CARES Act facilities, with Congress subsequently prohibiting the Fed from re-

11600450267 (of the 16 ETFs purchased by the Fed, eight were BlackRock's iShares funds, and funds managed by the "big three" made up 99% of the Fed's ETF portfolio). These Big Three asset managers are also among the 4 largest shareholders of the 5 biggest U.S. commercial banks. *See* José Azar, Sahil Raina & Martin Schmalz, *Ultimate Ownership and Bank Competition* (2019), https://ssrn.com/abstract=2710252.

234 *See* Pub. L. No. 116–136 at § 4008.

235 From the Fed. Rsrv.

236 *Id.* at § 4003(b).

237 *Id.* at § 4003(c)(3)(A)(ii), -(D).

opening such programs.[238] At the same time, the Fed extended through at least March 2021 the MMMLF, CPFF, and PDCF facilities,[239] ensuring that these supports for shadow banking markets would remain in existence for over a year. Thus, while the scope of the CARES Act's financial support was sweeping, it did not contain equal terms for all recipients, and the government's assistance programs were not always administered evenhandedly.

2. Banking Regulation

The Fed also took a series of regulatory and supervisory actions in response to COVID-19, beginning with encouraging BHCs to dip into their capital and liquidity buffers to fund additional lending.[240] It announced that it was prepared to again offer exemptions, as it had during the 2008 crisis, from legal firewalls preventing IDIs from supporting nonbank affiliates, specifically to allow IDIs to support their affiliated broker-dealers and MMFs.[241] Despite an otherwise global

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[238] Letter from the Hon. Steven T. Mnuchin to Hon. Jerome H. Powell (Nov. 19, 2020), https://home.treasury.gov/system/files/136/letter11192020.pdf; *see also* Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, §§ 1103-1006, 134 Stat. 281, 2145-47 (2020).

[239] Press Release, Bd. Of Governors of the Fed. Rsrv. Sys., Federal Reserve Board Announces Extension Through March 31, 2021, for Several of its Lending Facilities that were Generally Scheduled to Expire on or Around December 31 (Nov. 30, 2020), https://www.federalreserve.gov/newsevents/pressreleases/monetary20201130a.htm. In May 2021, well after the conclusion of the COVID-19 financial crisis, the Fed also granted State Street Corp., the largest borrower from the MMLF, special relief from counting its borrowing from the MMLF in the calculation of its GSIB surcharge score, reducing its score by 18 bps and thereby reducing State Street's applicable GSIB surcharge from 1.5% to 1%. *See* Letter from Anne E. Misback, Sec'y of the Bd., Governors of the Fed. Rsrv. Sys., to David C. Phelan, Exec. Vice President and Gen. Couns., State St. Corp. (May 13, 2021), https://www.federalreserve.gov/supervisionreg/legalinterpretations/bhc_changeincontrol20210513a.pdf.

[240] Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Fed. Deposit Ins. Corp., Ofc. of the Comptroller of the Currency, Statement on the Use of Capital and Liquidity Buffers (Mar. 17, 2020), https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20200317a1.pdf.

[241] Template Letter from Ann E. Misback, Sec'y of the Bd., Bd. of Governors of the Fed. Rsrv. Sys. (Mar. 17, 2020), https://www.federalreserve.gov/supervisionreg/legalinterpretations/fedreserseactint20200317.pdf; *see also* Template Letter from Ann E. Misback, Sec'y of the Bd., Bd. of Governors of the Fed. Rsrv. Sys. (Mar. 17, 2020), https://www.federalreserve.gov/supervisionreg/legalinterpretations/fedreserseactint20200318.pdf. According to publicly available information, the large BHC PNC used the exemption to support its securities affiliate in March 2020, and the large asset manager Vanguard used the exemption to permit its trust bank to invest capital in an MMF in January 2021. *See* Letter to Joseph M. Otting (Mar. 25, 2020), https://www.federalreserve.gov/supervisionreg/legalinterpretations/fedreserseactint20200325.pdf; *see also* Letter to Blake Paulson (Jan. 29, 2021), https://www.federalreserve.gov/supervisionreg/legalinterpretations/fedreserseactint20210129.pdf. In addition to these exemptions, there were also reports that Bank of New York Mellon supported a MMF affiliate by purchasing $1.2 billion in assets to cover investor redemptions. *See* Richard Henderson & Robert Armstrong, *BNY Mellon Steps in to Support Money Market Fund After Outflows*, FIN. TIMES, Mar. 20, 2020, https://www.ft.com/content/8222c5a2-6ad3-11ea-800d-da70cff6e4d3.

consensus among central banks favoring a suspension of dividends and stock buybacks,[242] however, the Fed took no such steps in the first half of 2020. By mid-March, GSIBs collectively announced that they would *voluntarily* suspend stock buybacks, which had accounted for 70% of big banks' capital distributions in prior years, but not dividends.[243]

During the summer of 2020, the Fed reported BHCs' CCAR results, including a special "sensitivity analysis" incorporating scenarios that could better reflect the economic impact of COVID-19. This analysis contained several assumptions that did not reflect the reality of the situation. For example, banks were assumed to experience immediate growth in their loan portfolios, but their balance sheets were assumed to remain static thereafter.[244] In addition, the analysis did not account for the capital distributions that banks made during the first half of 2020; had it done so, BHCs would have had an estimated across the board reduction in capital of 50 basis points. Even still, one-quarter of the 33 analyzed BHCs fell below the minimum 4.5% capital ratio in the most extreme economic scenario.[245]

In response to this analysis, the Fed temporarily suspended large BHCs' stock buybacks and imposed a cap on dividends not to exceed either the lesser of the amount paid out in prior quarters or the BHC's recent net income.[246] The Fed's actions were more interventionist than its previous approach, but its dividend policy still allowed large BHCs to deplete their capital at a time of uncertainty, potentially hampering their future ability to support the economy.[247] Following a subsequent round of stress tests in December 2020, the Fed loosened restrictions

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242 Agustin Carstens, *Bold Steps to Pump Coronavirus Rescue Funds Down the Last Mile*, FIN. TIMES, (Mar. 29, 2020), https://www.ft.com/content/5a1a1e9c-6f4d-11ea-89df-41bea055720b.

243 David Benoit, *Biggest U.S. Banks Halt Buybacks to Free Up Capital for Coronavirus*, WALL ST. J. (Mar. 15, 2020), https://www.wsj.com/articles/biggest-u-s-banks-halt-buybacks-to-free-up-capital-for-coronavirus-response-11584315565; *see also* Press Release, Randal K. Quarles, Vice Chair for Supervision, Bd. of Governors of the Fed. Rsrv. Sys. (June 25, 2020), https://www.federalreserve.gov/newsevents/pressreleases/quarles-statement-20200625c.htm.

244 BD. OF GOVERNORS OF THE FED. RSRV. SYS., ASSESSMENT OF BANK CAPITAL DURING THE RECENT CORONAVIRUS EVENT (2020), https://www.federalreserve.gov/publications/files/2020-sensitivity-analysis-20200625.pdf.

245 *Id.* at 14.

246 *Id.* at 1.

247 Press Release, Governor Brainard (June 25, 2020), https://www.federalreserve.gov/newsevents/pressreleases/brainard-statement-20200625c.htm. Former Fed Governor Daniel Tarullo noted that this policy is based upon backward-looking measures that do not reflect current or future financial conditions. *See* Daniel K. Tarullo, *Are We Seeing the Demise of Stress Testing?*, BROOKINGS INST. UP FRONT (2020), https://www.brookings.edu/blog/up-front/2020/06/25/stress-testing/.

