We Need a New Glass-Steagall Act to End the Toxic Symbiosis Between Universal Banks and Shadow Banks, Which Professor Corrigan Has More Fully Revealed

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INTRODUCTION

Patrick Corrigan's Article[1] presents an important and valuable study of the uses and abuses of securitization vehicles by universal banks[2] during the subprime lending boom that led to the Global Financial Crisis of 2007–09 (GFC). Professor Corrigan shows that universal banks used off-balance-sheet variable interest entities (VIEs) to securitize risky subprime loans while avoiding a wide array of financial regulations, including rules governing bank capital, bank affiliates, and investment companies.[3] Previous studies have analyzed the use of VIEs to evade bank capital rules,[4] but Professor Corrigan's Article breaks new ground by demonstrating that VIEs also enabled universal banks to avoid laws governing bank affiliates and investment companies.[5]

As discussed in Part I.A of this response, Professor Corrigan's Article focuses primarily on what Zoltan Pozsar and other researchers have called "internal" shadow banking—namely, the origination and securitization of loans by universal banks through nonbank entities they control, including broker-dealer subsidiaries and off-balance-sheet securitization conduits.[6] I agree with Professor Corrigan that universal banks create unacceptable dangers to financial and economic stability and impose intolerable costs on society by engaging in speculative financial activities through their nonbank affiliates. As shown in Part I.A., universal banks also extract unwarranted public subsidies by forcing policymakers and regulators to backstop their affiliates' capital markets activities.

As explained in Part I.B of this response, Professor Corrigan's Article gives much less attention to what Pozsar and other researchers have called "external" shadow banking[7]—namely, the origination and securitization of risky loans by nonbank financial intermediaries that are *not* controlled by banks. Those nonbank intermediaries (including securities broker-dealers, nonbank finance companies, and private equity firms) obtain much of their funding by issuing "shadow deposits"—short-term financial instruments that serve as functional substitutes for bank deposits—such as money market mutual funds (MMMFs), short-term commercial paper, and securities repurchase agreements (repos).[8]

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1. Patrick M. Corrigan, *Shining a Light on Shadow Banks*, 49 J. CORP. L. 1 (2023).

2. As used in this Article, the term "universal banks" refers to commercial banking organizations that engage in capital markets activities. *See* ARTHUR E. WILMARTH, JR., TAMING THE MEGABANKS: WHY WE NEED A NEW GLASS-STEAGALL ACT 1 (2020) (explaining that universal banks are "large financial conglomerates that engage in a broad range of businesses," including "traditional banking activities (including deposit-taking and lending) and nontraditional capital markets activities (such as securities underwriting and trading)").

3. Corrigan, *supra* note 1, at 5, 17–30.

4. *See, e.g.*, *id.* at 5 & nn.9–10 (discussing and citing various studies); WILMARTH, *supra* note 2, at 216–20, 433–34 & nn.114–29 (same).

5. Corrigan, *supra* note 1, at 14–21.

6. *See* Zoltan Pozsar et al., *Shadow Banking*, ECON. POL'Y REV., Dec. 2013, at 7, 9–10, 13 (describing "internal" shadow banking), https://www.newyorkfed.org/medialibrary/media/research/epr/2013/0713adri.pdf [https://perma.cc/4FGE-8E7W]; *see also* Corrigan, *supra* note 1, at 32 ("The key problem identified in this Article is that securitization provided *traditional banks* with a vehicle to conduct maturity transformation activities outside of the safety and soundness restrictions of the banking and investment company laws."); *id.* at 41 ("Unregistered bank-sponsored investment companies are . . . the shadow banks that create the greatest regulatory concern.").

7. Pozsar et al., *supra* note 6, at 7, 10–11, 13 (describing "external" shadow banking).

8. *Id.*; WILMARTH, *supra* note 2, at 153–58, 194, 220, 230, 245, 250, 261; *see also* Corrigan, *supra* note 1, at 3, 47 ("To date, the academic literature has largely framed the problem of shadow banks as about lending and

As shown in Part I.B, the shadow deposits that fund the operations of both "internal" and "external" shadow banks pose grave risks to financial and economic stability and should be regulated in the same way as traditional bank deposits.

Professor Corrigan's Article focuses on the dangers that "internal" shadow banks produced during the subprime lending boom that precipitated the GFC. Part I.C of this response surveys those threats and describes the massive bailouts that the United States (U.S.), United Kingdom (U.K.), and European Union (EU) provided during the GFC to universal banks (including their "internal" shadow banking affiliates) as well as "external" shadow banks. Part I.D explains that the hazards created by universal banks and "external" shadow banks have intensified since the GFC. Four major financial disruptions since the GFC—the repo crisis of 2019, the pandemic financial crisis of 2020–21, the failures of three U.S. regional banks in 2023, and the collapse of Credit Suisse—confirm that universal banks and shadow banks continue to present enormous and unacceptable threats to our financial system, economy, and society.

As discussed in Part II.A. of this response, Professor Corrigan's Article proposes two reforms that could reduce the risks of shadow banks. His reforms would: (i) establish an "economic exposure test" for determining whether bank-sponsored VIEs should be regulated as bank affiliates, and (ii) amend federal securities laws to require many bank-sponsored VIEs and (potentially) other nonbank asset managers to comply with the Investment Company Act.[9] Professor Corrigan's reforms have substantial merit and deserve careful consideration. However, his reforms are incremental in nature and would depend on effective implementation and enforcement by federal regulatory agencies. Unfortunately, the checkered track record of those agencies during the past four decades raises very significant doubts about the likely efficacy of Professor Corrigan's proposed reforms.

Part II.B of this response argues that a new Glass-Steagall Act would be the most feasible and effective way to remove the threats posed by universal banks and shadow banks. A new Glass-Steagall Act would provide a strong structural remedy for the problems created by both types of entities and would not depend on the faithful implementation of technical rules by regulators. With appropriate statutory safeguards, the efficacy of a new Glass-Steagall Act would be protected against erosion by weak or hostile regulators.

A new Glass-Steagall Act would break up universal banks by forcing banks to divest their capital markets activities. It would also greatly reduce the perils of shadow banks by prohibiting nonbanks from issuing short-term financial claims that are functional

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credit intermediation by bank-like entities that operate outside the regulated banking system. . . . This Article challenges the conventional wisdom on 'shadow banks.' The 2007–2009 financial crisis should not be understood as a case study in the financial stability risks of nonbank financial intermediaries, but in the risks of allowing traditional banks to engage in financial intermediation without the safety and soundness guardrails of the banking laws.").

Professor Corrigan concludes that nonbank asset managers—such as private equity firms and hedge funds—present a lower degree of regulatory concern than bank-sponsored asset managers that are not registered as investment companies with the Securities and Exchange Commission. *Id.* at 40. For the reasons discussed in this Response, I believe that nonbank financial intermediaries (including asset managers) that rely on deposit substitutes for short-term funding present very serious risks that should be addressed by enacting a new Glass-Steagall Act.

9. Corrigan, *supra* note 1, at 42–44.

substitutes for deposits. Thus, a new Glass-Steagall Act would provide clearly-defined structural boundaries and prohibitions that effectively address the threats posed by universal banks as well as "internal" and "external" shadow banks. A new Glass-Steagall Act would establish a banking system and financial markets that are far more stable, competitive, and responsive to the needs of consumers, nonfinancial businesses, and communities.[10]

I. "INTERNAL" AND "EXTERNAL" SHADOW BANKS POSE SYSTEMIC THREATS TO OUR FINANCIAL SYSTEM, ECONOMY, AND SOCIETY.

A. Prior to the Global Financial Crisis of 2007–09, Universal Banks Used "Internal" Shadow Banking Affiliates to Evade Prudential Rules Governing Banks and Investment Companies.

As Professor Corrigan explains, universal banks used VIEs during the subprime lending boom of the early and mid-2000s to originate and securitize risky loans while avoiding compliance with laws governing bank capital, bank affiliates, and investment companies.[11] The four largest U.S. banks sponsored off-balance-sheet VIEs that held over $540 billion of assets in 2008—including subprime residential mortgage-backed securities (RMBS), collateralized debt obligations (CDOs), and other risky asset-backed securities (ABS).[12] The same four banks retained loss exposures for about $250 billion of the assets held by their sponsored VIEs.[13] Those banks ultimately brought more than $130 billion of those assets back onto their balance sheets.[14]

Professor Corrigan also points out that large U.S. and foreign universal banks provided financial guarantees in the form of "liquidity puts" to sponsored VIEs that sold short-term, asset-backed commercial paper (ABCP) to investors and invested the proceeds of those sales in subprime mortgage-related securities.[15] Those liquidity puts obligated the sponsoring universal banks to buy the VIEs' ABCP if investors refused to renew their investments in those instruments.[16] In previous work, I explained that U.S. and foreign universal banks provided financial guarantees to more than 300 of their sponsored off-balance-sheet conduits in 2007. Those conduits issued about $900 billion of ABCP, which funded the conduits' purchases of subprime RMBS, CDOs, and ABS from their bank sponsors and other financial institutions.[17] U.S. and foreign universal banks also

10. *See* WILMARTH, *supra* note 2, at 12–14, 335–56; Arthur E. Wilmarth, Jr., *Afterword—Why 'Taming the Megabanks' Should Remain a Top Priority for Financial Regulators and Policymakers*, 93 U. COLO. L. REV. 1061, 1093–94 (2022) [hereinafter Wilmarth, *Afterword*] ("The most important reform would be a new Glass-Steagall Act [to] break up universal banks and shadow banks.").

11. Corrigan, *supra* note 1, at 12–17, 27–28.

12. *Id.* at 19.

13. *Id.*

14. *Id.* at 21 tbl.20.

15. *Id.* at 19–27.

16. *Id.* at 27.

17. WILMARTH, *supra* note 2, at 219–20, 244–45, 250–51; *see also* Marcin Kacperczyk & Philipp Schnabl, *When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–09*, 24 J. ECON. PERSPS. 29, 32–35 (2010) (analyzing the ABCP market before and during the GFC).

established dozens of structured investment vehicles (SIVs)—another category of off-balance-sheet vehicles—that held $400 billion of securitized assets.[18]

Like Professor Corrigan, I and other researchers concluded that U.S. and foreign universal banks played crucial roles in financing the subprime credit boom through their networks of bank subsidiaries, securities broker-dealer subsidiaries, and off-balance-sheet securitization conduits.[19] Universal banks created an "assembly line" that enabled them to package subprime mortgages into subprime RMBS and to repackage tranches of those RMBS into CDOs.[20] The subprime assembly line included loan brokers, banks or nonbank lending institutions, loan servicers, securities underwriters, trustees of off-balance-sheet securitization conduits, credit rating agencies, and financial guarantors.[21]

Participants in the subprime assembly line received lucrative fees that encouraged them to disregard the risks of subprime RMBS and CDOs as well as the underlying subprime loans. Universal banks had "the most pervasive conflicts of interest" because their bank subsidiaries, nonbank affiliates, and off-balance-sheet conduits enabled them to "fulfill multiple roles in the subprime assembly line and to generate the highest possible revenues."[22] By 2007, universal banks issued, underwrote, and serviced about 60% of all "nonagency" and "private-label" RMBS and ABS, and universal banks served as trustees for about 90% of all securitization conduits.[23]

Professor Corrigan shows that universal banks used off-balance-sheet VIEs to evade rules governing bank capital, bank affiliates, and investment companies. The Basel Capital Accords and implementing rules adopted by U.S. regulators "allowed banks to reduce their capital requirements either by moving their loans (through securitization) to off-balance-sheet conduits or by obtaining financial guarantees from AAA- or AA-rated companies"—such as AIG, Ambac, and MBIA.[24] The most extreme example of such arbitrage occurred

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18. WILMARTH, *supra* note 2, at 219–20, 244–45, 250.

19. Corrigan, *supra* note 1, at 1 ("This Article presents data showing that the traditional banking sector owned, controlled, and backstopped many of the securitization vehicles at the heart of the 2007–2009 financial crisis."); *see also* Nicola Cetorelli & Stavros Peristiani, *The Role of Banks in Asset Securitization*, ECON. POL'Y REV. 47, 51 (2012) (discussing the leading roles of universal banks in securitizing subprime assets during the pre-2007 period); Pozsar et al., *supra* note 6, at 9–10, 14 (describing the importance of "internal shadow banking" vehicles before and during the GFC); Robert McCauley, *The 2008 Crisis: Transpacific or Transatlantic?*, BIS Q. REV., Dec. 2018, at 39, 39–40, 47–51 (highlighting the major roles of U.S. and European universal banks in securitizing subprime assets); WILMARTH, *supra* note 2, at 11, 157–63, 192–94, 229–51 (emphasizing the roles played by U.S. and European universal banks in promoting the subprime credit boom).

20. WILMARTH, *supra* note 2, at 3–4, 157–58, 163, 230–45; *see also* Pozsar et al., *supra* note 6, at 6 ("[U]nlike the traditional banking system, where credit intermediation is performed 'under one roof'—that of a bank—in the shadow banking system it is performed through a chain of nonbank financial intermediaries in a multistep process.").

21. WILMARTH, *supra* note 2, at 3–4, 157, 163, 230–31; *see also* Cetorelli & Peristiani, *supra* note 19, at 51 (discussing the leading roles of universal banks in securitizing subprime assets during the pre-2007 period); Pozsar et al., *supra* note 6, at 6–7, 10–11, 14.

22. WILMARTH, *supra* note 2, at 4, 230–32, 235–37, 239–51.

23. Cetorelli & Peristiani, *supra* note 19, at 58–59 & chart 4–5; *see also* WILMARTH, *supra* note 2, at 157–58, 274–76 (explaining that "agency" RMBS were issued by government-sponsored enterprises such as Fannie Mae and Freddie Mac, while "nonagency" and "private-label" RMBS and ABS were issued by private companies like universal banks and securities firms).

24. WILMARTH, *supra* note 2 at 217–18; *see also* Corrigan, *supra* note 1, at 5 & n.10, 11 n.31 (citing "literature [that] has focused on how banking used securitization to obtain preferential treatment under capital adequacy rules in the banking laws").

when federal regulators allowed universal banks to reduce their risk-based capital requirements by 90% if they transferred RMBS or CDOs to off-balance-sheet conduits that were backed by short-term guarantees (liquidity puts) from banks.[25]

Professor Corrigan makes a new and important contribution to the securitization literature by showing that the Federal Reserve Board (Fed) and the Securities and Exchange Commission (SEC) exempted off-balance-sheet securitization conduits from regulation either as affiliates of the sponsoring banks or as investment companies.[26] An informal exemption granted by the Fed[27] and a 1992 rule issued by the SEC[28] allowed bank-sponsored VIEs to escape a host of regulations governing bank affiliates and investment companies—including capital rules, restrictions on affiliate transactions and investments, prudential supervisory standards, and special receivership proceedings.[29] By allowing securitization VIEs "to avoid virtually all of the rules that apply to bank affiliates *and* investment companies," the Fed and the SEC "exacerbated distress as the 2007–2009 financial crisis unfolded."[30]

Prior to 1987, U.S. banks could not securitize loans because the Glass-Steagall Act prohibited banks (either directly or through affiliates) from underwriting and trading in securities other than government bonds.[31] Federal courts enforced Glass-Steagall's structural prohibitions until the mid-1980s.[32] However, the Fed and the Office of the Comptroller of the Currency (OCC) issued a series of rulings that opened gaping loopholes in Glass-Steagall's boundary walls between 1986 and 1996. Several of those rulings allowed banks and bank holding companies to securitize consumer and corporate loans.[33] Federal courts upheld those rulings based on the Supreme Court's 1984 *Chevron* decision,[34] which instructed federal courts to defer to "reasonable" interpretations of federal statutes by federal agencies unless a particular agency interpretation conflicted with the "unambiguously expressed intent" of Congress.[35]

Congress repealed Glass-Steagall's core provisions in 1999, thereby authorizing full-scale combinations between U.S. banks and securities broker-dealers.[36] Large U.S. banks quickly established financial holding companies that operated as "vertically integrated

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25. WILMARTH, *supra* note 2, at 219. Professor Corrigan points out that the securitization conduits of universal banks also evaded capital adequacy rules governing investment companies. Corrigan, *supra* note 1, at 35.

26. Corrigan, *supra* note 1, at 16–18.

27. *Id.* at 16. The Fed "intentionally punted on the question in one of its rulemakings on affiliate status" for bank-sponsored securitization conduits and "never returned to the matter in formal administrative materials." *Id.* In addition, the Fed never challenged advice given to banks by private legal counsel that securitization conduits were not "affiliates" of the sponsoring banks. *Id.*

28. *Id.* at 18, 22, 44–45 (discussing the SEC's adoption of Rule 3a-7 in 1992).

29. Corrigan, *supra* note 1, at 35–39.

30. *Id.* at 5–6.

31. WILMARTH, *supra* note 2, at 139, 148–50, 158–59 (discussing the impact of the Glass-Steagall Act adopted by Congress in 1933).

32. *Id.* at 149, 158–59, 409 n.11.

33. *Id.* at 159–63.

34. Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837 (1984).

35. *Id.* at 842–44; *see* WILMARTH, *supra* note 2, at 159–63, 165–66 (discussing several federal court decisions that granted *Chevron* deference to federal agency rulings undermining the Glass-Steagall Act).

36. Gramm-Leach-Bliley Act, Pub. L. No. 106-102, § 101, 113 Stat. 1338, 1341 (repealing 12 U.S.C. §§ 377 & 78).

securitization factories," including nonbank subsidiaries and off-balance-sheet conduits that encompassed "every step in the securitization process, from loan origination to the creation and marketing of RMBS, CDOs, and other mortgage-related securities."[37] Traditional banks could not have used those "internal" shadow banking vehicles if policymakers had defended the Glass-Steagall Act's key provisions.[38] During the 1980s and early 1990s, a "similar process of deregulation, consolidation, and conglomeration occurred in the U.K. and EU," which enabled European universal banks to compete with their U.S. counterparts in "global markets for securities underwriting, securitizations, structured financial products, and [over-the-counter] derivatives."[39]

Federal regulators allowed U.S. universal banks to fund much of their operations with "shadow deposits" (short-term financial claims) issued by their off-balance-sheet securitization conduits, sponsored MMMFs, and subsidiary broker-dealers.[40] As discussed above, off-balance-sheet conduits produced $1.3 billion of funding for their sponsoring banks in 2007.[41] Banks began to offer "proprietary" MMMFs to their customers in 1987.[42] Twenty years later, large U.S. and foreign banks sponsored 6 of the 20 largest institutional "prime" (nongovernment) MMMFs.[43] Prime MMMFs provided short-term funding to banks and other financial institutions by investing in their commercial paper, repos, and

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37. WILMARTH, *supra* note 2, at 163, 180–83.

38. *Id.* at 159–63, 192–94.

39. *Id.* at 194–95.

40. *See* Zoltan Pozsar, *Shadow Banking: The Money View*, 16–19, 26–29 (Off. of Fin. Res., Working Paper No. 14-04, 2014), https://www.financialresearch.gov/working-papers/files/OFRwp2014-04_Pozsar_ShadowBankingTheMoneyView.pdf [https://perma.cc/PRK5-6JSH] (referring to prime MMMFs, repos, and securities lending claims as "private shadow money"); *see also* Arthur E. Wilmarth, Jr., *The Pandemic Crisis Shows that the World Remains Trapped in a 'Global Doom Loop' of Financial Instability, Rising Debt Levels, and Escalating Bailouts*, 40 BANKING & FIN. SERVS. POL'Y REP. 1, 1, 2, 7–8 (2021), https://ssrn.com/abstract=3901967 [https://perma.cc/DX9J-ZXVG] (defining "shadow deposits" as "short-term financial claims—including money market funds, commercial paper, and securities repurchase agreements (repos)—[that] served as functional substitutes for bank deposits").

41. *See supra* notes 17–18 and accompanying text.

42. As explained below, the SEC allowed securities firms and other nonbank asset managers to offer MMMFs in the early 1970s. *See infra* note 61. For a discussion of the offering of "proprietary" MMMFs by banks, see Michelle Clark Neely, *Banks and Investment Funds: No Longer Mutually Exclusive*, FED. RES. BANK ST. LOUIS, MO. (Oct. 1, 1993), https://www.stlouisfed.org/publications/regional-economist/october-1993/banks-and-investment-funds-no-longer-mutually-exclusive [https://perma.cc/6FSY-WE9P] ("The power to sell bank-advised [mutual] fund shares was granted to national banks in 1987 by the OCC and was listed as a permissible activity for bank holding companies and their nonbank subsidiaries in 1992 by the Federal Reserve. . . . Banks are also now permitted to sell shares of their own [mutual] funds, subject to certain restrictions."); *see also id.* at fig.2 (showing that proprietary MMMFs offered by banks held roughly $130 billion of assets in 1993).

43. Marcin Kacperczyk & Philipp Schnabl, *Implicit Guarantees and Risk Taking: Evidence from Money Market Funds* 40 tbl.1 (New York Univ., Working Paper No. 2451/31335, 2011), https://www.nber.org/system/files/working_papers/w17321/w17321.pdf [https://perma.cc/P4ST-CF7C] (listing large institutional MMMFs sponsored by JPMorgan Chase, Bank of America (two funds), Deutsche Bank, Northern Trust, and Wachovia); *see also* Stefan Jacewitz, Haluk Unal, & Chengjun Wu, *Shadow Insurance? Money Market Fund Investors and Bank Sponsorship* 1–5, 9–12 (Fed. Rsrv. Bank of Kan. City Res., Working Paper 21-07, 2021), https://www.kansascityfed.org/documents/8332/rwp21-07JacewitzUnalWu.pdf [https://perma.cc/RB28-S6Q8] (analyzing bank-sponsored MMMFs and describing the differences between prime, government, and tax-exempt MMMFs).

other short-term obligations.[44] Broker-dealer subsidiaries of universal banks generated additional short-term funding by entering into repos and securities lending agreements.[45]

As discussed below in Part I.C, the U.S., U.K., and EU arranged massive rescue programs during the GFC that went far beyond their traditional practice of protecting banks and bank depositors. Bailouts during the GFC protected the entire conglomerate organizations of universal banks, including their broker-dealer subsidiaries, sponsored MMMFs, and other shadow banking affiliates.[46] As shown by those bailouts, universal banks "extract[ed] subsidies from the safety net" by establishing nonbank affiliates with the well-founded expectation that government agencies would protect all of their affiliates during a crisis.[47] In 2014, the chairman of a leading U.K. universal bank stated that governments provided an "implicit subsidy" to universal banks during the GFC "because investment banking operations were alongside society's deposits," and government officials implemented an "implicit underwriting of all the debt" of universal banks to prevent a "systemic panic."[48]

B. Prior to the Global Financial Crisis, "External" Shadow Banks Used Deposit Substitutes to Perform Core Bank Functions Without Complying with Prudential Rules Governing Banks.

Professor Corrigan's Article does not give substantial attention to "external" shadow banks—such as securities broker-dealers, finance companies, insurance companies, investment funds, and other financial institutions that provide credit intermediation services but are *not* controlled by banks.[49] I agree with Professor Corrigan's view that

44. Antoine Bouveret, Antoine Martin & Patrick E. McCabe, *Money Market Fund Vulnerabilities: A Global Perspective* 1, 12 (Bd. of Governors of Fed. Rsrv. Sys., Fin. & Econ. Discussion Ser. No. 2022-012, Mar. 2022), https://www.federalreserve.gov/econres/feds/files/2022012pap.pdf [https://perma.cc/UU8E-Y73U]; Patrick E. McCabe et al., *The Minimum Balance at Risk: A Proposal to Mitigate the Systemic Risks Posed by Money Market Funds*, Brookings Papers on Econ. Activity, Spring 2013, at 211, 211–12; Kacperczyk & Schnabl, *supra* note 17, at 35–36.

45. FIN. CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 1, 31, 113–15, 228, 248–49, 367–68, 385 (2011), https://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf [https://perma.cc/AN7P-M3NY] [hereinafter FCIC Report]; Saule 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, 1717–27, 1740–46 (2011); Pozsar, *supra* note 40, at 5–7, 33–55.

46. *See infra* notes 83–92 and accompanying text.

47. Jacewitz, Unal & Wu, *supra* note 43, at 8, 11; *see also* Omarova, *supra* note 45, at 1690, 1762–64 (explaining that the Fed allowed bank subsidiaries of universal banks "to provide financing to their affiliated securities firms, derivatives dealers, [and] money market funds" during the GFC, thereby providing "an emergency transfusion of the federal [safety net] subsidy into the shadow banking system"); WILMARTH, *supra* note 2, at 4, 175–76, 182–85, 192, 268, 299–300, 317–18, 340–41, 352–53, 478–79 n.104 (analyzing decisions by federal agencies to extend the "federal safety net" to protect securities broker-dealers and other nonbank affiliates of universal banks during the GFC, and explaining that universal bank executives expected and defended those actions).

48. WILMARTH, *supra* note 2, at 317–18, 478 n.96 (quoting testimony by HSBC chairman Douglas Flint before a House of Lords subcommittee on Oct. 21, 2014).

49. Corrigan, *supra* note 1, at 32–34, 40. (indicating that shadow banks that are not affiliated with traditional banks are matters of secondary concern); *see also* Pozsar et al., *supra* note 6, at 10–14 (describing various types of "external" shadow banks that are not affiliated with traditional banks); FCIC Report, *supra* note 45, at 27–34,

bank-affiliated ("internal") shadow banks pose intolerable dangers to financial and economic stability.[50] However, "external" shadow banks deserve greater scrutiny because they played significant roles in precipitating the GFC and create continuing threats to the integrity and stability of our financial markets.

Securities firms that were not controlled by traditional banks were the most important category of "external" shadow banks prior to the GFC. During the late 1990s and early 2000s, the five largest U.S. securities firms—Bear Stearns (Bear), Goldman Sachs (Goldman), Lehman Brothers (Lehman), Merrill Lynch (Merrill), and Morgan Stanley (collectively, the "Big Five")—competed for leadership in global capital markets with 12 major universal banks (4 from the U.S. and 8 from Europe).[51] The resulting group of "Big Seventeen" financial conglomerates dominated financial markets on both sides of the Atlantic during the early 2000s.[52] The Big Seventeen became "the epicenter of the financial crisis, as they suffered $900 billion of the $1.5 trillion of total worldwide losses that banks, securities firms, and insurers reported between June 2007 and March 2010."[53]

In 2007, the Big Five securities firms held $4.3 trillion of assets.[54] They funded most of those assets by issuing over $3.5 trillion of repos and short-term commercial paper, which were frequently purchased by MMMFs they sponsored.[55] Short-term commercial paper, repos, and MMMFs provided the Big Five securities firms with functional substitutes for bank deposits. Those shadow deposits were payable at par (100% of face value) either on demand or within a short period of time.[56]

Shadow deposits enabled the Big Five securities firms to operate as de facto universal banks and compete successfully with U.S. and European universal banks.[57] The total volume of shadow deposits issued by the Big Five securities firms and other shadow banks—including broker-dealer subsidiaries of U.S. and European universal banks—rapidly expanded from about $500 billion in the early 1980s to $12 trillion in 2007.[58] The

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88–89 113–15, 132–37, 139–46, 189–92, 200–04, 233–34, 238–42, 257–59, 276–78 (discussing the roles played by "shadow banks" that were not controlled by banks during the period leading up to the GFC).

50. Corrigan, *supra* note 1, at 1–4, 47.

51. WILMARTH, *supra* note 2, at 3, 194–97, 230; *see also* FCIC Report, *supra* note 45, at 150–54 (describing the growth of the Big Five securities firms prior to the GFC); McCauley, *supra* note 19, at 47 & tbl.3 (showing that the Big Five securities firms underwrote about 40% of the subprime RMBS deals completed between 1997 and 2007, and large European and U.S. universal banks accounted for about 54% of those deals).

52. WILMARTH, *supra* note 2, at 3, 194–97, 230, 358 n.27, 438 n.5.

53. *Id.* at 291.

54. *Id.* at 220, 250, 341.

55. *Id.*; *see also* FCIC Report, *supra* note 45, at 29–34, 150–51.

56. WILMARTH, *supra* note 2, at 153–56, 194, 250; *see also* Wilmarth, *supra* note 40, at 2, 7–8, 19–20 & n.34 (discussing shadow deposits and shadow banks). In addition, Goldman, Lehman, Merrill, and Morgan Stanley acquired thrift institutions and industrial banks that collectively held almost $160 billion of FDIC-insured deposits in 2007. WILMARTH, *supra* note 2, at 194; FCIC Report, *supra* note 45, at 151.

57. WILMARTH, *supra* note 2, at 194–97, 230, 252; *see also* Andrew F. Tuch, *The Remaking of Wall Street*, 7 HARV. BUS. L. REV. 315, 323–32 (2017) (explaining that the largest Wall Street securities firms expanded their "bank-like functions" to compete with universal banks and thereby became "shadow banks" prior to the GFC).

58. WILMARTH, *supra* note 2, at 154–56 (citing the $12 trillion figure for 2007 and explaining that MMMFs had total assets of $235 billion in 1982, while the total amount of repos held by securities firms was $110 billion in 1981); Mitchell Post, *The Evolution of the U.S. Commercial Paper Market Since 1980*, 78 FED. RSRV. BULL. 879, 880 tbl.1 (1992) (showing that $166 billion of commercial paper was outstanding in 1981 and 1982); *see also* FCIC Report, *supra* note 45, at 32 fig.2.1 (illustrating the rapid growth of funding from the shadow banking

total amount of shadow deposits in 2007 substantially exceeded the $8.4 trillion of insured and uninsured deposits held by U.S. banks.[59]

Federal officials encouraged and supported the development and growth of shadow deposits from the early 1970s through the early 2000s because they viewed shadow deposits as desirable innovations that promoted deregulation of the U.S. banking system and financial markets.[60] However, shadow deposits contravened the clear intent of section 21 of the Glass-Steagall Act, which prohibited nonbanks from "engag[ing], to any extent whatever, in the business of receiving deposits."[61] Contrary to the clear purpose of section 21, the rapid growth of shadow deposits allowed the Big Five securities firms and other "external" shadow banks to "amplify and replicate . . . the functions of traditional banks" while avoiding compliance with the prudential rules governing banks."[62]

Nonbank mortgage lenders and other types of nonbank finance companies represented a second major category of "external" shadow banks prior to the GFC.[63] Nonbank mortgage lenders received most of their funding from warehouse lines of credit and repos provided by universal banks and the Big Five securities firms.[64] Two of the most aggressive and reckless nonbank subprime lenders—Ameriquest and New Century—relied heavily on funding provided by universal banks and securities firms that packaged their risky mortgages into subprime RMBS.[65]

A third category of "external" shadow banks prior to the GFC included insurance companies that provided financial guarantees for mortgage-related securities and

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system between 1980 and 2007 and showing that funding from that system exceeded funding from the traditional banking system between 2005 and 2007).

59. WILMARTH, *supra* note 2, at 156, 411 n.55.

60. *Id.* at 153–57, 252–54, 263–64; *see also* FCIC Report, *supra* note 45, at 27–34, 103, 255; Lev Menand & Joshua Younger, *Money and the Public Debt: Treasury Market Liquidity as a Legal Phenomenon*, 2023 COLUM. BUS. L. REV. 224, 233–35, 283–301 (describing how the Fed encouraged and Congress supported the rapid growth of the repo market between 1980 and 2007—a development that "catalyzed the growth of 'shadow banking,' redirecting vast supplies of corporate cash away from regulated banks"); MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION *passim* (2016) (analyzing the political and regulatory decisions that promoted the growth of shadow banking).

61. 12 U.S.C. § 378(a)(2); *see* WILMARTH, *supra* note 2, at 137–39, 153–56, 263–64, 268–69, 341–42 (discussing the purpose of section 21 and the failure by federal regulators to uphold that purpose). The SEC allowed securities firms and other nonbank asset managers to sponsor MMMFs in the early 1970s. *Id.* at 153–54. In 1979, the chairman of a New York savings bank wrote to the SEC and the Department of Justice (DOJ) alleging that securities firms were violating section 21 of the Glass-Steagall Act, 12 U.S.C. § 378, by offering MMMFs with check-writing privileges. The DOJ rejected that claim, based on the DOJ's highly formalistic conclusion that investors in MMMFs were not "depositors" because they held equity interests rather than debt claims. WILMARTH, *supra* note 2, at 154. The DOJ's analysis "ignored the practical reality that MMMFs with [check-writing] features were functionally equivalent to checking accounts and were viewed as such by consumers." *Id.*

62. WILMARTH, *supra* note 2, at 137–40, 153–56, 264, 268–69, 341–42, 411 n.48 (quoting Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1144, 1192 (2017)).

63. Pozsar et al., *supra* note 6, at 6–7, 10–14; AMIT SERU, REGULATION OF THE MORTGAGE MARKET MUST CONSIDER SHADOW BANKS (Dec. 2018), https://drive.google.com/file/d/1TXNzVOiQdg4NhXby8x_fDoocPibC-lsK/view [https://perma.cc/C92Y-EWQE].

64. FCIC Report, *supra* note 45, at 113–15; WILMARTH, *supra* note 2, at 208, 230, 242, 245.

65. FCIC Report, *supra* note 45, at 12, 71, 89–91, 96, 105, 110–11, 113–15, 117, 157, 160–62; WILMARTH, *supra* note 2, at 208, 230, 245.

investment funds that actively traded in those securities.[66] AIG and monoline bond insurers (such as Ambac and MBIA) provided financial guarantees for subprime RMBS and CDOs by issuing credit default swaps (CDS) and mortgage bond insurance.[67] AIG also actively traded in subprime mortgage-related securities.[68] By the end of 2007, AIG had written $80 billion of CDS protection on senior tranches of CDOs, borrowed $75 billion through securities lending agreements, and invested most of those borrowings in subprime RMBS and CDOS.[69]

Hedge funds and other investment funds purchased junior (subordinated) interests in subprime RMBS and CDOs as well as ABCP issued by securitization conduits, and they also entered into CDS that provided protection against defaults on subprime-related securities.[70] Like AIG, those investment funds relied heavily on short-term credit provided by universal banks, the Big Five securities firms, and MMMFs through repos, securities lending agreements, and sales of commercial paper.[71] Hedge funds also received prime brokerage services (including margin credit, repos, other loans, and derivatives) from universal banks and the Big Five securities firms.[72]

C. Universal Banks and "External" Shadow Banks Created Enormous Risks During the Global Financial Crisis and Received Huge Bailouts.

Universal banks and "external" shadow banks played leading roles in generating almost $10 trillion of subprime mortgages and other risky private-sector debts by 2007. More than half of those debts were securitized to create $5 trillion of speculative structured-finance securities (including subprime RMBS and CDOs) as well as $1 trillion of junk bonds.[73] In addition, some $15 trillion of CDS provided protection against defaults on many of the foregoing obligations.[74]

As I explained in previous work, "U.S. credit markets in 2007 resembled an 'inverted pyramid of risk,' in which 'multiple layers of financial bets' depended on the performance

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66. Pozsar et al., *supra* note 6, at 4–6, 12 (describing the third category of "external" shadow banks as "private credit-risk repositories").

67. FCIC Report, *supra* note 45, at 139–42, 196, 200–04, 206, 243–44, 258–59, 265–74, 276–78.

68. *Id.* at 345, 376–77 fig.20.4; WILMARTH, *supra* note 2, at 281, 455 n.92.

69. WILMARTH, *supra* note 2, at 281, 455 n.92.

70. Corrigan, *supra* note 1, at 19, 25; FCIC Report, *supra* note 45, at xxi, 9, 71–72, 117, 134–37, 142–43, 188, 191–95, 237–47, 256; WILMARTH, *supra* note 2, at 218, 235, 240, 246, 249, 254.

71. FCIC Report, *supra* note 4, at 8–9, 134–37, 238–42, 280–82, 286–88. By 2007, hedge funds, insurers, and other investors had borrowed $1.2 trillion under securities lending agreements, and they used those funds to trade in RMBS, CDOs, and other securities. *Id.* at 345, 376–77; FIN. STABILITY OVERSIGHT COUNCIL, 2011 ANNUAL REPORT 61, 66, 74–75 (July 22, 2011) [hereinafter FSOC 2011 Annual Report], https://home.treasury.gov/system/files/261/FSOCAR2011.pdf [https://perma.cc/V966-HA6H]; WILMARTH, *supra* note 2, at 281, 455 n.92.

72. FCIC Report, *supra* note 45, at 280–82, 286–88, 325–31, 354–55, 360–65; *see also* FINANCIAL STABILITY BOARD, THE FINANCIAL STABILITY IMPLICATIONS OF LEVERAGE IN NON-BANK INTERMEDIATION 17–27 (Sept. 6, 2023), https://www.fsb.org/wp-content/uploads/P060923-2.pdf [https://perma.cc/D8TZ-BPFE] (describing lending and other services provided by prime brokers to hedge funds and other asset managers and trading firms).