While the Fed has never articulated an explicit policy against suspending bank dividends, its SBC rule states that it will assume, for the purposes of capital rules and stress testing, that banks will continue paying dividends on all Tier 1 and Tier 2 capital, because, "[b]ased on supervisory experience, reductions in these payments are generally viewed by market participants as a sign of material weakness, and firms are therefore likely to make them even under stressful conditions." 85 Fed. Reg. at 15579.

on dividends and buybacks.[248] Banks promptly announced their intent to distribute billions of dollars in capital to shareholders.[249]

At the same time that the Fed was permitting GSIB to distribute their capital, it granted regulatory forbearance from the SLR and eSLR rules by temporarily excluding Treasury securities and central bank reserves.[250] The Fed argued that banks are essential intermediaries in the money markets, especially in their roles as primary dealers during times of stress; cited the widening spreads in the Treasury markets; and argued that banks required relief from the leverage ratio in order to continue serving as reliable intermediaries.[251] The Fed noted that Treasuries and central bank reserves carry no credit risk.[252] These episodes demonstrate, however, that the "safety" of an asset is situational, depending upon factors such as an asset's intended purpose, its attributes, and an institution's risk-

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[248] BD. OF GOVERNORS OF THE FED. RSRV. SYS., DECEMBER 2020 STRESS TEST RESULTS (2020), https://www.federalreserve.gov/publications/files/2020-dec-stress-test-results-20201218.pdf.

[249] Laura Noonan, Robert Armstrong & James Politi, *Federal Reserve Frees Up U.S. Banks to Resume Share Buybacks*, FIN. TIMES (Dec. 18, 2020) (quoting Federal Reserve Board Governor Lael Brainard that the Fed's decision "nearly doubles the amount of capital permitted to be paid out relative to last quarter"), https://www.ft.com/content/16ec2a4d-b39a-4ecf-b0b6-af5f4469d18b.

[250] Bd. of Governors of the Fed. Rsrv. Sys., Temporary Exclusion of U.S. Treasury Securities and Deposits at Federal Reserve Banks from the Supplementary Leverage Ratio, 85 Fed. Reg. 20578 (2020). The change would reduce the amount of capital required to meet the leverage ratio by an estimated $76 billion, and allow for up $1.6 trillion in additional leverage exposure. *See* 85 Fed. Reg. at 20579 (2020).

Shortly thereafter, all three banking regulators instituted a rule allowing depository institutions to elect to exclude Treasuries and reserves from the SLR, subject to prior approval on capital distributions. *See* Ofc. of the Comptroller of the Currency, Bd. of Governors of the Fed. Rsrv. Sys. & Fed. Deposit Ins. Corp., Regulatory Capital Rule: Temporary Exclusion of U.S. Treasury Securities and Deposits at Federal Reserve Banks from the Supplementary Leverage Ratio for Depository Institutions, 85 Fed. Reg. 32980 (June 1, 2020). These changes roughly coincided with the effective date of the regulations implementing the provision of EGRRCPA excluding Treasuries and central bank reserves from the denominator of the leverage ratio for GSIB custody banks.

[251] 85 Fed. Reg. at 20579. In particular, the Fed noted that "[l]arge holding companies have cited balance sheet constraints for their broker-dealer subsidiaries as an obstacle to supporting the Treasury market." *Id.* at 20580. The literature on this issue suggests that factors other than the leverage ratio may affect dealers' ability to provide liquidity, and that institutions subject to a leverage ratio are able to provide liquidity for longer in stress conditions. *See infra* Section IV.B.1. There is also an important distinction between minimum regulatory requirements and financial institutions' discretionary internal risk management policies, such as internal trading limits, and business strategies, which may or may not be consistent with the letter or spirit of such regulations. *See* AFONSO ET AL., *supra* note 71, at 22; *see also* INT'L MONETARY FUND, *supra* note 7, at 23-25. Some policymakers have acknowledged that such factors likely played a role in the COVID-19 financial crisis. *See* Quarles, *supra* note 225 ("Limits on dealers' intermediation capacity may be driven by their internal capital, liquidity, and risk-management practices, their compliance with regulations and supervisory expectations, or concerns over their profit and loss statements.").

[252] 85 Fed. Reg. at 20580.

bearing capacity.[253] With the exception of central bank reserves, no asset enjoys truly universal "safe" status, and the assumption of universal safety can itself fuel systemic risk if market sentiment is suddenly and unexpectedly disrupted.[254]

In March 2021, the Fed announced that it would allow the temporary SLR relief to expire, however, it also noted that its scrutiny of the leverage ratio had not concluded. It may "need to address the current design and calibration of the SLR over time to prevent strains from developing that could both constrain economic growth and undermine financial stability[,]" and would therefore "soon be inviting public comment on several potential SLR modifications[,]"[255] foreshadowing potential, and more permanent, regulatory relief to come.[256]

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[253] Gelpern & Gerding, *supra* note 32, at 372 (citing the International Monetary Fund's five principal functions of safe assets). For example, while there may not be significant *credit* risk in prime brokerage involving Treasury-backed repo, there is *liquidity* risk in monetizing a large amount of Treasury holdings to meet a surge in customer demand. *See* Randal K. Quarles, Vice Chair for Supervision, Bd. of Governors of the Fed. Rsrv. Sys., The Economic Outlook, Monetary Policy, and the Demand for Reserves 9, Feb. 6, 2020 ("[I]t may be difficult to liquidate a large stock of Treasury securities to meet large 'day one' outflows. For firms with significant capital market activities, wholesale operations, and institutional clients (such as hedge funds), this scenario is not just theoretical. In the global financial crisis, several firms experienced outflows exceeding tens of billions of dollars in a single day."). The high-velocity nature of these markets, and their reliance on collateralized lending, subjects them to "time-critical liquidity," the requirement that assets will be as liquid as they must be at all times and under all market conditions, and especially during anomalous market conditions. *See* Gabor, *supra* note 11, at 49.

The modern secured lending markets create interconnections between institutions and exposures to fluctuations in collateral valuation that impacts financial system leverage and drains market liquidity during a race for collateral in responses to margin calls. *See id.*; *see also* Pozsar et al., *supra* note 55, at 15. For a sense of the scale, Pozsar and Singh have estimated that the amount of off-balance-sheet collateral at large international banks was $5.8 trillion in 2010. *See* Zoltan Pozsar & Manmohan Singh, The Nonbank-Bank Nexus and the Shadow Banking System 10, Int'l Monetary Fund Working Paper No. 11/289 (Dec. 2011). For a discussion of the dynamics of collateral, balance sheets, and leverage, see Manmohan Singh & Zohair Alam, *Leverage—A Broader View* (Int'l Monetary Fund, Working Paper No. 18/62, 2018).

[254] Gelpern & Gerding, *supra* note 32, at 409. In fact, 2013 was not the first time that the Treasury markets experienced signs of fragility. The failure of some dealers in government securities in the early 1980s prompted Congress to enact the Government Securities Act of 1986, imposing standards for solvency, customer protection, securities custody, and books and records for government securities dealers, including primary dealers. *See* S. Rep. No. 103-109, at 7-8.

[255] Press Release, Fed. Rsrv. Bd., Federal Reserve Board Announces that the Temporary Change to Its Supplementary Leverage Ratio (SLR) for Bank Holding Companies Will Expire as Scheduled on March 31 (Mar. 19, 2021), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20210319a.htm.

[256] Banks had mounted a public lobbying effort for the leverage ratio exemption to be made permanent beyond COVID-19. *See* Colby Smith & Laura Noonan, *U.S. Banks Push Fed for Extension of COVID Capital Relief*, FIN. TIMES (Feb. 11, 2021), https://www.ft.com/content/91f43572-414c-48d1-af80-857b9fa2fb18; *see also* Harry Terris, *JP Morgan Argues for Extension as Breather on Capital Rule Nears Expiration*, S&P GLOB. MKT. INTEL. (Feb. 1, 2021),

The experiences before and during the COVID-19 crisis reveal important lessons about the role of GSIBs as obligors under the social contract, the effectiveness of the Fed as contract enforcer, and the ultimate impact that the foregoing policies and actions have in determining the shape of our economy.

IV. REDEEMING THE SOCIAL CONTRACT

Warnings about the fragility of GSIBs under "tailored" macroprudential rules proved prescient during the COVID-19 crisis.[257] As with the GFC, treating COVID-19 as an exclusively nonbank problem obfuscates GSIBs' failures as liquidity providers and the significant assistance that they received from the Fed's interventions.[258] Throughout this period, the societal importance of GSIBs as a source of liquidity was cited as a justification for deregulatory measures and LOLR support;[259] however, it is unclear that these policies achieved their intended effect, as banks failed to draw on the capital buffers constructed under the macroprudential framework.[260] The Fed then used the CARES Act and other legal authorities to establish facilities to help banks lend to small- and medium-sized businesses,[261] essentially assuming the role of "commercial bank of last resort for the entire economy[.]"[262] At least $831 billion, or approximately 56%, of the CARES Act's $1.49 trillion in total budget authority came in the form of loan guarantees to support bank lending and capital markets, through programs administered by the Fed, Treasury, and Small Business Administration.[263] Needing such extraordinary fiscal measures in order to keep the financial system functioning potentially served to crowd out other important fiscal aid that would have directly supported the "real economy."

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https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/jpmorgan-argues-for-extension-as-breather-on-capital-rule-nears-expiration-62304785.

257 *See* Tarullo, *supra* note 16, at 13.

258 *See*, *e.g.*, INT'L MONETARY FUND, *supra* note 7, at 20.

259 85 Fed. Reg. at 20580.

260 INT'L MONETARY FUND, *supra* note 7, at 23-24; *see also* Abboud et al., *supra* note 21, at 16.

261 *The Federal Reserve's Main Street Lending Program*, Fed. Rsrv. Bank of Bos., https://www.bostonfed.org/supervision-and-regulation/credit/special-facilities/main-street-lending-program/main-street-lending-program-overview.aspx; *see also* Press Release, Bd. of Governors of the Fed. Rsrv. Sys., Federal Reserve Takes Additional Actions to Provide up to $2.3 Trillion in Loans to Support the Economy, (Apr. 09, 2020), https://www.federalreserve.gov/newsevents/pressreleases/monetary20200409a.htm.

262 Julia-Ambra Verlaine & Liz Hoffman, *Banks Could Prove Weak Partner in Coronavirus Recovery*, WALL ST. J. (Apr. 24, 2020), https://www.wsj.com/articles/banks-could-prove-weak-partner-in-coronavirus-recovery-11587743212.

263 *See* Letter from Phillip L. Swagel, Director, Cong. Budget Off., to Mike Enzi, Chairman, U.S. Senate (Apr. 27, 2020), https://www.cbo.gov/system/files/2020-04/hr748.pdf.

Were it not for the publicly guaranteed Paycheck Protection Program (PPP), banks' business lending would have declined during 2020;[264] indeed, because the bulk of PPP loans were issued by smaller banks, GSIBs' lending declined during the second and third quarters of 2020.[265] At the same time, holdings of cash and other safe assets increased by $1.1 trillion across the 25 largest BHCs, comprising 35% of their combined balance sheets, the largest share dating back to 1985,[266] while their ratio of loans to deposits fell to just shy of 46%, the lowest point in almost 36 years.[267] This outcome is the result of both a decline in lending as well as an increase in customer deposits.[268] Banks have begun turning away or otherwise managing customer deposits,[269] demonstrating a lack of financial capacity to provide what has long been recognized as one of the most essential banking services.[270] By contrast, after the COVID-19 financial crisis subsided, lending through large BHCs' wealth management arms increased by 17.5% from a year earlier, to nearly $600 billion.[271]

At the same time, markets have become even more reliant on the Fed as LOLR to the shadow banking markets. Usage of the RRP facility grew from about $130 billion at the beginning of May 2021 to over $1 trillion by the end of July 2021.[272] The FOMC also used its July 2021 meeting to announce the creation of a standing repo facility to purchase Treasuries and agency securities from primary

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[264] Bd. of Governors of the Fed. Rsrv. Sys., Supervision and Regulation Report 8 (2021), https://www.federalreserve.gov/publications/files/202104-supervision-and-regulation-report.pdf.

[265] Abboud et al., *supra* note 21, at 25. Although community banks make up only 12% of banking industry assets and 15% of banking industry loans, they accounted for 31% of PPP loans made by banks. *See* Margaret Hanrahan & Angela Hinton, *The Importance of Community Banks in Paycheck Protection Program Lending*, FDIC Q., Vol. 14, No. 4, at 31 (2020).

[266] Shahien Nasiripour & Christopher Maloney, *Biggest U.S. Banks Keep Assets at Safest Level in 35 Years*, BLOOMBERG (Oct. 9, 2020), https://www.bloomberg.com/news/articles/2020-10-09/biggest -u-s-banks-keep-their-assets-at-safest-level-in-35-years.

[267] Shahien Nasiripour, *Biggest U.S. Banks Keep Lending Less and Less of Their Money*, BLOOMBERG (Feb. 8, 2021), https://www.bloomberg.com/news/articles/2021-02-08/biggest-u-s-banks-keep-lending-less-and-less-of-their-money.

[268] Carolyn Duren & Ali Shayan Sikander, Loan-to-deposit ratios keep sliding at US banks, S&P GLOB. MKT. INTEL. (June 14, 2021), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/loan-to-deposit-ratios-keep-sliding-at-us-banks-64816545.

[269] Nina Trentmann & David Benoit, *Banks to Companies: No More Deposits, Please*, WALL ST. J. (June 9, 2021), https://www.wsj.com/articles/banks-to-companies-no-more-deposits-please-11623238200.

[270] *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 356 (holding that the "cluster of products … and services … denoted by the term 'commercial banking'" includes deposit accounts, trust services, and some forms of credit).

[271] Joshua Franklin & Imani Moise, *Wall Street Doubles Down on Lending 'Cheap Money' to the Rich*, FIN. TIMES (July 24, 2021), https://www.ft.com/content/8a328af4-b8f2-48c5-82a9-d7dc1c345e1c.

[272] Data on file with the author, compiled from the FRBNY's publicly available historical data downloaded from: https://apps.newyorkfed.org/markets/autorates/temp.

dealers and an expanded list of IDIs, subject to a $500 billion limit the Fed Chair can temporarily lift.[273]

Important lessons can be drawn from this episode. GSIBs' hoarding of liquidity and failure to lend in a crisis suggest that they no longer operate according to the original terms of banking's social contract, and instead behave as largely self-interested actors in shadow banking markets. It also demonstrates the ultimate reliance of the entire modern banking system – both conventional *and* shadow – upon government support for its continued functioning.[274] Finally, the current macroprudential settlement that permits GSIBs to extract profits, and, one could argue, "rents," during times of stability while exercising a "put" to the central bank during disruptions raises issues of moral hazard, exacerbates the "too big to fail" (TBTF) problem, and ultimately increases economic inequality. The "tailoring" of regulations, lack of reliable GSIB intermediation, and expansive government support during the COVID-19 are the interrelated symptoms of a flawed financial stability policy.