73. WILMARTH, *supra* note 2, at 249–50.

74. *Id.* at 250.

of speculative loans held in securitized pools."[75] Consequently, the "largest financial institutions and millions of U.S. homeowners were linked together in a massive Ponzi finance scheme, which was doomed to fail as soon as home prices dropped significantly."[76] Universal banks and other financial conglomerates financed many of their speculative "bets" by issuing shadow deposits that were subject to severe liquidity risks and threats of runs by investors.[77]

During the spring and summer of 2007, default rates on subprime mortgages rose sharply, and credit rating agencies downgraded thousands of tranches of risky ABS, RMBS, and CDOs.[78] Several nonbank subprime mortgage lenders—including Ameriquest, New Century, and American Home Mortgage—collapsed and went out of business after universal banks and securities firms cut off their warehouse lines of credit and refused to renew their repos.[79] The foregoing developments caused many investors to withdraw from the ABCP market during the late summer and fall of 2007, imposing great stress on MMMFs that invested in ABCP and repo borrowers that offered ABCP as collateral for their loans.[80] Dozens of financial sponsors, including large U.S. and European banks, rescued their securitization conduits and MMMFs by purchasing ABCP issued by their sponsored conduits and by providing capital infusions, guarantees, and other forms of financial support to their sponsored MMMFs.[81]

A more severe and generalized run by investors in shadow deposits occurred after Lehman Brothers declared bankruptcy and defaulted on its commercial paper in September 2008.[82] The GFC entered its most critical stage, and U.S. government agencies responded with massive bailouts and emergency lending programs that rescued large banks, securities broker-dealers (including broker-dealers owned by universal banks), and AIG as well as markets for shadow deposits (including commercial paper, MMMFs, and repos).[83] The

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75. *Id.* (quoting Arthur E. Wilmarth, Jr., *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 966–67 (2011)).

76. WILMARTH, *supra* note 2, at 251.

77. *Id.* at 250–64.

78. FCIC Report, *supra* note 45, at 233–34, 238–43, 246–52; WILMARTH, *supra* note 2, at 245, 254–58.

79. FCIC Report, *supra* note 45, at 22, 233, 251; WILMARTH, *supra* note 2, at 245; ASSOCIATED PRESS, *American Home Mortgage Files for Bankruptcy*, NBC NEWS (Aug. 6, 2007), https://www.nbcnews.com/id/wbna20144277 [https://perma.cc/T545-E6LW].

80. FCIC Report, *supra* note 45, at 238–43, 246–52; Kacperczyk & Schnabl, *supra* note 17, at 29–30, 37–40; WILMARTH, *supra* note 2, at 254–58.

81. Bouveret, Martin & Antoine, *supra* note 44, at 14; Steffanie A. Brady, Ken E. Anadu & Nathaniel R. Cooper, *The Stability of Prime Money Market Mutual Funds: Sponsor Support from 2007 to 2011* (Fed. Rsrv. Bank Bos., Risk & Pol'y Analysis Unit, Working Paper No. 12-3, 2012), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3015986 [https://perma.cc/9FJG-UTEG]; FCIC Report, *supra* note 45, at 250–54; Kacperczyk & Schnabl, *supra* note 17, at 37–40; WILMARTH, *supra* note 2, at 245, 254–58.

82. Bouveret, Martin & Antoine, *supra* note 44, at 14–15; FCIC Report, *supra* note 45, at 353–63; Kacperczyk & Schnabl, *supra* note 17, at 40–41; WILMARTH, *supra* note 2, at 280–82.

83. FCIC Report, *supra* note 45, at 366–86; Kacperczyk & Schnabl, *supra* note 17, at 41–45; Pozsar et al., *supra* note 6, at 13; WILMARTH, *supra* note 2, at 282–96; U.S. GOV'T ACCOUNTABILITY OFF., GAO-11-696, FEDERAL RESERVE SYSTEM: OPPORTUNITIES EXIST TO STRENGTHEN POLICIES AND PROCESSES FOR MANAGING EMERGENCY ASSISTANCE 12–37 (July 2011) [hereinafter 2011 GAO Bailout Report], https://www.gao.gov/assets/gao-11-696.pdf [https://perma.cc/3L45-7GFS].

U.K. and EU adopted similar rescue programs for their universal banks and financial markets.[84]

The U.S., U.K., and EU collectively "provided more than $12 trillion of capital infusions, financial guarantees, and emergency loans" to rescue universal banks, shadow banks, and wholesale financial markets during the GFC, thereby "going far beyond their traditional practice of protecting banks and bank depositors."[85] Leading universal banks in the U.S., U.K. and EU—including Citigroup, Bank of America (BofA), Commerzbank, ING, Royal Bank of Scotland (RBS), and UBS—received huge bailouts.[86] U.S. officials rescued four of the Big Five securities firms by providing financial assistance to support the sale of Bear to JPMorgan Chase (JPMC), the acquisition of Merrill by BofA, and the emergency conversions of Goldman and Morgan Stanley into bank holding companies.[87] The 20 institutions that received the largest amounts of assistance from the Fed's emergency lending programs during the GFC included the five largest U.S. universal banks (Citigroup, JPMC, BofA, Wells Fargo, and Wachovia), the Big Five securities firms, and ten big European universal banks (Bank of Scotland, Barclays, BNP Paribas, Credit Suisse, Deutsche Bank, Dexia, Dresdner Bank, RBS, Société Générale, and UBS).[88]

AIG received more than $180 billion of assistance from the federal government.[89] U.S. officials instructed AIG to use over $100 billion of those funds to satisfy obligations that AIG owed to many of the same universal banks and securities firms under CDS and securities lending agreements.[90] AIG ultimately used over half of its bailout funds to prevent leading universal banks and securities firms from suffering punishing losses.[91] Thus, the leading beneficiaries of the rescue programs established by the U.S., U.K., and EU during the GFC were global universal banks (including their "internal" shadow bank affiliates) and the most important "external" shadow banks. That outcome was consistent with a pledge made by finance ministers of the Group of 7 (G7) countries in October 2008, when they declared that the G7 would "take decisive action and use all available tools to support systemically important financial institutions and prevent their failure."[92]

D. Universal Banks and "External" Shadow Banks Have Expanded Significantly

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84. WILMARTH, *supra* note 2, at 295–97.

85. *Id.* at 4, 291 ("The total outstanding amount of emergency loans, capital infusions, guarantees, and other U.S. government assistance to financial institutions peaked at almost $7 trillion in early 2009."); *id.* at 296 ("The EU [, including the U.K.,] authorized almost €5 trillion of state aid for banks in the form of capital infusions, asset purchases, and financial guarantees" during the GFC).

86. *Id.* at 287–91, 296; FCIC Report, *supra* note 45, at 373–76, 379–86.

87. FCIC Report, *supra* note 45, at 289–91, 360–63, 373–76, 382–86; WILMARTH, *supra* note 2, at 266–69, 281–86.

88. GAO Bailout Report, *supra* note 83, at 130–32, tbl.8.

89. *AIG Program Status*, U.S. DEP'T TREASURY, https://home.treasury.gov/data/troubled-assets-relief-program/aig/status#:~:text=During%20the%20financial%20crisis%2C%20the%20government%27s%20overall%20support,the%20Federal%20Reserve%20Bank%20of%20New%20York%20%28FRBNY%29 [https://perma.cc/NLT9-3GYD].

90. FCIC Report, *supra* note 45, at 376–79; WILMARTH, *supra* note 2, at 284.

91. WILMARTH, *supra* note 2, at 282–84.

92. *Id.* at 287, 295.

Since 2009 and Pose Grave Threats to Financial and Economic Stability.

Professor Corrigan's Article does not examine the continued growth of universal banks (including their "internal" shadow banks) and "external" shadow banks after the GFC. To fill that gap, Part I.D.1 describes the expansion of universal banks and "external" shadow banks since 2009. As described in Part I.D.2, a series of financial disruptions since 2019 has demonstrated that universal banks and "external" shadow banks continue to impose unacceptable risks and costs on our financial system, economy, and society.

1. Universal Banks and "External" Shadow Banks Have Grown Rapidly Since 2009.

In 2009, the Group of 20 (G20) nations agreed on a series of financial regulatory reforms. The G20's proposed reforms focused primarily on stronger capital and liquidity requirements for banks, enhanced derivatives reporting and clearing requirements, and new procedures for resolving failures of systemically important financial institutions.[93] The G20's reform agenda did not recommend fundamental changes to the pre-crisis structure of financial institutions and financial markets. Consequently, the G20's agenda—which was largely adopted by the U.S., U.K., and EU—left in place the system of universal banks and "external" shadow banks that financed the toxic credit boom of the 2000s.[94] Indeed, the enormous bailouts that governments and central banks provided to universal banks and "external" shadow banks during the GFC enabled many of those institutions to become even larger and more dominant players in global financial markets after 2009.[95]

Universal banks and "external" shadow banks expanded rapidly between 2009 and 2021. In 2021, global banks held $183 trillion of assets, while "external" shadow banks held $68 trillion of assets.[96] The assets held by global banks increased by about 50% between 2009 and 2021,[97] while the assets held by global "external" shadow banks more

93. *Id.* at 299–316 discussing the G20's proposed reforms and implementation of those reforms by the U.S., U.K., and EU).

94. *Id.* at 300–03, 327–31, 353–54.

95. WILMARTH, *supra* note 2, at 266–69, 285–97, 316–20 (explaining that the "Big Seventeen" group of financial conglomerates of the early 2000s consolidated into a "Big Thirteen" group of U.S. and European universal banks after the GFC, and the "Big Thirteen" continued to dominate global financial markets after 2009).

96. FINANCIAL STABILITY BOARD, GLOBAL MONITORING REPORT ON NON-BANK FINANCIAL INTERMEDIATION 2022, at 7 & fig.1-1 (Dec. 20, 2022), https://www.fsb.org/wp-content/uploads/P201222.pdf [https://perma.cc/53M6-532T] [hereinafter FSB's 2022 Shadow Banking Report]. This Article uses the Financial Stability Board's data for the "narrow measure of non-bank financial intermediation" [hereinafter FSB's narrow measure of NBFI] as a proxy for the size and importance of "external" shadow banks. The FSB's narrow measure of NBFI includes nonbank financial institutions that are "involved in credit intermediation activities that may pose bank-like financial stability risks (i.e. credit intermediation that involves maturity/liquidity transformation, leverage or imperfect credit risk transfer) and/or regulatory arbitrage." *Id.* at 3 & tbl.T0-1. Those nonbank financial institutions include the same categories of nonbank financial companies that are described by Pozsar and other researchers as "external" shadow banks—namely, MMMFs, credit hedge funds, broker-dealers, finance companies, monoline insurance companies, other financial guarantors, and securitization conduits. *Id.* at 3, 31; Pozsar et al., *supra* note 6, at 10–14.

97. FSB's 2022 Shadow Banking Report, *supra* note 96, at 7 fig.1-1 (showing that global banks held $182.9 trillion of assets in 2021); FINANCIAL STABILITY BOARD, GLOBAL SHADOW BANKING MONITORING REPORT 2012, at 9 (Nov. 18, 2012) (showing that global banks held about $120 trillion of assets in 2009).

than doubled during the same time period.[98] The assets controlled by global banks in 2021 included about $11 trillion of "internal" shadow banking assets held by their broker-dealer and finance company subsidiaries as well as their securitization conduits.[99]

Since the GFC, universal banks and "external" shadow banks have relied heavily on funding provided by shadow deposits, including MMMFs, commercial paper, and repos.[100] Assets held by global MMMFs increased from $5.5 trillion to $9.1 trillion between 2008 and 2021, while global repo markets expanded from $6 trillion to more than $13 trillion.[101] About $2.4 trillion of commercial paper was outstanding in the U.S. and EU in 2022, and most of that paper was issued by banks and nonbank financial institutions.[102] As discussed in the following two sections, broker-dealers, MMMFs, hedge funds, and private equity funds have played leading roles in fueling the growth of shadow banking assets.

a. *The Central Roles of Broker-Dealers, MMMFs, and Hedge Funds*

Broker-dealers and MMMFs are highly important shadow banks because they provide crucial links between short-term wholesale financial markets, banks, and nonbank financial institutions.[103] Broker-dealers and MMMFs provide large volumes of short-term funding

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98. FSB's 2022 Shadow Banking Report, *supra* note 96, at 74 (showing that assets held by the FSB's narrow measure of NBFI increased from $29.1 trillion in 2009 to $67.8 trillion in 2021). For further discussion of the growth of "external" shadow banks, see *id.* at 1, 6, 7, 13–15, 30–31, 36–38. During 2022, as a result of rising interest rates, higher inflation, and geopolitical conflicts, the FSB's narrow measure of NBFI declined to $63.1 trillion, while the assets of global banks increased slightly to $183.2 trillion. FINANCIAL STABILITY BOARD, GLOBAL MONITORING REPORT ON NON-BANK FINANCIAL INTERMEDIATION 2023, at 3 tbl.0–1, 6–7 & graph 1–1, 29–31 (2023), https://www.fsb.org/wp-content/uploads/P181223.pdf [https://perma.cc/JQX7-DNQP].

99. FSB's 2022 Shadow Banking Report, *supra* note 96, at 3 tbl.0–1, 36, 75 annex 3 (explaining that the FSB's narrow measure of NBFI does not include $11 trillion of assets held by broker-dealers, finance companies, and securitization conduits that are "prudentially consolidated into banks").

100. *Id.* at 2–7; Bouveret, Martin & Antoine, *supra* note 44, at 12–13; Kacperczyk & Schnabl, *supra* note 17, at 32–35.

101. Wilmarth, *supra* note 40, at 6–7 (providing 2008 figures); FSB's 2022 Shadow Banking Report, *supra* note 96, at 35 tbl.2–2 (providing 2021 figure for MMMFs); Josh Galper, *Update: We Size The Global Repo Markets at US$13.4 Trillion,* FINADIUM (Aug. 3, 2021), https://finadium.com/updated-we-size-the-global-repo-markets-at-us13-4-trillion-premium/ (providing 2021 figure for repos).

102. Matteo Aquilina, Andreas Schrimpf & Karamfil Todorov, *CP and CDs Markets: a Primer*, BIS Q. REV., Sept. 2023, at 66 & graph 1, https://www.bis.org/publ/qtrpdf/r_qt2309e.pdf [https://perma.cc/W5EL-FB3N] (discussing trends in the commercial paper market between 2008 and 2022); *id.* at 67–68 (stating that financial institutions account for about 80% of the outstanding commercial paper issued in the United States and about 90% issued in Europe).

103. FSB's 2022 Shadow Banking Report, *supra* note 96, at 60 ("[Broker-dealers] fulfil [sic] several important functions, including providing short-term credit to their clients in covering their positions, supplying liquidity through market-making activities, facilitating trading activities, providing brokerage or investment advice to clients, publishing investment research, and helping raise capital for corporations. The connections that [broker-dealers] make as market intermediaries are central to the proper functioning of an economy."); *id.* at 61 ("[Broker-dealers] are a critical part of financial intermediation chains, in particular by facilitating other entities' trading in securities and providing liquidity to securities markets."); *see also* Bouveret, Martin & Antoine, *supra* note 44, at 1 ("From their origins, MMFs operated in the niche between the capital markets and the banking system, as investment funds that offered private money-like assets with features similar to those of bank deposits. . . . MMFs today are popular around the world, with over $9 trillion in assets under management (AUM) as of mid-2021, about 13 percent of global mutual fund assets."); *id.* at 12 ("MMFs are key intermediaries in the systemically important short-term funding markets.").

to banks and nonbank financial companies.[104] Conversely, broker-dealers rely heavily on repos and other short-term credit furnished by MMMFs and banks.[105] Similarly, troubled MMMFs have frequently relied on bailouts provided by their bank and nonbank sponsors.[106]

Broker-dealers held $12.5 trillion of assets in 2021, with $8 trillion of those assets held by bank-controlled broker-dealers ("internal" shadow banks) and the remaining $4.5 trillion held by nonbank-controlled broker-dealers ("external" shadow banks).[107] Both types of broker-dealers securitize credit assets, and their securitization conduits held about $6 trillion of assets in 2021.[108] Banks remain the primary suppliers of investment and credit to securitization conduits[109] as they were prior to the GFC.[110]

Bank-controlled and nonbank-controlled broker-dealers act as prime brokers for hedge funds and other trading firms, and their prime brokerage services include derivatives, margin loans, repos, and securities lending.[111] Nine of the ten largest prime brokers in 2022

104. FSB's 2022 Shadow Banking Report, *supra* note 96, at 24–26, 27 graph 1–12, 52–54, 63–65; *see also* Bouveret, Martin & Antoine, *supra* note 44, at 12 ("MMMFs are . . . pivotal in the financial system because MMFs globally (including prime funds in the United States) mostly invest in the obligations of financial institutions, notably banks. In the United States, 80 percent of the private financing provided by prime funds is debt and repo financing for banks; in the EU, banks account for close to 70 percent of all MMF exposures."); FINANCIAL STABILITY OVERSIGHT COUNCIL, ANNUAL REPORT 2022, at 28 (Dec. 16, 2022), https://home.treasury.gov/system/files/261/FSOC2022AnnualReport.pdf [https://perma.cc/Y2ZN-N427] [hereinafter FSOC 2022 Annual Report] ("Large bank-affiliated [broker-]dealers serve as the primary intermediaries in the repo market by borrowing from cash lenders, such as MMFs, and lending to entities that employ leverage, such as hedge funds. Dealers also borrow in the repo market to finance their own securities holdings.") (footnote omitted)).

105. BD. OF GOVERNORS OF THE FED. RSRV. SYS., FINANCIAL STABILITY REPORT 43 fig.3.15 (2023), https://www.federalreserve.gov/publications/files/financial-stability-report-20230508.pdf [https://perma.cc/A3YG-Y396] [hereinafter Fed's 2023 Financial Stability Report] (showing credit commitments provided by banks to broker-dealers between 2018 and 2022); FSB's 2022 Shadow Banking Report, *supra* note 96, at 63–65 (discussing credit provided by banks to broker-dealers); *see also* FINANCIAL STABILITY BOARD, THE FINANCIAL STABILITY IMPLICATIONS OF LEVERAGE IN NON-BANK FINANCIAL INTERMEDIATION 12 (Sept. 6, 2023), https://www.fsb.org/wp-content/uploads/P060923-2.pdf [https://perma.cc/E4AH-ZJYQ] [hereinafter FSB's 2023 Non-Bank Leverage Report] (explaining that broker-dealers are "the most highly leveraged entities . . . [that] make use of significant amounts of repo funding and short-term debt"); *see also* Tuch, *supra* note 57, at 330–32, 359–60 & n.290 (describing the heavy reliance of the "Big Five" securities firms on repos and commercial paper prior to the GFC).