A. Post Hoc Interventionism as a Substitute Contract

Financial stability policy that emphasizes managing the fallout from systemic disturbances in financial markets has been termed "post hoc interventionism."[275] For GSIBs, this approach to the social contract leans heavily on benefits, while only lightly employing its detriments. As opposed to ex ante regulation that seeks to take affirmative steps to reshape the financial system, ex post assistance preserves the status quo.[276] Rather than merely the LOLR to the banking system, the Fed then becomes the "dealer or market maker of last resort," maintaining a floor under all manner of financial markets in a world with virtually

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[273] Fed. Open Mkt. Comm., Standing Repurchase Agreement Facility Resolution Approved July 27, 2021, https://www.federalreserve.gov/monetarypolicy/files/FOMC_StandingRepoFacilityResolution.pdf; *see also* Fed. Rsrv. Bank of N.Y., *Statement Regarding Repurchase Agreements* (July 28, 2021), https://www.newyorkfed.org/markets/opolicy/operating_policy_210728.

[274] WILMARTH, JR., *supra* note 10, at 325-27.

[275] Stephen Golub, Ayse Kaya & Michael Reay, *What Were They Thinking? The Federal Reserve in the Run-up to the 2008 Financial Crisis*, 22 REV. INT. POL. ECON. 657, 677 (2015). Before the global financial crisis, post hoc interventionism was described as the "Fed put" or the "Greenspan put," synonymous with the Fed leadership's approach that the most appropriate role for the institution was not to intercede to prevent financial bubbles, but instead to use accommodative monetary policy to attempt to contain the economic policy when bubbles burst. *See* WILMARTH, JR., *supra* note 10, at 205-06. For an example of post hoc interventionist thinking, *see*, *e.g.*, Ben S. Bernanke, Governor, Money, Gold, and the Great Depression, H. Parker Willis Lecture in Econ. Pol'y, Washington & Lee U. (Mar. 2, 2004), https://www.federalreserve.gov/boarddocs/speeches/2004/200403022/default.htm.

[276] Anna Gelpern, *Financial Crisis Containment*, 41 CONN. LAW REV. 1051, 1065 (2009).

unconstrained financial asset creation.[277] Hockett and Omarova refer to the resulting process as "endogenous money creation": private credit accommodation leads to more Fed-backed loans, which then necessitates more Fed support, thereby ratifying this arrangement, lest the situation become a threat to financial stability.[278]

Post hoc interventionism is a byproduct of the conventional wisdom of central banking as a technocratic and apolitical endeavor, that central bankers set interest rates and determine the money supply according to the laws of macroeconomics while democratically elected governments make distributional choices using fiscal policy and other measures.[279] In the vernacular of the Fed, its role is that of a neutral actor that does not "pick winners and losers."[280] By extension, then, the Fed does not preemptively interfere in "private markets,"[281] instead maintaining expectations for market participants that rely on particular products or practices of sufficient market importance.[282] This approach contains an embedded value judgment that preventing the buildup of financial risk and bubbles is costlier than containing their fallout,[283] implicitly shifting the goals of

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277 Mehrling et al., *supra* note 48, at 79 (defining the "dealer of last resort" as the "commitment to accept as collateral a significantly larger set of securities, in order to indirectly put a floor on their price in times of crisis"); *see also* Hauser, *supra* note 16, at 6 (describing the origin of the concept of "market maker of last resort" (MMLR)). Hauser characterizes central banks as "buyers of last resort" more so than dealers or market makers of last resort. *See id.* at 9.

278 Hockett & Omarova, *supra* note 10, at 1180.

279 *See*, *e.g.*, Jens van't Klooster & Clément Fontan, *The Myth of Market Neutrality: A Comparative Study of the European Central Bank's and the Swiss National Bank's Corporate Security Purchases*, 25 NEW POL. ECON. 865 (2020).

280 *See*, *e.g.*, Transcript, Mtg. of the Fed. Open Market Comm. 174, Bd. of Governors of the Fed. Rsrv. Sys., Mar. 19–20, 2013 (statement of Fed. Rsrv. Bank of Chi. President Charles Evans that "We all know that we shouldn't pick winners and losers[.]"), https://www.federalreserve.gov/monetarypolicy/files/FOMC20130320meeting.pdf; *see also* Transcript, Mtg. of the Fed. Open Market Cmte. 54, Bd. of Governors of the Fed. Rsrv. Sys., Mar. 17–18, 2009 (statement of Fed Chair Ben Bernanke that "to the extent that the Federal Reserve gets involved in credit markets, we should try to do so in a broad way that addresses the macroeconomic situation as opposed to picking winners and losers within small categories of credit"), https://www.federalreserve.gov/monetarypolicy/files/FOMC20090318meeting.pdf; *but see* Transcript, Mtg. of the Fed. Open Market Cmte. 111, Bd. of Governors of the Fed. Rsrv. Sys., Sept. 18, 2007 (statement by Fed Vice Chair Donald Kohn that, "I'm not concerned about the moral hazard issues. I think our job is to keep the economy at full employment and price stability and let asset markets fluctuate around that. There will be winners and losers. That's fine."), https://www.federalreserve.gov/monetarypolicy/files/FOMC20070918meeting.pdf.

281 Jordan, *supra* note 37, at 171.

282 Kenneth Kettering, *Securitization and its Discontents: The Dynamics of Financial Product Development*, 29 CARDOZO LAW REV. 1553, 1650–52 (2008). Importantly, the Fed's adherence to post hoc interventionism has prevailed with Fed leadership over many years. *See* Golub, Kaya & Reay, *supra* note 275, at 677-79 (noting support for this approach from former Fed Chairs Alan Greenspan and Ben Bernanke, as well as former Vice Chair Alan Blinder).

283 *See*, *e.g.*, Darren Bush, *Too Big to Bail: The Role of Antitrust in Distressed Industries*, 77 ANTITRUST L.J. 277, 311 (2010).

macroprudential policy and altering banking's social contract that runs counter to the Fed's stated macroprudential goals.

This approach is flawed in two respects. First, the cultural norm of neutrality in monetary policymaking is inappropriate for the realm of supervision and regulation, which regularly requires discretion, prioritization, and government intervention. In addition, in both monetary policy and supervision and regulation, private sector actors motivated by profit and short-term incentives are "inherently ineffective as macro-level economic decision-makers[,]"[284] and therefore should not be entitled to deference on matters of macroprudential policy. As experience demonstrates, far from being technocratically sound policy, post hoc interventionism creates problematic incentives and has distributional consequences.[285]

1. Post Hoc Interventionism and Moral Hazard

The cycle of endogenous money creation followed by post hoc interventions creates misaligned incentives for GSIBs that have conflicting sets of micro- and macro-level interests. While crisis containment measures are often conflated as accomplishing similar goals to ex ante regulation, they involve short-term considerations and therefore result in regulatory forbearance, time inconsistency, and the associated moral hazard.[286] "Moral hazard" is the expectation that, "when faced with the prospect of either variant of a major blow to the financial system, government authorities will provide funds or guarantees to the firm to keep it functioning," which means that creditors "may not price into their credit or investment decisions the full risk associated with those decisions."[287]

Moral hazard manifests in the form of TBTF government guarantees against losses and failure, resulting in a variety of behavioral consequences, including lax creditor monitoring. [288] Implicit and explicit guarantees also drive

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[284] Hockett & Omarova, *supra* note 10, at 1214-15.

[285] Following COVID-19, however, Fed policymakers foreshadowed plans to expand the RRP program to more counterparties. *See* Lorie K. Logan, Exec. Vice President, Fed. Rsrv. Bank of New York, Remarks at the Annual Primary Dealer Meeting (Apr. 08, 2021), https://www.newyorkfed.org/newsevents/speeches/2021/log210408.