106. Bouveret, Martin & Antoine, *supra* note 44, at 8–9, 13–15 (describing financial support provided by bank and nonbank sponsors to troubled MMMFs); Brady, Anadu & Cooper, *supra* note 81 (same).

107. FSB's 2022 Shadow Banking Report, *supra* note 96, at 35 tbl.2–2 (showing that $4.5 trillion of broker-dealer assets were held by broker-dealers that were not affiliated with banks); *id.* at 60, 75 annex 3 (indicating that bank-owned broker-dealers held about $8 trillion of assets).

108. *Id.* at 15, 35 tbl.2–2, 69–70, 75.

109. *Id.* at 26, 70–71; Fed's 2023 Financial Stability Report, *supra* note 105, at 43–44 & fig.3.15 (reporting on "bank lending to nonbank financial institutions" from 2018–2022).

110. Corrigan, *supra* note 1, at 17–30.

111. Fed's 2023 Financial Stability Report, *supra* note 105, at 52–53, 63, 65; FSB's 2023 Non-Bank Leverage Report, *supra* note 105, at 17, 22–26; FSOC 2011 Annual Report, *supra* note 71, at 56, 68–71, 74–75; *see also* Jonathan Guthrie, *The Real Regulatory Risk Highlighted by a Booming US Treasury Arbitrage*, FIN. TIMES (Nov. 12, 2023), https://www.ft.com/content/4792eb08-4427-4cc3-a607-022ff8ad3c74 (on file with the *Journal of Corporation Law*) (reporting that "Wall Street banks" earn significant revenues from acting as prime brokers for hedge funds).

were either U.S. or European universal banks.[112] Assets managed by hedge funds expanded rapidly after the GFC, rising from $2 trillion in 2010 to $9.8 trillion in 2021.[113] Many hedge funds pursue highly-leveraged investment strategies that rely on both traditional (loan-based) and synthetic (derivatives-based) credit provided by prime brokers.[114]

b. The Rapid Growth of Private Equity Firms

Private equity (PE) firms represent another highly significant category of shadow banks, and their total assets under management increased from $1.5 trillion to $12 trillion between 2008 and 2022.[115] The three biggest PE firms—Blackstone, Apollo, and KKR—controlled about a fifth of those assets in 2022.[116] Since the GFC, Blackstone, Apollo, and KKR have transformed themselves into large financial conglomerates by establishing broker-dealer subsidiaries, acquiring controlling interests in life insurance companies, and managing hedge funds.[117] "Today's leading private equity firms compete directly with universal banks and strongly resemble the 'Big Five' securities broker-dealers" that were major rivals of universal banks prior to the GFC.[118]

PE firms arranged almost $5 trillion of global corporate transactions between 2020 and 2022,[119] and they controlled a quarter of the market for global corporate mergers and acquisitions at the end of that period.[120] To finance such transactions, PE firms and

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112. FSB's 2023 Non-Bank Leverage Report, *supra* note 105, at 25 graph 14 (showing that Goldman, Morgan Stanley, JPMC, BofA, Credit Suisse, UBS, BNP Paribas, Citigroup, and Barclays were nine of the ten largest prime brokers).

113. FSOC 2011 Annual Report, *supra* note 71, at 68 (providing 2010 figure); FSOC 2022 Annual Report, *supra* note 104, at 42 (providing 2021 figure).

114. FSB's 2023 Non-Bank Leverage Report, *supra* note 105, at 1–3, 17–27, 43; FSOC 2022 Annual Report, *supra* note 104, at 41–44.

115. Fabio Cortes, Mohamed Diady & Peter Windsor, *Private Equity and Life Insurers* 2 (Int'l Monetary Fund, Global Financial Stability Note 2023/001, Dec. 2023) (providing 2022 figure), https://www.imf.org/en/Publications/global-financial-stability-notes/Issues/2023/12/13/Private-Equity-and-Life-Insurers-541437 [https://perma.cc/C4Z7-R6RW]; Maureen Farrell, *A 'Shadow' Lending Market in the U.S. Funded by Insurance Premiums*, N.Y. TIMES (Oct. 4, 2023), https://www.nytimes.com/2023/10/04/business/private-equity-insurance.html (on file with the *Journal of Corporation Law*) (providing 2008 figure).

116. Cortes, Diady & Windsor, *supra* note 115, at 2.

117. Valentino Vasi, *Easy Money—Private Equity Firms Collecting Transaction Fees*, CARTER LEDYARD CLIENT ADVISORY (Mar. 19, 2018), https://www.clm.com/easy-money-private-equity-firms-collecting-transaction-fees [https://perma.cc/332U-BLW6]; Tuch, *supra* note 57, at 338–50, 363–67; Wilmarth, *supra* note 40, at 2, 7, 13, 22–23 & n.84.

118. Wilmarth, *supra* note 40, at 13, 22–23 & n.84; *see also* Tuch, *supra* note 57, at 320 ("[P]rivate equity firms have increased in scale and scope in the wake of the [GFC], to the point where they now closely resemble the major investment banks of old."); *id.* at 338–50 (describing how private equity firms expanded and diversified their financial activities); Antoine Gara, *The Private Equity Club: How Corporate Raiders Became Teams of Rivals*, FIN. TIMES (Aug. 9, 2022), https://www.ft.com/content/aec70aab-7215-4fa7-9ee3-1224d967dc28 (on file with the *Journal of Corporation Law*) (same).

119. Thierry Bosly, Oliver Brahmst & Daniel Yeh, *Private Equity Hits the Brakes in Choppy Global Market*, WHITE & CASE M&A EXPLORER (Jan. 25, 2023), https://mergers.whitecase.com/highlights/private-equity-hits-the-brakes-in-choppy-global-market [https://perma.cc/9V7C-5HJG] (showing the amount of buyouts, secondary buyouts, and refinancings arranged by PE firms in 2020, 2021, and 2022).

120. Stefania Palma & James Fontanella-Khan, *US Trustbusters: Why Joe Biden Is Taking on Private Equity*, FIN. TIMES (Aug. 22, 2022), https://www.ft.com/content/e9cc796e-351c-462b-8b72-e9e3c5bdd2fe (on file with the *Journal of Corporation Law*).

universal banks underwrite three types of risky corporate obligations: leveraged loans, high-yield (junk) bonds, and private credit (direct loans from nonbanks to businesses).[121] In 2023, the total amount of outstanding leveraged corporate loans, junk bonds, and private credit facilities increased to about$4.4 trillion.[122]

PE-controlled life insurers hold about one-tenth of U.S. life insurance assets.[123] PE-controlled life insurers play major roles in financing their parent firms' deals by purchasing private debt obligations as well as mezzanine tranches of collateralized loan obligations (CLOs) that are backed by pools of risky leveraged loans.[124] PE firms also receive substantial amounts of credit from banks,[125] and banks provide further support to PE firms by packaging their leveraged loans and private debt obligations into CLOs and collateralized fund obligations.[126]

As shown by the foregoing discussion, universal banks are crucial supporters as well as active competitors of PE firms and other "external" shadow banks.[127] The total amount

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121. Gara, *supra* note 118; Tuch, *supra* note 57, at 340–50; Wilmarth, *supra* note 40, at 13; Matt Wirz, *The New Kings of Wall Street Aren't Banks. Private Funds Fuel Corporate America*, WALL ST. J. (Oct. 8, 2023), https://www.wsj.com/finance/fed-rate-hikes-lending-banks-hedge-funds-896cb20b (on file with the *Journal of Corporation Law*); *see also* Fed's 2023 Financial Stability Report, *supra* note 105, at 43–45 & box 3.2 (explaining that private credit involves "direct lending to businesses by nonbank institutions"); *see also* Fang Cai & Sharjil Haque, *Private Credit: Characteristics and Risks*, FEDS NOTES (Feb. 26, 2024) https://www.federalreserve.gov/econres/notes/feds-notes/private-credit-characteristics-and-risks-20240223.html#:~:text=The%20left%20panel%20shows%20that,markets%20(about%20%241.3%20trillion) (describing the rapid growth of the private credit market since 2000, and identifying the largest providers of funding for private credit in June 2023 as a group of five companies that included two PE firms (Ares and Blackstone), two asset managers (Oaktree and HBS), and a universal bank (Goldman)).

122. *See* Fang Cai & Sharjil Haque, *supra* note 121 ("[T]otal private credit has grown exponentially in recent years, reaching nearly $1.7 trillion, comparable to [markets for] leveraged loans (rough $1.4 trillion) and high-yield (HY) bond markets (about $1.3 trillion).")

123. Cortes, Diady & Windsor, *supra* note 115, at 10; Nathan Foley-Fisher, Nathan Heinrich & Stéphane Verani, Are Life Insurers the New Shadow Banks? 26, 27 fig.3 (Apr. 2023) (unpublished manuscript), https://ssrn.com/abstract=3534847 [https://perma.cc/L3YB-ZTPN].

124. Cortes, Diady & Windsor, *supra* note 115, at 10–13; Farrell, *supra* note 115; Foley-Fisher, Heinrich & Verani, *supra* note 123, at 3–8, 31–41; Antoine Gara, *JC Flowers Warns of Systemic Risk as Insurers Binge on Private Credit Investments*, FIN. TIMES (Oct. 16, 2023), https://www.ft.com/content/e63357a9-d0fd-4747-8901-d640092b5658 (on file with the *Journal of Corporation Law*). To encourage investments by insurance companies and other investors in private credit obligations, PE firms have bundled those illiquid debts into collateralized fund obligations and obtained favorable credit ratings for the senior tranches of those deals. *See* Richard Hanson & Julius M. Rogenhofer, *Collateralised Fund Obligations and Related Note Feeders: Options for Structuring Investment into Private Funds*, MORGAN LEWIS (Nov. 8, 2023), https://www.morganlewis.com/pubs/2023/11/collateralised-fund-obligations-and-rated-note-feeders-options-for-structuring-investment-into-private-funds [https://perma.cc/42SC-7Y68] (explaining that PE professionals "increasingly seek innovative ways to reconcile fund managers' desire to access new sources of capital with insurance companies' growing appetite for investments into private funds"); Kaye Wiggins, *Collateralised Fund Obligations: How Private Equity Securitised Itself*, FIN. TIMES (Nov. 25, 2022), https://www.ft.com/content/e4c4fd61-341e-4f5b-9a46-796fc3bdcb03 (on file with the *Journal of Corporation Law*).

125. Fed's 2023 Financial Stability Report, *supra* note 105, at 43–44 & fig.3.15.

126. Eric Platt, *Blackstone Borrows to Boost Lending Power of $52bn Credit Fund*, FIN. TIMES (Nov. 16, 2023), https://www.ft.com/content/32dbf11f-0254-496c-8c77-c813987febeb (on file with the *Journal of Corporation Law*); Wiggins, *supra* note 124.

127. Saeed Azhar & Tatania Bautzer, *US banks*, *Private Equity Firms Compete to Finance Debt-Backed Deals*, REUTERS (Feb. 14, 2024), https://www.reuters.com/business/finance/us-banks-private-equity-firms-

of credit commitments that U.S. banks extended to nonbank financial institutions increased by 50% between 2018 and 2022 and reached $2 trillion at the end of that period.[128] The four largest U.S. universal banks—JPMC, BofA, Citigroup, and Wells Fargo—held about half of all outstanding loans to domestic nonbank financial institutions in 2019.[129]

In July 2023, Chris Sheldon, KKR's co-head of global credit and markets, described the relationship between public markets for leveraged loans and junk bonds (in which universal banks are the leading lenders and underwriters) and private credit markets (which PE firms currently dominate) as "symbiotic."[130] According to Sheldon, "private credit and syndicated markets are . . . complementary," and "private credit still needs the public markets in order to thrive."[131] He explained that the "symbiosis of the public and private markets becomes especially clear in subordinated parts of the capital structure," where bank-underwritten offerings of leveraged loans and junk bonds enable companies to sell "junior debt" to public investors.[132]

Sheldon's op-ed highlighted the toxic symbiosis that has characterized dealings between universal banks and "external" shadow banks both before and after the GFC. During both periods, universal banks and "external" shadow banks have worked in tandem to originate and securitize speculative debts—such as those packaged into subprime RMBS, CDOs, and leveraged corporate CLOs—so that the resulting securities could be sold to investors lacking a full understanding of the hazardous nature of the debts underlying those securities.[133] In addition, universal banks have provided much of the financing for highly-leveraged bets by hedge funds, PE funds, and other shadow banks on the performance of those securitized debts.[134]

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compete-finance-debt-backed-deals-2024-02-14 [https://perma.cc/TZS6-EM7U]; John Sage & Paula Seligson, *How KKR Helped JPMorgan Seal a Key Victory Over Private Credit*, BLOOMBERG (Feb. 22, 2024), https://www.bloomberg.com/news/articles/2024-02-22/how-kkr-helped-jpmorgan-seal-a-key-victory-over-private-credit?embedded-checkout=true (on file with the *Journal of Corporation Law*); Silas Brown, Ellen Schneider & Kat Hidalgo, *Private Credit Cuts Pricing to Fend Off Wall Street Deal Grabs*, BLOOMBERG (Feb. 15, 2024), https://www.bloomberg.com/news/articles/2024-02-15/private-credit-cuts-pricing-to-fend-off-wall-street-deal-grab (on file with the *Journal of Corporation Law*); Eleanor Duncan & Michael Tobin, *Wall Street Banks Are Trying Everything in Fight for LBO Deals*, BLOOMBERG L. (Feb. 19, 2024), https://www.bloomberg.com/news/articles/2024-02-19/wall-street-banks-are-trying-everything-in-fight-to-win-underwriting-deals (on file with the *Journal of Corporation Law*); *see also* Fang Cai & Shajril Haque, *supra* note 121 (stating that "banks are increasingly partnering with private credit funds to fund new deals").

128. Fed's 2023 Financial Stability Report, *supra* note 105, at 43–44 & fig 3.15.

129. Kathryn Fritzdixon, *Bank and Nonbank Lending over the Past 70 Years*, 13 FDIC Q. 4, at 31, 38 (2019), https://www.fdic.gov/analysis/quarterly-banking-profile/fdic-quarterly/2019-vol13-4/fdic-v13n4-3q2019-article1.pdf [https://perma.cc/7AJS-JWKQ].

130. Chris Sheldon, *Why Private Credit Still Needs Public Markets*, FIN. TIMES (July 7, 2023), https://www.ft.com/content/3195192c-1a2b-46b1-9a26-c8f74b1985aa (on file with the *Journal of Corporation Law*).

131. *Id.*; *see also* Platt, *supra* note 126 (describing how "Wall Street banks" provide financing to PE firms and securitize their leveraged loans and private credit deals into CLOs).

132. Sheldon, *supra* note 130. Similarly, KKR's head of U.S. debt capital markets stated recently that "the syndicated lending and private credit markets are symbiotic, and there are many benefits to both being healthy and active." Lisa Lee, *CLOs' Record Start to '24 Helps Banks Beat Private Credit (1)*, BLOOMBERG L. (Mar. 4, 2024) (quoting Cade Thompson).

133. *See supra* notes 63–77, 104–14, 125–29 and accompanying text.

134. *See supra* notes 63–65, 71–72, 79, 103–14, 125–29 and accompanying text; *see also* Guthrie, *supra* note 111 (discussing risks created by aggressive trading in Treasury bonds and futures by hedge funds, which are

At the end of 2023, the PE industry faced significant challenges. PE firms were seeking to sell 28,000 portfolio companies valued at more than $3 trillion. However, PE firms sold only 1,000 portfolio companies in 2023, the lowest number since 2013.[135] Due to inflationary pressures and higher interest rates, many investors shunned leveraged buyouts and initial public offerings, thereby frustrating efforts by PE firms to sell portfolio companies or take them public.[136] To finance distributions to their investors, PE firms borrowed large sums from banks and nonbank lenders, and PE firms also sold investments in portfolio companies to other PE firms or to "continuation funds" they organized.[137] Critics alleged that PE firms were using "financial engineering" to implement a dubious strategy of "pray and delay" until economic conditions improved.[138]

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financed by "Wall Street banks" that serve as their prime brokers, and cautioning that the "real challenge for watchdogs such as the SEC is to understand hedge funds and prime brokers as symbiotic organisms"); Claire Williams, *Banks Need to Do More to Manage Hedge Fund Risks, Fed's Barr Warns*, AM. BANKER (Feb. 27, 2024), https://www.americanbanker.com/news/banks-need-to-do-more-to-manage-hedge-fund-risks-feds-barr-warns (discussing warnings by Fed Vice Chair for Supervision Michael Barr about the growing risks of bank loans to hedge funds).

135. Hugh McArthur et al., *Private Equity Outlook 2024: The Liquidity Imperative*, BAIN & CO. (Mar. 11, 2024), https://www.bain.com/insights/private-equity-outlook-liquidity-imperative-global-private-equity-report-2024/.

136. Laura Cooper & Ben Dummet, *'This Can't Go on for Much Longer.' Private Equity's Deal Lament*, WALL ST. J. (Dec. 31, 2023), https://www.wsj.com/finance/investing/this-cant-go-on-for-much-longer-private-equitys-deal-lament-493a4bbb (on file with the *Journal of Corporation Law*); Antoine Gara, Ivan Levingston & Will Louch, *Private Equity Hunts for New Exit Strategies as Cash Piles Up*, FIN. TIMES (Jan. 2, 2024), https://www.ft.com/content/079ccde6-3c3d-4791-953b-6e3e8203ef12 (on file with the *Journal of Corporation Law*); Antoine Gara, Eric Platt, & Will Louch, *Private Equity: Higher Rates Start to Pummel Dealmakers*, FIN. TIMES (Nov. 1, 2023), https://www.ft.com/content/8b4a5df6-7f6d-480f-8d20-55793854c37e (on file with the *Journal of Corporation Law*); Swetha Gopinath & Kat Hidalgo, *Private Equity Returns Plunge to Global Financial Crisis Levels*, BLOOMBERG (Feb. 12, 2024), https://www.bloomberg.com/news/articles/2024-02-12/private-equity-returns-plunge-to-global-financial-crisis-levels (on file with the *Journal of Corporation Law*); Will Louch, *Dealmaking Slowdown Leaves Private Equity with Record Unsold Assets*, FIN. TIMES (Mar. 11, 2024), https://www.ft.com/content/e33b0bcb-3ee4-4e11-9c42-f78193f90e04.

137. Laura Benitez & Silas Brown, *Private Equity Is Piling Debt on Itself Like Never Before*, BLOOMBERG (Sept. 25, 2023), https://www.bloomberg.com/news/articles/2023-09-26/private-equity-is-piling-debt-on-itself-like-never-before (on file with the *Journal of Corporation Law*); Harriet Clarfelt & Antoine Gara, *Private Equity Funds Pile on Debt to Pay Themselves Dividends*, FIN. TIMES (Feb. 5, 2024), https://www.ft.com/content/956c1f0a-bb53-4982-9c07-b839f3446c2c (on file with the *Journal of Corporation Law*); Gara, Levingston & Louch, *supra* note 136; Gara, Platt & Louch, *supra* note 136; Salvatore Bragatini, *Letter: Private Equity 'Pass-the-Parcel' Poses Client Risk*, FIN. TIMES (Jan. 7, 2024), https://www.ft.com/content/cfd56ffc-70d8-436e-9cba-52f2b8927f98 (on file with the *Journal of Corporation Law*); *Financial Engineering from Private Equity Firms*, URBANOMICS (Dec. 5, 2023), https://urbanomics.substack.com/p/financial-engineering-from-private [https://perma.cc/7NGV-ZSFR]; *see also* Bill Myers, *Continuation Funds: Refuge, Battle Zone*, REGULATORY COMPLIANCE WATCH (June 9, 2023), https://www.regcompliancewatch.com/continuation-funds-refuge-battle-zone [https://perma.cc/DU9P-B934] (discussing conflicts of interest created by "continuation funds" that PE firms organized to purchase their illiquid investments), https://www.regcompliancewatch.com/continuation-funds-refuge-battle-zone [https://perma.cc/5LQ7-VCSP].

138. Holden Spaht, *Private Equity's New Financial Engineering Brings Risks*, FIN. TIMES (Nov. 20, 2023) (citing views of critics), https://www.ft.com/content/f2e6996f-b43f-4519-9eab-2869c75a5eef (on file with the *Journal of Corporation Law*).

Meanwhile, many PE-controlled portfolio companies struggled to repay or refinance their debts in an environment of sharply higher interest rates.[139] More than 100 PE-controlled firms filed for bankruptcy in 2023, accounting for one-sixth of all U.S. corporate bankruptcies that year.[140] Regulators and analysts warned that banks and PE-controlled life insurers faced large potential losses from leveraged loans, CLOs, and other risky credit they extended to PE firms and their portfolio companies.[141]

2. Universal Banks and Shadow Banks Have Contributed to a Series of Financial Disruptions Since 2019 and Pose Grave Dangers to Financial and Economic Stability.

Universal banks and shadow banks have been at the center of four serious financial disruptions since 2019. Governments and central banks responded to those crises by arranging comprehensive rescue programs that protected universal banks and shadow banks and imposed huge costs on the public.[142] Like the GFC, those episodes demonstrate that universal banks and shadow banks impose unacceptable risks and costs on our financial markets, economy, and society.

a. The Repo Crisis of September 2019

In 2018 and 2019, hedge funds built up more than $2 trillion of leveraged trading positions (including both long and short trades) in U.S. Treasury bonds and Treasury futures. Hedge funds financed those trades by obtaining repos, margin loans, and derivatives from universal banks acting as prime brokers.[143] Most of the hedge funds'

139. Gara, Platt & Louch, *supra* note 136; Mark Hoeing, Miriam Schmitter & Madeline McGrath, *The Rising Cost of Debt: Impact on Private Equity*, COMMONFUND (Nov. 27, 2023), https://www.commonfund.org/cf-private-equity/the-rising-cost-of-debt-impact-on-private-equity [https://perma.cc/AG6R-2E4V].

140. Dylan Thomas & Annie Sabater, *US Private Equity Portfolio Company Bankruptcies Spiked to Record High in 2023*, S&P GLOBAL: MARKET INTELLIGENCE (Jan. 11, 2024), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-private-equity-portfolio-company-bankruptcies-spiked-to-record-high-in-2023-80000182 [https://perma.cc/FQ3J-MQPR].

141. Neil Callanan & Silas Brown, *Banking Crisis Raises Concerns About Hidden Leverage in System*, BLOOMBERG (Mar. 27, 2023), https://www.bloomberg.com/news/articles/2023-03-27/banking-crisis-raises-concerns-about-hidden-leverage-in-the-system (on file with the *Journal of Corporation Law*); Cortes, Diady & Windsor, *supra* note 115, at 9–17; Chris Cumming, *Private Equity's Move into Insurance Provokes Systemic-Risk Concerns*, WALL ST. J. (Jan. 4, 2024), https://www.wsj.com/articles/private-equitys-move-into-insurance-provokes-systemic-risk-concerns-ccebf0cf (on file with the *Journal of Corporation Law*); Farrell, *supra* note 115; Stefania Spezzati & Huw Jones, *Bank of England Asks Banks to Report Private Credit Exposures—Sources*, REUTERS (Dec. 7, 2023), https://www.reuters.com/world/uk/bank-england-asks-banks-report-private-credit-exposure-sources-2023-12-07 [https://perma.cc/FTH2-5G2D]; *Private Markets: In For a Trillion*, ECONOMIST 64 (Jan. 27, 2024).

142. *See infra* Part II.D.2.a–d (discussing significant financial disruptions since 2019 and their implications).

143. Ayelen Banegas & Philip Monin, *Hedge Funds Treasury Exposures, Repo, and Margining*, FEDS NOTES (Sept. 8, 2023), https://www.federalreserve.gov/econres/notes/feds-notes/hedge-fund-treasury-exposures-repo-and-margining-20230908.html [https://perma.cc/L8K7-N4YZ]; CHRISTOPHER LEONARD, THE LORDS OF EASY MONEY: HOW THE FEDERAL RESERVE BROKE THE AMERICAN ECONOMY 250–53 (2022); Pam Martens & Russ Martens, *When Repo Markets Blew up in September 2019, Hedge Funds Were $800 Billion Short U.S. Treasury Futures; Then Margins Blew out*, WALL ST. ON PARADE (Feb. 3, 2022), https://wallstreetonparade.com/2022/02/when-repos-blew-up-in-2019-hedge-funds-were-800-billion-short-u-s-

trades were "relative value trades" and "basis trades" that represented highly leveraged bets on small differences in prices between various types of Treasury securities or between Treasury securities and futures.[144]

In September 2019, a serious disruption occurred in the repo loan market after demand for overnight repo loans surged and interest rates on those loans more than doubled.[145] Many hedge funds could not renew their repo loans because their primary lenders (the four largest U.S. banks) refused to refinance those loans.[146] To prevent a complete breakdown of the repo market, the Fed provided more than $400 billion of additional liquidity in the form of repo loans and purchases of short-term Treasury bills.[147] As I explained in a previous work, "The Fed's rescue of the repo market revealed that its monetary policy measures are inextricably tied to—and effectively held hostage by—universal banks, large shadow banks, and wholesale funding markets."[148]

b. The Pandemic Crisis of 2020–21

In early 2020, governments around the world responded to the rapid spread of the COVID-19 virus by mandating shutdowns of many businesses and government facilities.[149] The severity of the pandemic and accompanying shutdowns triggered a global financial panic. Financial markets froze for most government bonds and private-sector debt obligations—including MMMFs, commercial paper, repos, corporate bonds, and leveraged loans.[150] Universal banks were the most important dealers for those securities, but they

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treasury-futures-then-margins-blew-out [https://perma.cc/3TCW-HNCR]; Menand & Younger, *supra* note 60, at 313–14.

144. Fernando Avalos, Torsten Ehlers & Egemen Ehren, *September Stress in Dollar Repo Markets: Passing or Structural?*, BIS Q. REV. 12, 14 (Dec. 2019) https://www.bis.org/publ/qtrpdf/r_qt1912v.htm [https://perma.cc/D3N6-6WNU]; Fernando Avalos & Vladyslav Sushko, *Margin Leverage and Vulnerabilities in US Treasury Futures*, BIS Q. REV. 4 Box A (Sept. 2023) https://www.bis.org/publ/qtrpdf/r_qt2309a.pdf [https://perma.cc/5M2N-PFHG] (contained in the Overview chapter, "Resilient Risk-Taking in Financial Markets"); Kate Duguid, Costas Mourselas & Ortenca Aliaj, *The Debt-Fueled Bet on US Treasuries That's Scaring Regulators*, FIN. TIMES (Sept. 25, 2023), https://www.ft.com/content/a8348e2a-a90f-474c-baa6-8c2eb0e263c2 (on file with the *Journal of Corporation Law*); LEONARD, *supra* note 143, at 251–54; Menand & Younger, *supra* note 60, at 311 n.362, 312–15.

145. *See* authorities cited *supra* notes 143–44.

146. Avalos, Ehlers & Ehren, *supra* note 143, at 14; LEONARD, *supra* note 143, at 242–50; WILMARTH, *supra* note 2, at 326.

147. LEONARD, *supra* note 143, at 254–57; WILMARTH, *supra* note 2, at 326; *see also* Martens & Martens, *supra* note 143 (discussing the Fed's support for the repo market after the September 2019 disruption).

148. WILMARTH, *supra* note 2, at 326; *see also* LEONARD, *supra* note 143, at 254–57 (stating that the Fed's "repo bailout" in September 2019 showed that the "Fed Put was being expanded and enmeshed more deeply into markets").

149. FIN. STABILITY BOARD, HOLISTIC REVIEW OF THE MARCH MARKET TURMOIL 5–10 (2020), https://www.fsb.org/wp-content/uploads/P171120-2.pdf [https://perma.cc/9TAK-3N3K] [hereinafter FSB's March 2020 Review]; Wilmarth, *supra* note 40, at 1, 4.

150. Tobias Adrian, Fabio M. Natalucci & Mahvash S. Qureshi, *Macro-Financial Stability in the COVID-19 Crisis: Some Reflections*, 15 ANN. REV. OF FIN. ECON. 29, 32–35 (2023); FSB's March 2020 Review, *supra* note 149, at 5–12, 17–32; LEONARD, *supra* note 143, at 261–72; *see also* Justin Baer, *The Day Coronavirus Nearly Broke the Financial Markets*, WALL ST. J. (May 20, 2020), https://www.wsj.com/articles/the-day-coronavirus-nearly-broke-the-financial-markets-11589982288 (on file with the *Journal of Corporation Law*) (describing the global financial panic that erupted in March 2020); Menand & Younger, *supra* note 60, at 315–19 (analyzing the impact of the global financial panic in March 2020 on markets for U.S. Treasury securities and futures); Maureen

were unable or unwilling to act as liquidity providers and market makers when the markets froze.[151] The generalized breakdown of markets for U.S. Treasury securities and futures was caused in part by the unwillingness of universal banks (as prime brokers) to refinance margin and repo loans for hedge funds that held highly leveraged positions in those markets.[152]

Market conditions stabilized only after: (1) central banks established a wide array of emergency lending facilities and highly accommodating monetary policies that supported financial institutions and financial markets; and (2) governments adopted massive fiscal stimulus programs to support households and businesses.[153] The Fed quickly reactivated most of the emergency lending facilities it established during the GFC to support large financial institutions and short-term wholesale financial markets (including those for MMMFs, commercial paper, and repos).[154] The Fed cut short-term interest rates to zero and supercharged its quantitative easing (QE) policy by pledging to buy unlimited amounts of government bonds and mortgage-backed securities, thereby reducing borrowing costs and debt service burdens for governments, households, and businesses.[155]

Congress (acting in partnership with the Treasury and the Fed) established unprecedented lending and bond-buying programs to support households and businesses. The size and scope of the federal government's responses to the pandemic crisis far exceeded the measures it adopted during the GFC.[156] U.S. authorities—along with central banks and governments in many other developed nations—provided crucial support for universal banks and shadow banks by stabilizing short-term wholesale credit markets, backstopping corporate and municipal bond markets, and providing huge amounts of financial assistance to households and business firms.[157] In short, governments avoided the

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O'Hara & Xing (Alex) Zhou, *Things Fall Apart: Fixed Income Markets in the COVID-19 Crisis*, 15 ANN. REV. FIN. ECON. 55, 56–62 (2023) (discussing causes of the widespread breakdown of fixed-income markets in March 2020).

151. Baer, *supra* note 150; FSB's March 2020 Review, *supra* note 149, at 23–24, 27–28, 30–31; LEONARD, *supra* note 143, at 268–72; O'Hara & Zhou, *supra* note 150, at 56–62; Wilmarth, *supra* note 40, at 4–6, 11–13, 22 & n.77.

152. Banegas & Monin, *supra* note 143; FSB's March 2020 Review, *supra* note 149, at 30–31; U.S. DEP'T OF THE TREASURY, FINANCIAL STABILITY OVERSIGHT COUNCIL: ANNUAL REPORT 28–29, 44–45, 107–11, 169 (2020), https://home.treasury.gov/system/files/261/FSOC2020AnnualReport.pdf [https://perma.cc/9UHL-JKY8]; Menand & Younger, *supra* note 60, at 236–37, 315–19; O'Hara & Zhou, *supra* note 150, at 58–60.

153. Adrian, Natalucci & Qureshi, *supra* note 150, at 35–38, 41–42; FSB's March 2020 Review, *supra* note 149, at 33–40; LEONARD, *supra* note 143, at 265–82, 287–92; Wilmarth, *supra* note 40, at 5–6, 11–13.

154. *See* LEV MENAND, THE FED UNBOUND: CENTRAL BANKING IN A TIME OF CRISIS 20–21, 34–60 (2022) (providing a detailed overview of the Fed's responses to the pandemic financial crisis); LEONARD, *supra* note 143, at 262–87 (same).

155. FSB's March 2020 Review, *supra* note 149, at 33–40; LEONARD, *supra* note 143, at 265-67; MENAND, *supra* note 154, at 35–45, 59–60.

156. Adrian, Natalucci & Qureshi, *supra* note 150, at 30, 35–38 & n.7; FSB's March 2020 Review, *supra* note 149, at 33–40; LEONARD, *supra* note 143, at 276-87; MENAND, *supra* note 154, at 48–59; Wilmarth, *supra* note 40, at 5–6, 12.

157. Adrian, Natalucci & Qureshi, *supra* note 150, at 35–42; Bouveret, Martin & Antoine, *supra* note 44, at 16–20; FSB's 2020 Market Review, *supra* note 149, at 33–40; O'Hara & Zhou, *supra* note 150, at 62–65; Wilmarth, *supra* note 40, at 5–6, 11–13; *see also* Robin Kaiser-Schatzlein, *The 'Shadow Banks' Are Back, and Still Too Big to Fail*, NEW REPUBLIC (Apr. 27, 2020), https://newrepublic.com/article/157455/shadow-banksback-still-big-fail [https://perma.cc/JBB8-AC95] (explaining that the Fed "bailed out huge asset managers and other shadow banks by backstopping money market funds, repurchase agreements, and other corporate

need to bail out universal banks and shadow banks by rescuing their customers and counterparties instead.[158]

The massive bailouts, extensive stimulus programs, and highly accommodating monetary policies during the Great Recession of 2007–09 and the pandemic crisis of 2020–21 enabled universal banks and "external" shadow banks to underwrite an enormous expansion of private-sector and public-sector debts between 2007 and 2021.[159] U.S. private-sector debts owed by households, nonfinancial businesses, and financial institutions reached record highs at the end of 2021.[160] U.S. public-sector debts also established new records as federal, state, and local governments borrowed heavily to finance their responses to the GFC and the pandemic crisis.[161] Between 2007 and 2021, U.S. private-sector debts increased from $41.6 trillion to $54.4 trillion, and federal, state, and local government obligations more than doubled from $12.1 trillion to $28.6 trillion.[162] The total amount of U.S. private-sector and public-sector debts in 2021 was $83 trillion, equal to 346% of U.S. gross domestic product (GDP).[163]

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financing tools" that served as their "main financing avenues"); DENNIS KELLEHER, TIM P. CLARK & PHILLIP BASIL, BETTER MARKETS, SPECIAL REPORT: SHOULD FEDERAL RESERVE CHAIRMAN JAY POWELL BE REAPPOINTED? 5–6, 12–16, 23–24 (Aug. 23, 2021), https://bettermarkets.com/sites/default/files/documents/BetterMarkets_Should_Jay_Powell_Be_Reappointed_August-2021.pdf [https://perma.cc/TV3F-JAKF] (concluding that "[t]he largest banks benefitted directly and enormously from multiple Fed actions including . . . directly providing banks with much-needed liquidity at the onset of the pandemic-induced market stress").

158. LEONARD, *supra* note 143, at 290–92; Wilmarth, *supra* note 40, at 5–6, 11–13; *see also* Baer, *supra* note 150 (stating that large banks "escaped bailouts [during the pandemic] primarily because their customers were bailed out instead"); KELLEHER, CLARK & BASIL, *supra* note 157, at 5–6 ("[T]he need for the Fed to bailout virtually every aspect of the financial system with trillions of dollars of support cannot be considered a sign of success of the financial regulatory framework and indeed highlighted the dangerous lack of resiliency of the financial and banking systems.").

159. LEONARD, *supra* note 143, at 118–21, 126–32, 136–43, 147–49, 176–83, 211–19, 290–92, 296–98 (describing how the federal government's bailouts and stimulus programs and the Fed's ultra-loose monetary policy during the GFC and the pandemic crisis encouraged a huge expansion of private-sector and public-sector debts); Wilmarth, *supra* note 40, at 2–6, 13–14 (same); Arthur E. Wilmarth, Jr., *We Must Protect Investors and Our Banking System from the Crypto Industry*, 101 GEO. WASH. L. REV. 235, 253–55 (2023) [hereinafter Wilmarth, *Crypto Industry*] (same).

160. BD. OF GOVERNORS OF FED. RSRV. SYS., FINANCIAL ACCOUNTS OF THE UNITED STATES: FOURTH QUARTER 2021, at i, 7 tbl.D.3 (2022) [hereinafter 2021 Fed Flow of Funds Data], https://www.federalreserve.gov/releases/z1/20220310/z1.pdf [https://perma.cc/Q25F-5ZDA] (showing that U.S. household debts reached a new record high of $17.9 trillion at the end of 2021, while debts for domestic nonfinancial businesses and domestic financial institutions reached new record levels of $18.5 trillion and 18.0 trillion).

161. *Id.* (showing that federal, state, and local debts reached a new record high of $28.6 trillion at the end of 2021).