[286] Gelpern, *supra* note 276, at 1055; *see also* ANDERSON, EROL, & ORDOÑEZ, *supra* note 80, at 3 (with broad access to LOLR support through interbank lending, the financial system's "vulnerability to shocks increases (without public liquidity ex-post, there would be more inefficient project liquidations), even though fragility (actual liquidations) declines by the umbrella provided by public liquidity").

[287] Tarullo, *supra* note 35, at 2.

[288] Gary H. Stern & Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts*, THE REGION (2003) (the TBTF problem is "the receipt of discretionary government support by a bank's uninsured creditors who are not automatically entitled to government support[.]"), https://www.minneapolisfed.org/publications_papers/issue.cfm?id=163; *see also* VIRAL ACHARYA, TIL SCHUERMANN & ANJAN THAKOR, ROBUST CAP. REGUL. 7 (2011), https://www.newyorkfed.org/medialibrary/media/

more aggressive risk-taking under the assumption that management and shareholders will ultimately be insulated from the consequences of their actions.[289] The perception that a firm enjoys TBTF status "reinforces the impulse to grow," perpetuating the self-fulfilling nature of the TBTF problem.[290]

The TBTF phenomenon can apply to markets and products, not just institutions. Once a legal authority is "unwilling to cause the upheaval" of a widely-used product, then it effectively becomes TBTF.[291] The longer that public authorities fail to take action as financial products become ubiquitous, the greater the probability that such assets will become TBTF.[292] In yet another self-reinforcing dynamic, firms may herd into common assets, anticipating that the ubiquity of an asset class will necessitate future support.[293] Public authorities are compelled to support these markets during moments of crisis, and the prime beneficiaries of such supports are the most systemically important financial institutions.

2. The Distributional Consequences of Post Hoc Interventionism

The distributional consequences of the Fed's macroprudential policy choices and repeated market interventions pose a subtle but vexing challenge to central banking's guiding principle of "market neutrality."[294] In the first instance, there is the distribution of the profits borne from deregulation; for example, during the years of "tailoring," when the financial sector enjoyed record earnings.[295] During this period, Fed policymakers overseeing the capital planning process articulated a clear policy in favor of banks distributing most, if not all, of those

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research/staff_reports/sr490.pdf. (safety nets and bailouts turn "*de jure* overnight debt financing, which would ordinarily be very risk sensitive, into *de facto* patient financing, more tolerant of changes in the riskiness of the bank").

289 *See* Daniel K. Tarullo, Member, Bd. of Governors of the Fed. Rsrv. Sys., Confronting Too Big to Fail, Remarks at the Exchequer Club, Oct. 21, 2009 (implicit government support means large financial institutions "may thus be motivated to take greater risks with the cheaper funds now available to them").

290 Tarullo, *supra* note 35, at 23.

291 Kettering, *supra* note 282, at 1633.

292 *See id.* at 1636. This dynamic applies not only to ex post blessings by legal and regulatory bodies, but also to legislative "bail-outs" in the event that regulators or courts attempt to redefine a product. *See id.* at 1654, as in the case of the Lincoln Amendment.

293 ACHARYA, SCHUERMANN, & THAKOR, *supra* note 288, at 9.

294 van't Klooster & Fontan, *supra* note 279, at 865-66.

295 Jesse Hamilton, *Banks Crushed Profit Record With $237 Billion in 2018, FDIC Says*, BLOOMBERG (Feb. 21, 2019), https://www.bloomberg.com/news/articles/2019-02-21/banks-crushed-profit-record-with-237-billion-in-2018-fdic-says; *see also* Ken Sweet, *Banks Made $233.1 Billion in Profits in 2019, Regulator Says*, ASSOC. PRESS (Feb. 25, 2020), https://apnews.com/article/3db9cc9c6ffcc083a5f57cb122a5e937.

profits to shareholders. [296] As a result, in the years preceding the COVID-19 crisis, and even during the pandemic, GSIBs' shareholder payouts exceeded their net income.[297] The anticipation of public bailouts, wherein the potential costs of failure can be transferred onto society, only serve to further encourage management's extraction of excessive amounts of wealth from their firms.[298]

At the same time, TBTF status allows the most systemic banks to enjoy a lower cost of funding relative to their risk profiles by virtue of the market's perception that public authorities will not allow them to go bankrupt during times of financial distress.[299] The TBTF subsidy is a valuable source of short-term enrichment for shareholders, provided by the public, accounting for a significant proportion of big banks' annual profits.[300] The accrual of wealth to bank shareholders benefits a small group of high-net-worth institutions and individuals, as the ownership of the largest banks is heavily concentrated in the hands of a few large asset managers,[301] and stocks in general are disproportionately held by the top wealth owners.[302] Bank executives whose compensation includes a significant

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[296] Randal K. Quarles, Vice Chairman for Supervision, Bd. of Governors of the Fed. Rsrv. Sys., A New Chapter in Stress Testing 6, Remarks at the Brooking Institution, Nov. 9, 2018 ("[I]n our current world in which a healthy and profitable banking system is seeking to maintain its capital levels rather than continue to increase them, a bank will appropriately and safely tend to distribute much or all of its income in any given year"), https://www.federalreserve.gov/newsevents/speech/files/quarles 20181109a.pdf.

[297] FIN. STABILITY OVERSIGHT COUNCIL, *supra* note 63, at 80 (total capital distributions at U.S. G-SIBs "were close to 100 percent of the net income available to common equity in 2018 and exceeded 100 percent in 2019" and payout rates in the first quarter of 2020 "were substantially above 100 percent of net income."); *see also* Lisa Lee & Shahien Nasiripour, *Bank Dividends in Peril With Crisis Veterans Warning of Trouble*, BLOOMBERG (June 24, 2020) (the four largest US GSIBs made $615.2 billion in capital distributions from the beginning of 2017 through the first quarter of 2020), https://www.bloomberg.com/news/articles/2020-06-24/bank-dividends-in-peril-with-crisis-veterans-warning-of-trouble.

[298] This practice has been termed "looting." *See* George Akerlof & Paul Romer, *Looting: The Economic Underworld of Bankruptcy for Profit* 2, Brookings Paper on Econ. Activity 24(2) (1993).

[299] Mark J. Roe, *Structural Corporate Degradation Due to Too-Big-To-Fail Finance*, 162 U. PA. L. REV. 1419, 1419 (2014).

[300] *Id.* at 1443, 1464 (finding an average estimate of 43% of annual profits across studies attempting to quantify the TBTF subsidy).

[301] AZAR, RAINA & SCHMALZ, *supra* note 233.