162. Wilmarth, *supra* note 40, at 3–6 (providing 2007 figures and analyzing the rapid growth of U.S. private-sector and public-sector debts after 2007); 2021 Fed Flow of Funds Data, *supra* note 148, at 7 tbl.D.3 (providing 2021 figures).

163. 2021 Fed Flow of Funds Data, *supra* note 148, at 7 tbl.D.3 (providing debt data); *id.* at 9 tbl.F.2 (providing GDP figure). In June 2023, total U.S. private-sector and public-sector debts reached a new record high of $91.5 trillion, including $19.6 trillion of household debts, $20.3 trillion of nonfinancial business debts, $20.3 trillion of debts for domestic financial institutions, and $31.3 trillion of federal, state, and local obligations. BD. OF GOVERNORS OF FED. RSRV. SYS., FINANCIAL ACCOUNTS OF THE UNITED STATES: SECOND QUARTER 2023, at i, 7 tbl.D.3 (2023), https://www.federalreserve.gov/releases/z1/20230908/z1.pdf [https://perma.cc/T7BS-8U6G].

Global debt levels exhibited the same pattern of relentless growth between 2007 and 2021. During those 14 years, universal banks and shadow banks underwrote huge amounts of new private-sector and public-sector debts with abundant support from bailouts, stimulus programs, and monetary easing arranged by governments and central banks around the world.[164] Global private-sector and public-sector debts increased during that period by over 80%—climbing from $167 trillion to $303 trillion—while the global debt-to-GDP ratio rose from 275% to 351%.[165]

In sum, governments and central banks took unprecedented measures during the GFC and the pandemic crisis to prevent the collapse of systemically important universal banks, shadow banks, and financial markets.[166] The Fed confirmed its open-ended support for those institutions and markets in July 2021, when it established two standing repo facilities that provide "repo loans (collateralized by Treasury or federal agency securities) to U.S. and foreign megabanks and foreign central banks."[167] As a report from Better Markets pointed out, the Fed's standing repo facilities "inevitably increase moral hazard among market participants" by demonstrating that "the Fed would ***always*** stand ready to jump in when short-term funding markets are disrupted."[168]

c. The 2023 U.S. Regional Banking Crisis

At the end of 2021, it became clear that prolonged monetary easing policies and massive fiscal stimulus programs were aggravating two major global problems. First, many countries experienced their highest rates of inflation in four decades, and central banks struggled to bring inflation under control without causing severe recessions.[169] Second, the

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Total U.S. private-sector and public-sector debts equaled 341% of U.S. GDP in June 2023. *Id.* at 7 tbl.D.3, 9 tbl.F.2.

164. *See* authorities cited *supra* note 159.

165. Tommy Wilkes, *Emerging Markets Drive Global Debt to Record $303 Trillion—IIF*, REUTERS (Feb. 23, 2022), https://www.reuters.com/markets/europe/emerging-markets-drive-global-debt-record-303-trillion-iif-2022-02-23 [https://perma.cc/XUC6-75BM] (providing 2021 figures); Wilmarth, *supra* note 40, at 2–6 (providing 2007 figures and analyzing the rapid growth of global private-sector and public-sector debts after 2007); *see also* Adrian, Natalucci & Qureshi, *supra* note 150, at 34–35 (describing the "historically elevated levels of corporate sector leverage" that resulted from "a significant expansion of risky credit market segments such as high-yield bonds and leveraged loans" both before and after the pandemic crisis). In June 2023, worldwide private-sector and public-sector debts reached a new record high of $307 trillion, equal to 336% of global GDP. Rodrigo Campos & Harry Robertson, *Update: 1-Global Debt Hits Record $307 Trillion, Debt Ratios Climb*, REUTERS (Sept. 19, 2023), https://finance.yahoo.com/news/1-global-debt-hits-record-162322803.html [https://perma.cc/FJ3R-NZLV].

166. *See supra* notes 83–92, 153–58 and accompanying text (discussing governmental responses to the GFC and the pandemic crisis).

167. Wilmarth, *supra* note 40, at 6.

168. KELLEHER, CLARK & BASIL, *supra* note 157, at 27–28; *see also* Wilmarth, *supra* note 40, at 6 (contending that the "Fed's new standing repo facilities" would have the following effects: "expanding . . . [too-big-to-fail] subsidies" for megabanks and "increasing their incentives to take even greater risks at the public's expense").

169. Adrian, Natalucci & Qureshi, *supra* note 150, at 43–46; Justin Damien Guénette, M. Ayhan Kose & Naotaka Sugawara, *Is a Global Recession Imminent?* 3–6, 14–21 (World Bank Grp., EFI Policy Note 4, 2022), https://openknowledge.worldbank.org/server/api/core/bitstreams/63d145cf-b17d-59fc-aa15-0b14e6512e5a/content (on file with the *Journal of Corporation Law*); INT'L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: NAVIGATING THE HIGH-INFLATION ENVIRONMENT xi–xvii, 1–21 (2022),

rapid growth of government deficits caused many nations to confront debt crises that threatened to destabilize their currencies, financial systems, and economies.[170]

In response to those developments, most governments terminated or sharply reduced their fiscal stimulus programs, and most central banks tightened their monetary policies by raising short-term interest rates and phasing out their QE asset purchase programs.[171] Due to the widespread adoption of more restrictive fiscal and monetary policies, "financial conditions tightened [and] price bubbles deflated for many risky assets, including technology stocks, commercial and residential real estate, and crypto-assets."[172] Consequently, universal banks and shadow banks with large exposures to the affected industry sectors and financial markets faced significant problems by the end of 2022.[173]

The severity of those problems became clear during the spring of 2023, when three U.S. regional banks collapsed—Silicon Valley Bank (SVB), Signature Bank (Signature), and First Republic Bank (First Republic).[174] The three failed banks had combined assets of more than $530 billion, surpassing the total assets of the 25 largest banks that failed in 2008.[175] The failures of SVB, Signature, and First Republic caused "acute stress" in the U.S. banking industry, and many regional banks continued to face serious challenges after federal regulators resolved those three failures.[176]

SVB was a leading provider of banking, securities, and investment management services to venture capital firms, PE firms, and startup firms in the biotechnology and

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https://www.imf.org/en/Publications/GFSR/Issues/2022/10/11/global-financial-stability-report-october-2022 [https://perma.cc/H5FL-HS6M] [hereinafter IMF 2022 GFSR]; Wilmarth, *Afterword*, *supra* note 10, at 1084–87.

170. Guénette, Kose & Sugawara, *supra* note 169, at 3–4, 14–21; IMF 2022 GFSR, *supra* note 169, at xi–xvii, 1–38; Wilmarth, *Afterword*, *supra* note 10, at 1087–93.

171. Guénette, Kose & Sugawara, *supra* note 169, at 14–21; IMF 2022 GFSR, *supra* note 169, at xi–xiv, 1–21; Wilmarth, *Crypto Industry*, *supra* note 159, at 259–60.

172. IMF 2022 GFSR, *supra* note 169, at 1–31; Wilmarth, *Crypto Industry*, *supra* note 159, at 259–60 (quote).

173. IMF 2022 GFSR, *supra* note 169, at 31–34; INT'L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: SAFEGUARDING FINANCIAL STABILITY AMID HIGH INFLATION AND GEOPOLITICAL RISKS 5–28, 35–40, 61–66 (2023), https://www.imf.org/en/Publications/GFSR/Issues/2023/04/11/global-financial-stability-report-april-2023 [https://perma.cc/29UA-FUNB]; Wilmarth, *Crypto Industry*, *supra* note 159, at 278–81.

174. SVB AND BEYOND: THE BANKING STRESS OF 2023, at vi–vii, 1–6, 12, 15–26, 99, 108–11 (Viral V. Archarya et al. eds., 2023), https://drive.google.com/file/d/1M067WVIlogb0Jtrsl33ggpbHIAtVjlR6/view [https://perma.cc/PS55-6VXM].

175. Karl Russell & Christine Zhang, *3 Failed Banks This Year Were Bigger than 25 that Crumbled in 2008*, N. Y. TIMES (May 1, 2023), https://www.nytimes.com/interactive/2023/business/bank-failures-svb-first-republic-signature.html (on file with the *Journal of Corporation Law*).

176. Fed's 2023 Financial Stability Report, *supra* note 105, at 34–36 & Box 3.1, 51–52, 53–55 & Box 4.1, 61 Box 5.1; *see also* Shane Shifflett & Konrad Putzier, *Real Estate Doom Loop Threatens America's Banks*, WALL ST. J. (Sept. 6, 2023), https://www.wsj.com/real-estate/commercial-real-estate-regional-banks-9f8f591d (on file with the *Journal of Corporation Law*) (reporting that many regional banks faced a "looming threat" from the ongoing "meltdown" in U.S. commercial real estate markets); Neil Callanan, *Six Charts that Explain the CRE Debt Crisis: Credit Weekly*, BLOOMBERG L. (Feb. 10, 2024), https://news.bloomberglaw.com/bankruptcy-law/six-charts-that-explain-the-cre-debt-crisis-credit-weekly (on file with the *Journal of Corporation Law*) (analyzing the continuing "turmoil" in commercial real estate markets, which threatened to inflict large losses on many regional banks); Gina Heeb, *Signs of Trouble at Regional Banks Reignite Sector Fears*, WALL ST. J. (Mar.1, 2024), https://www.wsj.com/finance/banking/new-york-community-bancorp-names-new-risk-and-audit-executives-10d6b9cc (reporting that New York Community Bancorp and other regional banks "still face many of the same problems" they confronted in 2023, including the threat of "big losses" from commercial real-estate loans).

crypto industries. SVB's securities subsidiary underwrote securities offerings for SVB's clients, and SVB invested in warrants issued by those clients. SVB also provided private banking and wealth management services to wealthy individuals and entrepreneurs.[177]

Signature offered banking, securities, private banking, and wealth management services to crypto firms, commercial real estate developers, PE firms, venture capital firms, and wealthy individuals.[178] First Republic offered a similar suite of services and focused on attracting deposits from (and extending residential mortgage loans and other real estate loans to) business executives, entrepreneurs, professionals, and other wealthy individuals.[179] Thus, SVB, Signature, and (to a lesser extent) First Republic were universal banks that combined traditional banking operations with securities activities.[180]

The federal government's massive fiscal stimulus programs and ultra-low interest rate policies during the pandemic crisis encouraged investors to buy speculative, higher-yielding assets including technology stocks, real estate, and crypto assets.[181] Large inflows of new investments in those assets sparked a boom among venture capital firms, PE firms, technology startups, real estate developers, and crypto firms between mid-2020 and the end of 2021. Deposits from those companies and their executives flooded into SVB, Signature, and First Republic during the investment boom, and all three banks experienced very rapid growth in their assets and deposits between 2019 and 2021.[182] Most of the new

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177. BD. OF GOVERNORS OF FED. RSRV. SYS., REVIEW OF THE FEDERAL RESERVE SYSTEM'S REGULATION OF SILICON VALLEY BANK 17–19 (2023), https://www.federalreserve.gov/publications/files/svb-review-20230428.pdf [https://perma.cc/7MPS-VRX5] [hereinafter Fed SVB Report]; Pam Martens & Russ Martens, *Silicon Valley Bank Was a Wall Street IPO Pipeline in Drag as a Federally-Insured Bank; FHLB of San Francisco Was Quietly Bailing It out*, WALL ST. ON PARADE (Mar. 13, 2023), https://wallstreetonparade.com/2023/03/silicon-valley-bank-was-a-wall-street-ipo-pipeline-in-drag-as-a-federally-insured-bank-fhlb-of-san-francisco-was-quietly-bailing-it-out [https://perma.cc/5QGJ-NCJX]; SVB Financial Group, Annual Report (Form 10-K) 6–9, 16–17, 21, 23–24, 28, 33–34, 42, 52–57, 61–72 (Feb. 24, 2023), https://www.sec.gov/Archives/edgar/data/719739/000071973923000021/sivb-20221231.htm [https://perma.cc/5QGJ-NCJX]; Wilmarth, *Crypto Industry*, *supra* note 158, at 273, 283.

178. FED. DEPOSIT INS. CORP., FDIC'S SUPERVISION OF SIGNATURE BANK 2, 6–8, 12–14, 53–54 (2023) [hereinafter FDIC Signature Report], https://www.fdic.gov/news/press-releases/2023/pr23033a.pdf [https://perma.cc/VDL6-42L2]; Signature Bank, Annual Report (Form 10-K) 7–15, 19, 28, 46–49 (Mar. 1, 2023); Wilmarth, *Crypto Industry*, *supra* note 159, at 272–73, 280–81.

179. FED. DEPOSIT INS. CORP., FDIC'S SUPERVISION OF FIRST REPUBLIC BANK 2, 6–13, 29 (2023) [hereinafter FDIC First Republic Report], https://www.fdic.gov/news/press-releases/2023/pr23073a.pdf [https://perma.cc/T96A-WSME]; OFF. OF INSPECTOR GEN., FED. DEPOSIT INS. CORP., EVAL-24-03, MATERIAL LOSS REVIEW OF FIRST REPUBLIC BANK 2, 8–9, 11–15, 21–22 (Nov. 2023) [hereinafter FDIC-OIG First Republic Review], https://www.fdicoig.gov/sites/default/files/reports/2023-12/EVAL-24-03.pdf [https://perma.cc/VN4G-AGV8]; *Oversight of Financial Regulators: Hearing on Financial Stability, Supervision, and Consumer Protection in the Wake of Recent Bank Failures Before the S. Comm. on Banking, Housing, and Urban Affairs*, 118th Cong. (2023) (statement of Martin J. Gruenberg, Chairman, Federal Deposit Insurance Corporation) [hereinafter Gruenberg May 2023 Testimony], https://www.fdic.gov/news/speeches/2023/spmay1723.html [https://perma.cc/79X9-J5RD]; Wilmarth, *Crypto Industry*, *supra* note 159, at 283–84, 286.

180. *See supra* note 2 and accompanying text (defining "universal banks").

181. LEONARD, *supra* note 143, at 276–92, 296–98; Wilmarth, *Crypto Industry*, *supra* note 159, at 253–58.

182. Fed SVB Report, *supra* note 177, at 2–4, 17–22; FDIC Signature Report, *supra* note 178, at 7–11; FDIC First Republic Report, *supra* note 179, at 8–13, 18–20; FDIC-OIG First Republic Review, *supra* note 179, at 2, 12–15, 21–22.

deposits exceeded $250,000 and were therefore not fully insured by the FDIC.[183] In 2022, all three banks reported very high percentages of uninsured deposits (representing more than 90% of the deposits at SVB and Signature and over 65% at First Republic).[184]

In 2022, the federal government's adoption of more restrictive fiscal and monetary policies triggered a sharp downturn in prices for technology stocks and crypto assets.[185] Many of SVB's, Signature's, and First Republic's customers withdrew deposits during 2022 and early 2023 because of their pressing need for funds.[186] All three banks experienced severe liquidity problems as their deposits declined, and SVB and First Republic also faced large potential losses from their portfolios of longer-term, fixed-rate securities (in SVB's case) and longer-term, fixed-rate real estate loans (in First Republic's case).[187] On March 8, 2023, SVB attempted to raise $2.25 billion of new capital but failed.[188] That setback, along with the failure on the same day of a crypto-focused bank (Silvergate Bank), triggered a run by SVB's depositors.[189] News of Silvergate's and SVB's difficulties, as well as ongoing turmoil in the crypto industry, precipitated a run by Signature's depositors two days later.[190] Regulators closed SVB and Signature and decided to protect the uninsured depositors of both banks on March 12, 2023, based on their authority to prevent or mitigate "systemic risks" to economic and financial stability.[191] First Republic survived for several weeks after receiving an infusion of $30 billion of deposits from 11 major U.S. banks, but First Republic was fatally weakened by the failures of SVB and Signature.[192] Regulators closed First Republic on May 1, 2023, and the FDIC

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183. Fed SVB Report, *supra* note 177, at 21–23; FDIC Signature Report, *supra* note 178, at 10–12; FDIC First Republic Report, *supra* note 179, at 2–3, 7–8, 10–12, 56 & App.3); FDIC-OIG First Republic Review, *supra* note 179, at 13 & tbl.4.

184. Fed SVB Report, *supra* note 177, at 18–23; FDIC Signature Report, *supra* note 178, at 2, 6–12; FDIC First Republic Report, *supra* note 179, at 6–7, 9–19, 56 & App.3; FDIC-OIG First Republic Review, *supra* note 179, at 13 & tbl.4.

185. Fed SVB Report, *supra* note 177, at 20–21; Wilmarth, *Crypto Industry*, *supra* note 159, at 258–59.

186. Fed SVB Report, *supra* note 177, at 19–21; FDIC Signature Report, *supra* note 178, at 7, 10–12; FDIC First Republic Report, *supra* note 179, at 19–21; FDIC-OIG First Republic Review, *supra* note 179, at 13, 21–22, 26–27.

187. Acharya et al., *supra* note 174, at 2–5, 9–12, 44–48; Fed SVB Report, *supra* note 177, at 19–24; FDIC Signature Report, *supra* note 178, at 2–12, 19–21, 53–55; FDIC First Republic Report, *supra* note 179, at 2–3, 9–19; FDIC-OIG First Republic Review, *supra* note 179, at 8, 14–15, 20–21, 32–37; Gruenberg May 2023 Testimony, *supra* note 179.

188. Wilmarth, *Crypto Industry*, *supra* note 159, at 284–85.

189. *Id.*; Acharya et al., *supra* note 174, at 108; Fed SVB Report, *supra* note 177, at 22–24; Fed's Financial Stability Report, *supra* note 105, at 34 Box 3.1; FDIC Signature Report, *supra* note 178, at 2–3, 7–16; Gruenberg May 2023 Testimony, *supra* note 179; Wilmarth, *Crypto Industry*, *supra* note 159, at 281–85.

190. FDIC Signature Report, *supra* note 178, at 2–3, 13–16; Wilmarth, *Crypto Industry*, *supra* note 159, at 286.

191. Acharya et al., *supra* note 174, at 108; Fed SVB Report, *supra* note 177, at 24; Fed's 2023 Financial Stability Report, *supra* note 105, at 34–35 & Box 3.1; FDIC Signature Report, *supra* note 178, at 2–3, 7–16; Gruenberg May 2023 Testimony, *supra* note 179; *see also* Wilmarth, *Crypto Industry*, *supra* note 159, at 285–88 (discussing the decisions by federal officials to close SVB and Signature and invoke their authority to prevent or mitigate "systemic risks" under the Federal Deposit Insurance Act).

192. FDIC First Republic Report, *supra* note 179, at 20–21; FDIC-OIG First Republic Review, *supra* note 179, at 10–11.

arranged a federally-assisted transfer of all of First Republic's deposits and most of its assets to JPMC.[193]

On March 12, 2023, the Fed responded to the "severe stress" affecting many U.S. banks by establishing the Bank Term Funding Program (BTFP).[194] The BTFP provided loans to banks with terms up to one year secured by pledges of Treasury securities and federal agency mortgage-backed securities.[195] The BTFP permitted banks to borrow 100% of the par value of their pledged securities, thereby requiring the Fed to bear the risk of loss from any declines in the market values of securities pledged for BTFP loans.[196]

During March 2023, banks increased their liquidity reserves by borrowing over $150 billion from the Fed's discount window and the BTFP.[197] Banks also obtained more than $600 billion of secured advances from Federal Home Loan Banks (FHLBs) during 2022 and 2023, including $60 billion of advances provided to Silvergate, SVB, Signature, and First Republic.[198] The FDIC repaid the outstanding advances from FHLBs to SVB, Signature, and First Republic after regulators decided to protect the uninsured depositors of all three banks.[199] In addition, the Fed provided $180 billion of loans to the bridge banks that the FDIC established to continue the operations of SVB and Signature after they were placed in receiverships.[200]

The FDIC estimated that the decisions by federal regulators to protect the uninsured depositors of SVB, Signature, and First Republic would impose about $30 billion of losses on the Deposit Insurance Fund.[201] The uninsured depositors of SVB who received federal protection included Circle—a large crypto firm that issued "stablecoins," a digital form of shadow deposits.[202] Thus, the federal government provided extensive financial assistance during the spring of 2023 to prevent the failures of three universal banks from undermining the stability of the U.S. banking system. The federal government's interventions benefited shadow banks that were uninsured depositors and customers of those banks, including Circle as well as numerous venture capital and PE firms.[203]

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193. FDIC First Republic Report, *supra* note 179, at 2–3, 7–21; FDIC-OIG First Republic Review, *supra* note 179, at 9–11; Fed's 2023 Financial Stability Report, *supra* note 105, at 36 Box 3.1; Gruenberg May 2023 Testimony, *supra* note 179; Wilmarth, *Crypto Industry*, *supra* note 159, at 289–90.

194. Fed's 2023 Financial Stability Report, *supra* note 105, at 53–54; Wilmarth, *Crypto Industry*, *supra* note 159, at 289 (explaining that the Fed created the BTFP pursuant to its emergency lending authority under section 13(3) of the Federal Reserve Act).

195. Fed's 2023 Financial Stability Report, *supra* note 105, at 34–35 Box 3.1, 53–54 Box 4.1.

196. *Id.*; Wilmarth, *Crypto Industry*, *supra* note 159, at 289.

197. Fed's 2023 Financial Stability Report, *supra* note 105, at 53–54 Box 4.1 & fig.A.

198. FED. HOUSING FIN. ADMIN., THE FHLBANK SYSTEM AT 100: FOCUSING ON THE FUTURE 2, 14–16, 20–22, 43, 73–74, 103–06 & app. 5 (2023).

199. Kathryn Judge, *The Unraveling of the Federal Home Loan Banks*, 41 YALE J. ON REG. (forthcoming 2024) (manuscript at 2–3, 37–38), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4626125 [https://perma.cc/J8B2-NPCA].

200. Wilmarth, *Crypto Industry*, *supra* note 159, at 290.

201. Gruenberg May 2023 Testimony, *supra* note 179.

202. Wilmarth, *Crypto Industry*, *supra* note 159 at 248–52, 273, 286–88, 292, 312–20 (describing "stablecoins" and discussing the investor run in March 2023 on Circle's stablecoin USDC, which began after SVB failed and continued until federal regulators decided to protect all of SVB's uninsured depositors, including Circle); *see also* Kenechukwu Anadu et al., *Runs and Flights to Safety: Are Stablecoins the New Money Market Funds?* 2, 20–22, 25, 37–38 & app. (Fed. Rsrv. Bank of Boston, Working Paper SRA 23-02, 2023) (same), https://ssrn.com/abstract=4594064 [https://perma.cc/D4XJ-XYZE].

203. *See supra* notes 191–202 and accompanying text.

d. The Downfall of Credit Suisse

The failures of SVB and Signature contributed to an ongoing erosion of confidence in Credit Suisse, a large Swiss universal bank.[204] Credit Suisse had suffered a prolonged decline in its reputation and financial strength due to a series of risk management failures and scandals, most of which arose out of its investment banking operations.[205] Credit Suisse suffered major losses from several of those debacles, including its disastrous prime brokerage relationship with Archegos Capital, its marketing of high-risk, asset-backed securities issued by Greensill Capital, and its underwriting of corrupt "tuna bonds" issued by Mozambique.[206] During the fourth quarter of 2022 and the first quarter of 2023, Credit Suisse's customers withdrew over $250 billion of their deposits and managed investment funds, and Credit Suisse was forced to borrow large sums from the Swiss National Bank (the central bank of Switzerland).[207]

On March 19, 2023, Swiss authorities arranged an emergency acquisition of Credit Suisse by UBS, supported by over $100 billion of liquidity assistance and financial

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204. Martin Arnold, Opinion, *There Are Several Reasons to Worry About the Health of Europe's Banks*, FIN. TIMES (Mar. 20, 2023), https://www.ft.com/content/6af69772-4b8d-4a7c-960c-f233e6ced960 (on file with the *Journal of Corporation Law*); Fed's 2023 Financial Stability Report, *supra* note 105, at 34–36, 53–54; Thomas J. Jordan, Chairman of the Governing Bd., Address at the 115th Ordinary General Meeting of Shareholders of the Swiss National Bank: Price and Financial Stability—A Demanding Year for the SNB (Apr. 28, 2023), https://www.snb.ch/en/publications/communication/speeches/2023/ref_20230428_tjn [https://perma.cc/2FX7-WF8F] [hereinafter Jordan Remarks]; SWISS NATIONAL BANK, FINANCIAL STABILITY REPORT 2023, at 6–7, 10, 13, 23 (2023) [hereinafter SNB Credit Suisse Report], https://www.snb.ch/en/publications/financial-stability-report/2023/stabrep_2023 [https://perma.cc/WKJ9-ZD6A].

205. For discussions of the deterioration in Credit Suisse's reputation and financial strength between 2008 and 2023, *see, e.g.*, FINMA [Swiss Financial Market Supervisory Auth.], FINMA REPORT: LESSONS LEARNED FROM THE CS CRISIS 24–39 (Dec. 19, 2023), https://www.finma.ch/en/~/media/finma/dokumente/dokumentencenter/myfinma/finma-publikationen/cs-bericht/20231219-finma-bericht-cs.pdf?sc_lang=en&hash=3F13A6D9398F2F55B90347A64E269F44 [https://perma.cc/9YDZ-NSJL] [hereinafter FINMA Credit Suisse Report]; Oren Walker & Stephen Morris, *Credit Suisse: The Rise and Fall of the Bank that Built Modern Switzerland*, FIN. TIMES (Mar. 24, 2023), https://www.ft.com/content/072dd83d-232d-4223-9428-801d4437b4f6 (on file with the *Journal of Corporation Law*); Joe Wallace & Eliot Brown, *Credit Suisse, the Risk-Taking Swiss Banking Giant, Succumbs to Crisis*, WALL ST. J. (Mar. 19, 2023) https://www.wsj.com/articles/credit-suisse-the-risk-taking-swiss-banking-giant-succumbs-to-crisis-5a9a1b2e (on file with the *Journal of Corporation Law*).

206. *See, e.g.*, Anat Admati, Martin Hellwig & Richard Portes, *Credit Suisse: Too Big to Manage, Too Big to Resolve, or Simply Too Big?*, VOXEU (May 8, 2023), https://cepr.org/voxeu/columns/credit-suisse-too-big-manage-too-big-resolve-or-simply-too-big [https://perma.cc/E32L-CS6Y]s; Arnold, *supra* note 204; Joseph Cotterill & Owen Walker, *UBS Settles with Mozambique in Credit Suisse 'Tuna Bond' Case*, FIN. TIMES (Oct. 1, 2023) https://www.ft.com/content/69290c72-08bf-43e8-be44-e14041acb603 (on file with the *Journal of Corporation Law*); Stephen Morris, *Credit Suisse Fined $388m over Archegos Collapse*, FIN. TIMES (July 24, 2023) https://www.ft.com/content/bee46da8-6677-4ecd-9e27-9a3760737d9f (on file with the *Journal of Corporation Law*); Walker & Morris, *supra* note 205; Wallace & Brown, *supra* note 205; Arthur E. Wilmarth, Jr., *Wirecard and Greensill Scandals Confirm Dangers of Mixing Banking and Commerce*, 40 BANKING & FIN. SERV. POL'Y REP. 1, 1, 4–7, 10–11 (May 2021), https://ssrn.com/abstract=3849567.

207. *See* Admati, Hellwig & Portes, *supra* note 206; Arnold, *supra* note 204; FINMA Credit Suisse Report, *supra* note 205, at 33–38; Jordan Remarks, *supra* note 204; Margot Patrick, *Credit Suisse Details Painful Final Days Before Rescue*, WALL ST. J. (Apr. 24, 2023), https://www.wsj.com/articles/credit-suisse-details-painful-final-days-before-rescue-f7a1a479 (on file with the *Journal of Corporation Law*); Walker & Morris, *supra* note 205; Wallace & Brown, *supra* note 205.

guarantees provided by the Swiss National Bank and the Swiss government.[208] On the same day, the Fed announced agreements with five major central banks to improve the effectiveness of the Fed's standing currency swap lines with those banks.[209] The new swap line agreements sought to "ease strains in global funding markets" by improving the five central banks' ability to provide daily U.S. dollar funding to banks located in their respective countries.[210]

Credit Suisse's failure highlighted the dangers produced by toxic relationships between universal banks and "external" shadow banks. Credit Suisse provided loans, derivatives, and other prime brokerage services to Archegos Capital—a "family office" that engaged in high-risk, high-volume trading and resembled a hedge fund.[211] Credit Suisse's prime brokerage services to Archegos included total return swaps that financed Archegos' leveraged synthetic trades in technology stocks.[212] When Archegos collapsed in March 2021, Credit Suisse suffered a loss of $5.5 billion, and four other large universal banks incurred $5 billion of additional losses.[213]

Credit Suisse also worked closely with another "external" shadow bank, Greensill Capital. Greensill was a supply-chain finance company that controlled a small German bank.[214] Credit Suisse provided financial support to Greensill and sold $10 billion of Greensill's illiquid asset-backed securities to investment funds managed by Credit Suisse.[215] Credit Suisse told its customers that Greensill's securities were "safe" investments, but its customers suffered more than $2 billion of losses after Greensill filed for bankruptcy in March 2021.[216]

The Archegos and Greensill disasters severely undermined Credit Suisse's reputation and led to the departures of several senior executives. Credit Suisse commissioned an

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208. FINMA Credit Suisse Report, *supra* note 205, at 37–39; SNB Credit Suisse Report, *supra* note 204, at 23–25; Jordan Remarks, *supra* note 204; Stephen Morris, James Fontanella-Khan & Arash Massoudi, *How the Swiss 'Trinity' Forced UBS to Save Credit Suisse*, FIN. TIMES (Mar. 20, 2023), https://www.ft.com/content/3080d368-d5aa-4125-a210-714e37087017 (on file with the *Journal of Corporation Law*).

209. Press Release, Bd. Of Governors of Fed. Rsrv. Sys., Coordinated Central Bank Action to Enhance the Provision of U.S. Dollar Liquidity (Mar. 19, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230319a.htm [https://perma.cc/64BW-PV6U].

210. *Id.*; *see also* Fed's 2023 Financial Stability Report, *supra* note 105, at 54 Box 4.1 (discussing the new swap line agreements).

211. Antoine Bouveret & Martin Haferkorn, *Leverage and Derivatives—the Case of Archegos*, EUR. SEC. & MKTS. AUTH. [ESMA] 4–9 (2022), https://www.esma.europa.eu/sites/default/files/library/esma50-165-2096_leverage_and_derivatives_the_case_of_archegos.pdf [https://perma.cc/AYN2-7EU2].

212. *Id.*; FSB's 2023 Non-Bank Leverage Report, *supra* note 105, at 6, 38–41.

213. Bouveret & Haferkorn, *supra* note 211, at 3 chart 1 (showing losses suffered by Credit Suisse, Morgan Stanley, Nomura, UBS, and Mitsubishi UFG).

214. Wilmarth, *supra* note 206, at 4–7.

215. *Id.* at 5–7, 10–11.

216. *Id.* at 5, 10–11; *see also* Owen Walker & Robert Smith, *Credit Suisse Breached Supervisory Law over $10bn Greensill Funds*, FIN. TIMES (Feb. 28, 2023), https://www.ft.com/content/90e1ddae-5ea6-4a88-8f8e-bf10cb3207fc (on file with the *Journal of Corporation Law*) (describing Credit Suisse's risk management failures related to its sale of Greensill Capital's asset-backed securities to Credit Suisse's managed investment funds); Owen Walker & Harriet Agnew, *How Swiss Asset Managers Opened Their Doors to Lex Greensill*, FIN. TIMES (May 31, 2021) https://www.ft.com/content/726bfb7f-2e1c-491e-989f-c0cc126c377b (on file with the *Journal of Corporation Law*) (same).

investigation by Paul Weiss, a U.S. law firm.[217] Paul Weiss's report "identified a 'fundamental failure of management and controls' in Credit Suisse's investment bank and 'a lackadaisical attitude toward risk.'"[218] Credit Suisse never recovered from the Archegos and Greensill debacles.[219]

The collapse of Credit Suisse was "the first real-world test" for the complex resolution strategy that global regulators developed after the GFC to manage failures of megabanks without relying on publicly funded bailouts.[220] The post-GFC strategy for resolving a failed megabank calls on regulators to restructure and recapitalize the failed bank by writing off its existing equity stock and either writing off or converting its long-term debt securities (sometimes called "bail-in bonds") into new equity stock.[221] Congress endorsed that internal resolution strategy when it established the "Orderly Liquidation Authority" (OLA) under Title II of the Dodd-Frank Act.[222]

Swiss authorities rejected the internal resolution strategy for dealing with Credit Suisse's failure. Swiss officials emphasized "the many uncertainties and risks that would have been associated with a first-time restructuring of a global systemically important bank accompanied by a bail-in [of bondholders] that is untested on this scale."[223] Officials viewed the internal resolution approach as "unduly risky" because it would have "affect[ed] a large volume of securities issued by Credit Suisse . . . includ[ing] the bail-in bonds, which are rated investment grade and are held by a wide range of investors."[224]

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217. Owen Walker, *Credit Suisse Prepares Legal Action Against Archegos*, FIN. TIMES (July 29, 2021), https://www.ft.com/content/ef996142-e5dd-45ae-9008-fc4cbd8c291d (on file with the *Journal of Corporation Law*).

218. *Id*.; Walker & Morris, *supra* note 205.

219. Walker & Morris, *supra* note 205; Wallace & Brown, *supra* note 205.

220. Andrew Ackerman, "*Big Banks Are Supposed to Fail Without Causing Panics. Is That Even Possible?*, WALL ST. J. (Aug. 14, 2023), https://www.wsj.com/finance/regulation/big-banks-are-supposed-to-fail-without-causing-panics-is-that-even-possible-f1600990 (on file with the *Journal of Corporation Law*).

221. *See id.* (discussing "the postcrisis plan for [resolving failures of] global megabanks, under which Credit Suisse would have been wound down by regulators or restructured into a new entity"); Admati, Hellwig & Portes, *supra* note 206 (discussing the "resolution procedures" developed by global regulators after 2008 to deal with failures of megabanks); Stephen J. Lubben & Arthur E. Wilmarth, Jr., *Too Big and Unable to Fail*, 69 FLA. L. REV. 1205, 1206–14, 1221–38 (2017) (analyzing and criticizing the internal resolution strategy developed by U.S. banking regulators after the GFC, including that strategy's dubious assumption that public bailouts could be avoided by converting "bail-in debt" issued by failed megabanks into equity).

222. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111–203, 124 Stat. 1376, 1442 (2010) (codified as amended at 12 U.S.C. §§ 5381–94); *see also* Wilmarth, *supra* note 75, at 993–1000 (discussing the OLA).

223. FINMA Credit Suisse Report, *supra* note 205, at 21; *see also* Sam Jones, *Rules for Winding up Big Banks Do Not Work, Swiss Finance Minister Warns*, FIN. TIMES (Mar. 25, 2023), https://www.ft.com/content/2cfaaf47-101c-4695-92e5-b66b6abe777e (on file with the *Journal of Corporation Law*) (quoting Swiss Finance Minister Karin Keller-Sutter's statement that Credit Suisse's collapse was "clearly not the moment for experimentation," as "[t]he crash of Credit Suisse would have dragged other banks into the abyss").

224. Ackerman, *supra* note 220 (first quote); Urban Angehrn, CEO of FINMA [the Swiss Financial Market Supervisory Authority], Media Event Address at 2–3 (second quote) (Apr. 5, 2023), https://www.finma.ch/en/~/media/finma/dokumente/dokumentencenter/myfinma/finma-publikationen/referate-und-artikel/20230405-ref-anur-mediengespraech.pdf?sc_lang=en&hash=156E2B24CA2DA8F5B26C42AED4373864 [https://perma.cc/C29F-3DTN] [hereinafter Angehrn Address]; *see also* FINMA Credit Suisse Report, *supra* note 205, at 19–21 (explaining why Swiss authorities decided not to resolve Credit Suisse through an internal restructuring and

Swiss authorities believed that "a bail-in [of Credit Suisse's bondholders] would likely have created massive turmoil [in global financial markets, which] could not only have jeopardised a successful resolution of Credit Suisse, but it would have increased the risk of contagion for other banks, thereby endangering financial stability in Switzerland and worldwide."[225] Swiss officials therefore determined that a government-assisted sale of Credit Suisse to UBS was the only feasible way to resolve Credit Suisse's failure without "trigger[ing] an international financial crisis."[226] In their view, the acquisition of Credit Suisse by UBS, "a robustly capitalised and well organised bank," would restore "considerable confidence in the marketplace."[227]

Several current and former senior U.S. bank regulators have expressed similar reservations about the viability of the internal resolution strategy for winding down a global systemically important bank (G-SIB) during a crisis.[228] In August 2023, Dan Tarullo—a former Fed Governor who led the Fed's post-GFC regulatory reform efforts—said he was "skeptical" that the OLA's resolution strategy "will ever be used to resolve a G-SIB . . . in a period of stress carrying high risks of contagion."[229] In 2016, then FDIC Vice Chairman Thomas Hoenig strongly criticized the internal resolution strategy's assumption that a failing megabank could be successfully resolved simply by converting its long-term debt securities into equity stock.[230] In December 2017, the Federal Reserve Bank of

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recapitalization that would have included a write-off of Credit Suisse's bail-in bonds); SNB Credit Suisse Report, *supra* note 204, at 37 (same). Swiss authorities did require Credit Suisse to write off its Additional Tier 1 (AT1) securities in connection with its acquisition by UBS. Unlike Credit Suisse's bail-in bonds, its AT1 securities did not have a fixed maturity date and were therefore equivalent to perpetual debt (although Credit Suisse had an option to redeem its AT1 securities beginning five years after their issuance). FINMA Credit Suisse Report, *supra* note 205, at 39–40, 58–59; SNB Credit Suisse Report, *supra* note 204, at 7, 24, 30–31.