[302] Edward N. Wolff, Household Wealth Trends in the United States, 1962 to 2016: Has Middle Class Wealth Recovered? 34 (NBER, Working Paper No. 24085 2017), https://www.nber.org/system/files/working_papers/w24085/w24085.pdf (as of 2016, the top 10% of wealth owners held 84% of the stock value); *see also* Daniel L. Greenwald, Martin Lettau & Sydney C. Ludvigson, How the Wealth Was Won: Factor Shares as Market Fundamentals 6 (NBER, Working Paper No. 25769 2020), https://www.nber.org/system/files/working_papers/w25769/w25769.pdf (the top 5% of the stock wealth distribution owns 76% of the stock market value); Neil Bhutta et al., *Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances* 16-18, Fed. Rsrv. Bull. Vol. 106, No. 5 (Sept. 2020) (as of 2019, 31% of the bottom 50% of income earners held

portion of bank stock also enjoy the benefits of capital payouts.[303]

Next, there is the apportionment of assistance, and losses, during crises, including decisions about intended beneficiaries and applicable terms. Examples include banks' expansion of lending to large corporations while contracting their lending to consumers,[304] the choices to provide unlimited support to capital markets while offering only limited payroll replacement to workers, and the design of specific support programs that require below-market rates and other permissive terms.[305] Research by the Federal Reserve Bank of Minneapolis has attempted to quantify the public sector support for the banking industry during COVID-19, estimating that banks may have been protected from between $130 billion and $230 billion in potential loan losses as a result of government actions during the pandemic.[306] Public support for financial markets can thus "mask large wealth transfers and major institutional change[.]"[307]

Finally, financial crises destroy wealth and prosperity on a mass, intergenerational scale.[308] The combination of regulatory inaction, deregulation, and deference to financial sector profit maximization has real-world impacts, especially by contributing to economic inequality.[309] Financial calamities have negative implications for people's health, safety, and wellbeing,[310] and their impacts fall the hardest on marginalized communities, such as communities of color.[311] The COVID-19 financial crisis has been no exception.[312]

As both the GFC and the COVID-19 crisis demonstrate, the mechanisms by which deregulation and bailouts benefit certain private actors at the expense of society, drive inequality, and redistribute wealth often "make political choices look technical and inevitable, reduce accountability and increase the social cost of a crisis."[313]

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stock compared to more than 90% of the top 10% of income earners, and the median value of the average stock portfolio of the top 10% was about 44 times that of the bottom 50%).

303 Eric Dash, *Dividends Will Enrich Bank Chiefs*, N.Y. TIMES (Mar. 17, 2011), https://www.nytimes.com/2011/03/17/business/17dividend.html.

304 *See* Bodovski et al., *supra* note 7.

305 *See, e.g.*, Table 3; *see also* Abboud et al., *supra* note 21, at 25-28; Hauser, *supra* note 16, at 9-10 (arguing that "[p]urchases typically took place at prevailing market prices" and that market participants may expect purchases to occur without an "insurance premium" in the future).

306 Feldman & Schmidt, *supra* note 7.

307 Gelpern, *supra* note 276, at 1057; *see also* Jordan, *supra* note 37, at 135.

308 Jordan, *supra* note 37, at 137.

309 *Id.* at 110-13.

310 Allen, *supra* note 12, at 194.

311 Jordan, *supra* note 37, at 109-12.

312 Nishesh Chalise & Violeta Gutkowski, *How COVID-19's Economic Impact Varies by Geography and Race*, FED. RSVR. BANK OF ST. LOUIS OPEN VAULT BLOG (Apr. 21, 2021), https://www.stlouisfed.org/open-vault/2021/april/how-covid-19-economic-impact-varies-by-geography-and-race.

313 Gelpern, *supra* note 276, at 1057.

B. Reinstating the Social Contract

As briefly argued elsewhere, macroprudential policy that relies on post hoc measures is insufficient and ex ante financial stability measures are essential.[314] Permitting GSIBs to distribute capital ultimately depletes balance sheet capacity which, in turn, reduces their ability to absorb inflows of safe assets, or support other forms of credit, undermining GSIBs' commitment, under the social contract, to serve as liquidity providers and resulting in liquidity crises. During a crisis in which there is an absence of other viable options, policymakers' financial stability calculus generally becomes a binary choice between post hoc interventionism and "liquidationism."[315] This formulation of macroprudential policy allows GSIBs to enjoy the privileges of the social contract while failing to uphold its obligations.[316]

During the post-crisis period, Fed policymakers rightly rejected proposals for the Fed to create facilities to provide "safe" assets through a variety of mechanisms, ranging from universal provisioning to extending the RRP.[317] They opted instead for macroprudential policy that attempted to force FHCs to internalize the costs created by the risks inherent in money market funding activities.[318] Rediscovering this commitment to macroprudential regulation "premised on the fulfillment of social values and goals, not just market efficiency"[319] offers policymakers an opportunity to break out of the post hoc interventionist cycle, and a return to the original conception of the Fed's financial stability role.[320]

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[314] Graham Steele, *Emergency Guarantee Authority: Not Letting a Crisis Go to Waste*, COLUMBIA L. SCH. BLUE SKY BLOG (May 15, 2019), https://clsbluesky.law.columbia.edu/2019/05/15/emergency-guarantee-authority-not-letting-a-crisis-go-to-waste/; *see also* Hauser, *supra* note 16, at 12.

[315] Jordan *supra* note 37, 155-57 (liquidationists believe that "government should not intervene in a banking panic because the disruption and purging of the economy, no matter how painful to innocent citizens, were necessary to restore the balance within the capitalist economic system.").

[316] Kashkari, *supra* note 6 ("What societal value is there in such a system that proves so fragile when risks emerge? The primary value I see is that it allows firms to eke out a few extra basis points of earnings in good times and then requires the central bank to backstop it when risks emerge. This is the definition of privatized profits and socialized losses.").

[317] Robin Greenwood, Samuel G. Hanson & Jeremy C. Stein, *The Federal Reserve's Balance Sheet as a Financial-Stability Tool* 335–397 (2016), https://scholar.harvard.edu/files/stein/files/2016steingreenwoodhanson.pdf.

[318] Tarullo, *supra* note 16, at 4.

[319] K. Sabeel Rahman, *The New Utilities: Private Power, Social Infrastructure, and the Revival of the Public Utility Concept*, 39 CARDOZO LAW REV. 1621, 1659–65 & 1666 (2018) ; *see also* Hilary J. Allen, *Putting the "Financial Stability" in Financial Stability Oversight Council*, 76 OHIO STATE L.J. 1087, 1112 (2015) ("[F]inancial regulation should be primarily informed by a normative goal that is more inclusive than optimal allocative efficiency, and that promotes general societal well-being in a way that is somewhat sensitive to distributional inequalities.").

[320] *See infra* section I.A.

1. GSIBs as Automatic Stabilizers

As the initial suite of enhanced prudential standards recognized, GSIBs' ability to serve as universal liquidity providers depends on their ability to assume new commitments as financial conditions deteriorate. The original macroprudential framework built up a capital base with a system of buffers that could be drawn upon during market downturns, recessions, and other disruptions. Adherents to the emerging study of law and macroeconomics might conceptualize this system as a financial regulation component of "automatic stabilizers" in fiscal and monetary policy.[321] Well-crafted financial regulation, governing GSIBs in particular, can play an important countercyclical role in preserving or expanding credit access in order to lessen the incidences and impacts of crises and recessions.[322] Removing the need for extraordinary measures in order to maintain a functioning financial system also frees policymaking bandwidth for aid measures that directly benefit the "real economy."[323]

The most direct policy for increasing GSIBs' balance sheet resilience is through more robust capital and leverage requirements.[324] Research from Fed economists found that overall system-wide capital requirements remain below the socially optimal levels, supporting the case for higher capital requirements.[325] Capital requirements for broker-dealers operating within a GSIB's holding company structure in particular require updating, with macroprudential aims in mind.[326] Indeed, preliminary research reinforces the view in the context of the

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321 *See, e.g.*, Olivier J. Blanchard & Lawrence H. Summers, *Automatic Stabilizers in a Low-Rate Environment*, 110 AEA PAPERS AND PROCEEDINGS 125 (2020) (defining "automatic stabilizers" as "movements in public spending and revenues coming from the interaction between existing spending and revenue schedules and economic fluctuations.").

322 Countercyclicality is an important, and perhaps unrealized, component of the post-GFC macroprudential project. *See generally* Tarullo, *supra* note 15. For an in-depth discussion of the role of countercyclical financial regulation, see Jeremy C. Kress & Matthew C. Turk, *Rethinking Countercyclical Regulation*, 56 GA. L. REV., (Forthcoming 2022).

323 The Cares Act, *supra* note 231.

324 In an example of one such policy proposal, GSIBs' capital and leverage requirements would be increased to a range of 23.5%-38% and 15%, respectively. *See* FED. RSRV. BANK MINNEAPOLIS, *The Minneapolis Plan to End Too Big to Fail* 72 (2017), https://www.minneapolisfed.org/~/media/files/publications/studies/endingtbtf/the-minneapolis-plan/the-minneapolis-plan-to-end-too-big-to-fail-final.pdf?la=en. Recent research has shown that pairing both robust capital and leverage ratios can mitigate the risk-seeking incentives that can occur with the leverage ratio alone. *See* Jonathan Acosta-Smitha, Michael Grill & Jan Hannes Lang, *The Leverage Ratio, Risk-taking and Bank Stability*, J. FIN. STABILITY (Dec. 2020), https://doi.org/10.1016/j.jfs.2020.100833.

325 *See* Simon Firestone, Amy Lorenc & Ben Ranish, *An Empirical Economic Assessment of the Costs and Benefits of Bank Capital in the United States*, 101 FED. RSRV. BANK OF ST. LOUIS REV. 203, 204 (2019) (finding an optimal RBC ratio between 13% and 26%), https://doi.org/10.20955/r.101.203-30.

326 Stein, *supra* note 153 (stating the need "for the SEC to revise its reasoning for imposing capital requirements to reflect not only our historical objective to protect a firm's customers, but also reduce

COVID-19 crisis, when dealers subject to a leverage ratio were better able to provide liquidity than dealers that were not.[327] Imposing more robust macroprudential capital and leverage requirements on a consolidated basis, at a GSIB's holding company, would make resilient funding available to support all FHC subsidiaries as they provide essential financing to the real economy.[328] This is consistent with the substantial body of literature supporting the notion that banks with more resilient funding are better positioned to lend during market downturns.[329]

More robust equity requirements could also be paired with preemptive capital distribution policies, both as part of the stress testing as well as in response to triggers indicating deteriorating economic conditions. An anticipatory approach to dividend and capital raising has a demonstrated track record of reducing the likelihood and cost of bank failures dating back to the savings and loan crisis.[330] Permissive bank dividend policy prior to the 2008 crisis led to a significant depletion of bank capital, and more proactive regulatory intervention could have reduced the need for future bailout assistance.[331]

Arguments against employing more robust macroprudential capital and leverage standards often acknowledge that banks with more stable funding are better positioned to provide liquidity throughout the credit cycle. They argue instead that shareholder profitability is an implicit priority of financial policy, and therefore sacrificing valuable ROE would be outside the realm of acceptable solutions.[332] As a descriptive matter, it is true that shareholder return, as measured by ROE, is "deeply embedded in the culture of banking,"[333] that dealing "safe" assets is a low-ROE business with thin profit margins, and that many shadow banking "innovations" were motivated by FHCs' desire to minimize regulatory

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the risk to the entire financial system of a large broker-dealer's collapse"); *see also* 15 U.S.C. § 78o-5(b)(1)(A) (requiring the Secretary of the Treasury to establish capital adequacy standards for dealers in government securities).

327 Chen et al., *supra* note 225.

328 Maintaining loss-absorbing funding at the holding company level is consistent with the holding company's legal obligation to serve as a "source of strength" to its insured bank and other subsidiaries.

329 Mora, *supra* note 17, at 53; *see also* Aikman et al., *supra* note 11, at 12 (finding that, on average, each additional 1 percentage point of pre-crisis capital boosted banks' lending over the subsequent decade by over 20%); Ivashina & Scharfstein, *supra* note 84, at 320 (finding that banks that rely less on short-term nondeposit funding are better able to lend throughout a downturn).

330 George Hanc, *The Banking Crises of the 1980s and Early 1990s: Summary and Implications*, 1 FED. DEPOSIT INS. CORP. 1, 66-68 (1997).

331 Eric S. Rosengren, Fed. Rsrv. Bank of Bos., Dividend Policy and Capital Retention: A Systemic "First Response", Address before the Rethinking Central Banking Conference (Oct. 10, 2010), http://www.bostonfed.org/news/speeches/rosengren/2010/101010/index.htm.

332 *See*, *e.g.*, Duffie, *supra* note 15, at 3.

333 ANAT ADMATI & MARTIN HELLWIG, THE BANKERS' NEW CLOTHES: WHAT'S WRONG WITH BANKING AND WHAT TO DO ABOUT IT 115 (2013).

capital thereby boosting ROE.[334] From a normative perspective, however, higher capital and leverage ratios' benefits generally outweigh their costs, especially when measured in terms of the overall benefit to society.[335] This should be the dispositive consideration when crafting macroprudential policies that hold GSIBs to their contractual obligations.[336]

2. The Shadow Banking Problem

Observers often warn that regulating GSIBs causes activity "migration" to nonbank companies, exacerbating the shadow banking problem.[337] Indeed, taking a functional, rather than formalistic, approach to financial intermediation activities is an important goal of macroprudential regulation. Transactions that are equivalent should be subject to the same suite of capital, leverage, margin, risk limits, and other restrictions, whether they are classified as deposits, loans, repos, MMFs, or derivatives.[338] Macroprudential policy can do more to leverage the centrality of GSIBs to address shadow banking risks.

Section 165 provides for a variety of enhanced prudential standards that the Fed can use to impose more stringent limits upon GSIBs' exposure to shadow banking entities and activities,[339] as well as discretion to craft any other standards that the Fed "determines are appropriate."[340] These authorities can be used to regulate the relationships between GSIBs and shadow banking entities like hedge funds, MMFs, and other asset managers, or GSIBs' repo and CP transactions.[341]

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334 Pozsar et al., *supra* note 55, at 15.

335 Greenwood, Hanson & Stein, *supra* note 317, at 380; *see also* Aikman et al., *supra* note 11, at 14-15; S. Hrg. 114–319, at 6 (statement of then-Fed Governor Jerome Powell that "regulation has, by design, increased the costs of balance sheet usage and in doing so has encouraged a smaller footprint among these firms and their market-making activities[,]" but that "the same regulation has also made the core of the financial system much safer and sounder and much more resilient[,]" and that "some reduction in market liquidity is a cost worth paying in helping to make the overall financial system significantly safer"); FED. RSRV. BANK MINNEAPOLIS, *supra* note 324, at 50-51 (weighing the "costs" to society of higher capital (24% of GDP) against the harm inflicted by financial crises (158% of GDP), suggests that higher capital "will have paid for itself many times over if it avoids one financial crisis").

336 Hockett & Omarova, *supra* note 10, at 1216 (viewing banks as private franchisees of a public franchisor "bolsters support for imposition of significantly higher minimum capital requirements than those currently applicable to banks and other systemically important financial institutions").

337 *See*, *e.g.*, Tarullo, *supra* note 35, at 11-12.

338 *See*, *e.g.*, Andrew Metrick & Daniel K. Tarullo, *Congruent Financial Regulation* (Mar. 25, 2021) (Prepared for the Brookings Papers on Economic Activity Conference, Spring 2021), https://www.brookings.edu/wp-content/uploads/2021/03/BPEASP21_Metrick-Tarullo_conf-draft.pdf.

339 12 U.S.C. § 5365(e), (g) (providing for concentration limits and short-term debt limits).

340 12 U.S.C. § 5365(b)(1)(B)(iv).

341 Because the Fed lacks jurisdiction over certain functionally regulated subsidiaries, these rules would have to be applied to the consolidated BHC.

Indeed, the Fed has used section 165's "appropriate" authority to dictate certain terms of GSIBs' financial contracts, including repo, derivatives, and other securities lending, thereby indirectly regulating the behavior of GSIBs' nonbank counterparties like hedge funds.[342]

The Fed has other relevant authorities that it can use to impose activities-based rules; for example, under the Securities Exchange Act, the Fed has authority governing margin requirements for certain securities transactions.[343] In addition, just as the Fed narrowed the scope of the Volcker Rule, it could expand that regulation to cover more trading assets and private equity and hedge fund investments under the definitions of prohibited trading and fund sponsorship. Finally, the Fed could finalize proposed rules imposing limits and prudential standards upon FHCs' merchant banking, commodities trading, and complementary nonfinancial activities under section 4(k) of the BHCA.[344]

GSIBs' systemic importance suggests that there will be few ready and comparable substitutes available for activities to migrate to,[345] meaning that some activity would more likely dissipate rather than migrate. To the extent that regulatory gaps are a concern for any remaining activities, any nonbank financial companies that achieve levels of systemic importance comparable to GSIBs as a result of "migration" can be designated for special enhanced macroprudential regulation by the Fed, as originally envisioned by Dodd-Frank.[346]

Macroprudential regulation is not a panacea for all the ills plaguing the

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342 Bd. of Governors of the Fed. Rsrv. Sys., Restrictions on Qualified Financial Contracts of Systemically Important U.S. Banking Organizations and the U.S. Operations of Systemically Important Foreign Banking Organizations; Revisions to the Definition of Qualifying Master Netting Agreement and Related Definitions, 82 Fed. Reg. 42882 (Sept. 12, 2017).

343 15 U.S.C. §§ 78g, 78w. Margin rules restrict the purchase of securities using borrowed money, thereby limiting the buildup of leverage in, and excessive growth of, these markets. *See* Hanson, Kashyap, & Stein, *supra* note 119, at 15-16. The Fed has used these authorities to promulgate regulations restricting the extension of credit by broker-dealers, banks, and other lenders. *See* Gerding, *supra* note 50, at 67-68 (citing Regulation T, Regulation U, and Regulation X).

In one historical example of how this authority has been used to address shadow banking, the Fed attempted to use its authority under Regulation G to address concerns with the 1980s leveraged buyout boom. *See* Bd. of Governors of the Fed. Rsrv. Sys., Securities Credit by Persons Other Than Banks, Brokers, or Dealers; Purchase of Debt Securities to Finance Corporate Takeovers, 51 Fed. Reg. 1771 (Jan. 15, 1986). In more recent years, Fed officials raised the possibility of using this authority to regulate certain securities financing transactions, *see* Stein, *supra* note 151; *see also* Tarullo, *supra* note 47; Tarullo, *supra* note 98. However, more than seven years after those initial proposals, rules have never materialized.

344 Bd. of Governors of the Fed. Rsrv. Sys., Regulations Q and Y; Risk-Based Capital and Other Regulatory Requirements for Activities of Financial Holding Companies Related to Physical Commodities and Risk-Based Capital Requirements for Merchant Banking Investments, 81 Fed. Reg. 67220 (Sept. 30, 2016).

345 *See infra* section I.B.2.

346 12 U.S.C. § 5323 (2010).

financial system, for which other structural solutions have been proposed,[347] but it offers a number of potential benefits. It could limit private rent-seeking supported by public subsidies, align intermediation and payment functions with their social purpose, and constrain the outsized power of a small group of systemic financial companies.[348] Macroprudential regulation also has a role to play in the post-COVID monetary policy framework of persistently low interest rates and plentiful bank reserves as a more targeted financial stability instrument than using monetary policy to deflate potential financial bubbles, with fewer undesirable consequences for economic growth and employment.[349]

CONCLUSION

Dodd-Frank's macroprudential authority sought to create a more resilient financial system by providing for the enhanced regulation of systemically important banks. Even with significant pieces of financial reform left unfinished, the Fed situated "tailoring" as a regulatory priority ahead of systemic resilience, rolling back several important macroprudential rules. Rather than being forced to ensure that they could support the "real economy" during extraordinary shocks, GSIBs extracted robust profits and passed them through to shareholders. As a result, GSIBs failed to absorb the liquidity shock created by COVID-19, causing the repo market to freeze up, followed by MMFs and CP, with contagion ultimately spreading to the Treasury market, one of the safest and most liquid assets in the world. The Fed intervened quickly and forcefully through both emergency lending measures, exceeding the size and scope of the 2008 GFC, and the provision of widespread regulatory forbearance.

Upon closer scrutiny, this experience suggests that neither GSIBs, nor the Fed as financial stability regulator, has performed their side of banking's social contract. GSIBs benefit from affiliating with commercial banks that have

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[347] Some have proposed structural changes to the banking system and money markets. WILMARTH, JR., *supra* note 10 (proposing activity limits on banking organizations in the mode of a modern Glass-Steagall Act); *see also* RICKS, *supra* note 10 (proposing restrictions on non-bank financial institutions' ability to issue money and money-like claims); John Crawford, *A Better Way to Revive Glass-Steagall*, 70 STANFORD L. REV. ONLINE 1 (2017) (proposing legislative changes to section 21 of the Banking Act to prohibit nonbanks from issuing claims that are the "economic equivalent" of deposits). Others have proposed alternative methods of providing banking services and financing to individuals, businesses, and other enterprises. *See* Crawford, Menand & Ricks, *supra* note 53 (arguing for the creation of retail banking accounts administered by the Fed); *see also* Robert C. Hockett & Saule T. Omarova, *Private Wealth and Public Goods: A Case for a National Investment Authority*, 43 J. CORP. L. 437 (2018) (proposing the creation of a new agency, the National Investment Authority, to coordinate public investment and bailout programs).

[348] Rahman, *supra* note 319, at 1666; *see also id.* (utility-like regulations "all work to create restraints on private power to prevent extractive or exploitative practices, while ensuring that the core social functions of finance are secured").

[349] Aikman et al., *supra* note 11, at 34.

guaranteed liabilities, dealing in "risk-free" assets manufactured and guaranteed by the government, and benefitting from sovereign support, or subsidies, during times of stability. Yet, they are ultimately dependent upon public liquidity provision when they are unable to play their proper role by maintaining functional markets during panics. Seeing events in that light complicates the consensus positive view of the financial sector's performance, and the Fed's response, during the COVID-19 crisis.

The issues raised during the COVID-19 crisis are not entirely behind us. In February and March of 2021, the Treasury markets again experienced significant dislocations.[350] In late March 2021, a number of GSIBs suffered billion-dollar losses as a result of total return swap transactions between their prime brokerage operations and the failed hedge fund Archegos.[351] At the same time, the Fed has cleared all of the BHCs that participated in the 2021 stress tests, paving the way for cumulative annual capital distributions estimated as high as $142 billion.[352] Left unaddressed, banking's broken social contract is likely to continue to have profound implications for financial law and policy in the years to come, as policymakers seek to tackle emerging risks including climate change and the growth of digital asset markets.

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350 Liz McCormick et al., *supra* note 13.

351 Tabby Kinder & Leo Lewis, *How Bill Hwang Got Back Into Banks' Good Books — Then Blew Them Up*, FIN. TIMES (Mar. 29, 2021), https://www.ft.com/content/b7e0f57b-3751-42b8-8a17-eb7749f4dbc8.

352 Jennifer Surane, Jesse Hamilton & Sridhar Natarajan, *JPMorgan Leads Banks Set to Return $142 Billion to Shareholders*, BLOOMBERG (June 23, 2021, 5:00 AM), https://www.bloomberg.com/news/articles/2021-06-23/jpmorgan-leads-banks-set-to-return-142-billion-to-shareholders.