225. SNB Credit Suisse Report, *supra* note 204, at 37; *see also* Angehrn Address, *supra* note 224 at 2–3 (contending that a restructuring of Credit Suisse that included a write-off of the bank's bail-in bondholders would have "further damaged [Credit Suisse's] reputation" and generated "contagion effects" that would have "jeopardised financial stability in Switzerland and globally").

226. Jones, *supra* note 223 (quoting Swiss Finance Minister Karin Keller-Sutter); *see also* Angehrn Address, *supra* note 224, at 2–3 (explaining why Swiss authorities rejected an internal restructuring and recapitalization of Credit Suisse that included a write-off of its bail-in bonds).

227. Angehrn Address, *supra* note 224, at 3; *see also* FINMA Credit Suisse Report, *supra* note 205, at 19–21 (explaining why Swiss authorities decided to arrange a government-assisted acquisition of Credit Suisse by UBS); SNB Credit Suisse Report, *supra* note 204, at 37 (same).

228. *See* Ackerman, *supra* note 220; WILMARTH, *supra* note 2, at 315–17.

229. David Wessel, *Talking to Dan Tarullo About Bank Mergers, Stress Tests, and Supervision*, BROOKINGS ED. (Aug. 10, 2023), https://www.brookings.edu/wp-content/uploads/2023/08/Talking-to-Dan-Tarullo-about-bank-mergers-stress-tests-and-supervision.pdf [https://perma.cc/ZZM4-88GN] (quoting Mr. Tarullo); *see also* Ackerman, *supra* note 220 (citing Mr. Tarullo's doubts as well as similar concerns expressed by Rohit Chopra, Director of the Consumer Financial Protection Bureau, and FDIC board member Jonathan McKernan); WILMARTH, *supra* note 2, at 316 (quoting similar doubts expressed in 2016 by Neel Kashkari, who served as Assistant Treasury Secretary during the GFC and is currently President of the Federal Reserve Bank of Minneapolis); *id.* at 317 (pointing out that the "principal architects" of the federal government's bailout programs during the GFC—Ben Bernanke, Tim Geithner, and Hank Paulson—"agree that post-crisis reforms have not removed the need for publicly financed rescues of universal banks and shadow banks when the next systemic crisis occurs").

230. Thomas M. Hoenig, Vice Chairman, Fed. Deposit Ins. Corp., Remarks at the 22nd Annual Risk USA Conference in New York, N.Y.: Strengthening Global Capital: An Opportunity Not To Be Lost, 5–6 (Nov. 9, 2016), https://archive.fdic.gov/view/fdic/4183 [https://perma.cc/E5EU-PLG9]; Thomas M. Hoenig, Vice Chairman, Fed. Deposit Ins. Corp., Remarks Before the Peterson Institute for International Economics: The

Minneapolis concluded that "requiring the government to impose losses on debt holders of the most systemically important banks in a stressed economic or financial environment . . . is fundamentally unsound and will not work in practice."[231]

Due to widely-shared concerns about the feasibility of the internal resolution strategy, it is highly likely that future failures of megabanks will be resolved either through publicly funded bailouts or publicly assisted acquisitions of failed megabanks by even larger financial institutions.[232] As shown above, Swiss authorities used the second approach in arranging and supporting UBS's acquisition of Credit Suisse.[233] Federal regulators used both approaches (which included extensive financial assistance from federal agencies) to resolve the failures of SVB, Signature, and First Republic, even though those banks had not previously been considered as systemically important institutions.[234] The absence of a credible strategy for resolving failures of large universal banks without relying on publicly financed bailouts or publicly assisted acquisitions demonstrates conclusively that those institutions are "too dangerous for financial stability, global or national."[235]

II. WE NEED A NEW GLASS-STEAGALL ACT TO REMOVE THE ENORMOUS

Relative Role of Debt in Bank Resiliency and Resolvability, 2–5 (Jan. 20, 2016), https://archive.fdic.gov/view/fdic/4217 [https://perma.cc/9WFM-59HA]. As Stephen Lubben and I explained in a previous work, most owners of bail-in bonds issued by megabanks are likely to be retail investors who hold those bonds through their brokerage accounts, mutual funds, and pension funds. It is very doubtful whether government authorities could impose losses on those investors during a financial crisis without triggering significant political pushback as well as systemic runs by holders of bail-in bonds issued by other troubled megabanks. Lubben & Wilmarth, *supra* note 221, at 1209, 1232–33, 1235–38; *see also* Albert H. Choi & Jeffrey Y. Zhang, *Creditors, Shareholders, and Losers in Between: A Failed Regulatory Experiment*, CORNELL L. REV. (forthcoming 2024) (manuscript at 30–34), https://ssrn.com/abstract=4703200 [https://perma.cc/EC2N-F6SC] (pointing out that the post-GFC internal resolution strategy's reliance on bail-in bonds failed in Credit Suisse's case, and is likely to fail in similar future cases, as "[c]onverting some liabilities into equity or writing down liabilities will not be sufficient to save [a failing] bank because it's not giving the bank new money. Thus, when a liquidity crisis occurs, the government may be the only entity that can credibly commit to supply a sufficient level of liquidity").

231. FED. RSRV. BANK OF MINNEAPOLIS, THE MINNEAPOLIS PLAN TO END TOO BIG TO FAIL 78–79 (Dec. 2017), https://www.minneapolisfed.org/-/media/files/publications/studies/endingtbtf/the-minneapolis-plan/the-minneapolis-plan-to-end-too-big-to-fail-final.pdf [https://perma.cc/Z29F-MVQB].

232. Admati, Hellwig & Portes, *supra* note 206; WILMARTH, *supra* note 2 at 311–18; *see also* Cheryl D. Block, *Measuring the True Cost of Government Bailout*, 88 WASH. U. L. REV. 149, 224 (2010) ("[D]espite all the . . . 'no more taxpayer-funded bailout' clamor included in [the Dodd-Frank Act], bailouts in the future are likely if circumstances become sufficiently severe."); Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435, 439, 487–99, 513–14 (2012) (contending that bailouts of systemically important financial institutions are inevitable despite the OLA's internal resolution strategy).

233. *See supra* notes 223–27 and accompanying text.

234. *See supra* notes 191–93, 201-03 and accompanying text (describing the federally-assisted resolutions of SVB, Signature, and First Republic); Heather Landy, *With SVB and Signature, Federal Regulators Are Making a 'Systemic Risk Exception' for Systemically Unimportant Banks*, QUARTZ (Mar. 12, 2023), https://qz.com/with-svb-and-signature-the-us-is-making-a-systemic-ri-1850217617 [https://perma.cc/GLH4-AJMR] (discussing the federal agencies' invocation of the "systemic risk exception" to justify their decisions to protect the uninsured depositors of SVB and Signature); Megan Greene, *What the Protracted Game of Chicken over First Republic Tells Us*, FIN. TIMES (May 2, 2023), https://www.ft.com/content/f00f0b92-894e-4d9a-92ae-aa18225916b3 (on file with the *Journal of Corporation Law*) ("First Republic Bank, SVB, and Signature were clearly smaller banks in life but large banks in death.").

235. Admati, Hellwig & Portes, *supra* note 206; *see also* WILMARTH, *supra* note 2, at 325–34 (similarly concluding that "universal banks are too dangerous to exist").

THREATS POSED BY UNIVERSAL BANKS AND SHADOW BANKS.

Professor Corrigan proposes two reforms to reduce the risks created by shadow banks. His recommended reforms would improve federal oversight of bank-sponsored securitization vehicles and (potentially) other nonbank asset managers that are not currently regulated as investment companies by the SEC. However, his proposals would not remove the grave threats that universal banks and shadow banks pose to our financial system, economy, and society. We urgently need a new Glass-Steagall Act to break up universal banks and prevent nonbanks from funding their operations with shadow deposits.

A. Professor Corrigan's Proposed Reforms Are Promising, But They Do Not Break up Universal Banks or Prohibit Nonbanks from Issuing Shadow Deposits.

Professor Corrigan's first reform would adopt an "economic exposure" test to determine whether securitization conduits should be regulated as affiliates of their sponsoring banks.[236] Under his proposed test, a conduit that creates substantial economic exposures for its sponsoring bank (such as exposures to potential credit losses) would be treated as an affiliate of the bank.[237] In that event, the conduit would be subject to the prudential requirements that govern bank affiliates under federal banking laws.[238]

Professor Corrigan's second reform would treat securitization conduits and (potentially) certain other nonbank asset managers as investment companies. Status as investment companies would require those entities to comply with prudential rules imposed by the Investment Company Act (ICA) and the SEC's regulations thereunder.[239] Many of the ICA's prudential rules for investment companies—including capital requirements, investment restrictions, limits on transactions with affiliates, and SEC supervisory powers—are comparable to the requirements that apply to bank affiliates under federal banking laws.[240]

Professor Corrigan's proposed reforms deserve careful consideration because they would strengthen federal oversight of bank-sponsored securitization conduits and (potentially) other nonbank asset managers that are currently exempted from bank affiliate rules and the ICA's prudential rules. However, both reforms are incremental in nature and do not fully address the hazards created by universal banks and shadow banks. Professor Corrigan's reforms would not break up universal banks by requiring banks to divest their capital markets operations.[241] In addition, his proposals would not prohibit nonbanks from becoming shadow banks by issuing short-term financial instruments that are functional substitutes for deposits.[242]

The effectiveness of Professor Corrigan's reforms would depend on the same federal regulators who failed to stop universal banks and shadow banks from engaging in reckless

236. Corrigan, *supra* note 1, at 42–44.
237. *Id.* (discussing "economic exposures" of banks to their sponsored securitization conduits).
238. *Id.* at 44–46.
239. *Id.*
240. *Id.*
241. Corrigan, *supra* note 1, at 8 & n.24, 42 & n.182 (explaining that his proposed reforms would not separate banks from the securities markets as the original Glass-Steagall Act did).
242. *Id.* at 44–46 (stating that his proposed reforms would not prohibit nonbanks from issuing short-term debt claims).

financial practices that caused the GFC and who also failed to prevent those institutions from contributing to serious financial disruptions since the GFC.[243] As Professor Corrigan points out, the Fed has never regulated securitization conduits as bank affiliates despite its evident statutory authority to do so.[244] In 1992, the SEC adopted Rule 3a-7, which exempted securitization conduits from regulation as investment companies.[245] In doing so, the SEC brushed aside warnings that Rule 3a-7 would create significant risks and undermine the effectiveness of the ICA's prudential regime.[246] The SEC did not rescind or modify Rule 3a-7 after the GFC despite abundant evidence that the exemption contributed to the GFC's severity.[247]

Reliance on implementation by federal regulators is a major shortcoming that has significantly weakened the efficacy of the Dodd-Frank Act's reforms.[248] As Congress was debating the Dodd-Frank Act in 2010, Simon Johnson and James Kwak presciently warned that "[s]olutions that depend on smarter, better regulatory supervision and corrective action ignore the political constraints on regulation and the political power of the large banks," as well as the omnipresent threat of "regulatory capture."[249] The big-bank lobby's ongoing and relentless campaign to block the final implementation of the Basel III capital accord is the latest in a long series of efforts by large financial institutions to defeat or dilute federal

243. *See supra* Part I; WILMARTH, *supra* note 2 at 196–254, 299–334; Wilmarth, *supra* note 40, at 1, 11–17. For additional analysis of the pervasive regulatory failures that occurred prior to the GFC, see KATHLEEN C. ENGEL & PATRICIA A. MCCOY, THE SUBPRIME VIRUS: RECKLESS CREDIT, REGULATORY FAILURE, AND NEXT STEPS 15–223 (2011); SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN 88–157 (2010); *see also* S. REP. NO. 111-176, at 15 (2010) ("[A] major cause of the most calamitous worldwide recession since the Great Depression was the simple failure of federal regulators to stop abusive lending, particularly unsustainable home mortgage lending." (quoting testimony by Travis Plunkett)).

244. Corrigan, *supra* note 1, at 16, 46.

245. *Id.*

246. *Id.* at 44 (discussing the SEC's disregard of comments filed by the Investment Company Institute and the North American Securities Administrators Association in opposition to proposed Rule 3a-7).

247. *Id.* at 44–47.

248. *See* WILMARTH, *supra* note 2 at 299–320, 353–54 (discussing failures by federal regulators to implement effectively several key reforms mandated by the Dodd-Frank Act, as well as successful efforts by regulators to roll back some of those reforms during the Trump Administration).

249. JOHNSON & KWAK, *supra* note 243, at 207.

regulatory controls over their activities.[250] Unfortunately, those efforts have frequently succeeded.[251]

B. We Need a New Glass-Steagall Act to Eliminate the Unacceptable Dangers Created by Universal Banks and Shadow Banks.

The repo crisis of 2019, the pandemic crisis of 2020-21, the U.S. regional bank crisis of 2023, and Credit Suisse's recent collapse demonstrate that we have not addressed the fundamental causes of the GFC. Despite post-GFC reforms, the world remains trapped in a recurring cycle of unsustainable booms—financed by universal banks and shadow banks—followed by destructive busts that governments and central banks must try to contain through costly rescue programs.[252] In view of the enormous debt burdens that are currently borne by the private and public sectors of the U.S. and many other countries, it is highly questionable whether those countries could successfully finance another series of massive bailouts and fiscal stimulus programs comparable to those of 2007–09 and 2020–21.[253] If governments and central banks could not provide an adequate response to the next systemic crisis, the world could fall into a second Great Depression.

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250. *See, e.g.*, *Stop Basel Endgame: An Initiative of the Bank Policy Institute*, BANK POL'Y INST., https://stopbaselendgame.com (on file with the *Journal of Corporation Law*) (opposing the final implementation of Basel III by federal bank regulators); Michelle Price & Pete Schroeder, *Big US Banks Press for Redo on Contentious Capital Rule*, REUTERS (Jan. 16, 2024), https://www.usnews.com/news/top-news/articles/2024-01-16/big-us-banks-to-call-on-fed-to-rewrite-contentious-bank-capital-rule (discussing claims by the U.S. banking industry that federal bank regulators should completely redo their proposed Basel III capital rules); Claire Williams & Kyle Campbell, *'Unprecedented': Banks' Lobbying Blitz Against Capital Rules*, AM. BANKER (Nov. 20, 2023), https://www.americanbanker.com/news/unprecedented-banks-lobbying-blitz-against-capital-rules [https://perma.cc/Q48G-LZNS] (describing the massive lobbying campaign orchestrated by megabanks and their trade associations "against the Basel III endgame proposal" advanced by federal bank regulators); *Standing up to the Bank Lobbyists on Capital*, BETTER MKTS. (Mar. 1, 2024), https://bettermarkets.org/analysis/the-importance-of-capital [https://perma.cc/3N68-8MZ7] (contending that "Wall Street and its supporters [have made] more and more false, baseless, and dangerous arguments about capital to protect their bottom line").

251. *See, e.g.*, WILMARTH, *supra* note 2, at 148–95, 299–316 (describing how the big-bank lobby (i) persuaded federal regulators and Congress to undermine and repeal the Glass-Steagall Act and exempt over-the-counter derivatives from virtually all regulation during the 1980s and 1990s, and (ii) convinced Congress and federal regulators to weaken several key provisions of the Dodd-Frank Act).

252. *See supra* Part I; WILMARTH, *supra* note 2, at 12–14, 325–27, 353–56; Wilmarth, *supra* note 40, at 1, 2–6, 11–17.

253. For discussions of the severe sovereign debt problems facing the U.S. and many other countries, see Mary McDougall, *Investors Warn Governments About High Levels of Public Debt*, FIN. TIMES (Jan. 8, 2024), https://www.ft.com/content/33f85fd6-55ec-45a1-a1b6-69a845726d58 (on file with the *Journal of Corporation Law*); Mary McDougall, *Poor Countries' Debt Costs to Hit 'Crisis' Levels, Says World Bank*, FIN. TIMES (Dec. 13, 2023), https://www.ft.com/content/7b77b045-8b5b-4249-8fb9-551577559550 (on file with the *Journal of Corporation Law*); Mary McDougall et al., *Governments Brace for Fiscal Reckoning from Bond Markets*, FIN. TIMES (Nov. 4, 2023), https://www.ft.com/content/f0c2246d-37e5-4bf9-91c7-31f46135a1cf (on file with the *Journal of Corporation Law*); *Once Again, CBO's Projections Show that the Fiscal Trajectory of the United States Remains Unsustainable*, PETER G. PETERSON FOUNDATION (Feb. 7, 2024), https://www.pgpf.org/blog/2024/02/once-again-cbos-projections-indicate-that-the-fiscal-trajectory-of-the-united-states-remains-unsustainable [https://perma.cc/GVF9-38T8]; *see also supra* notes 160–65 and accompanying text (discussing the enormous increase in U.S. and global private-sector and public-sector debts since 2007); John Plender, *Spiralling US Public Debt Risks Action From Bond Vigilantes*, FIN. TIMES (Feb. 25, 2024) (discussing potential risks of significant disruptions in the U.S. Treasury bond market due to growing concerns about rapidly rising U.S. government debts).

Congress must adopt a new Glass-Steagall Act to stop universal banks and shadow banks from continuing to finance speculative booms that threaten the stability and health of our financial system, economy, and society. A new Glass-Steagall Act would break up universal banks by separating banks from the capital markets. Banks could no longer use their federally protected deposits to fund speculative activities in the capital markets, and they would return to their traditional roles as providers of deposit, lending, payment, and fiduciary services.[254]

A new Glass-Steagall Act would also prohibit nonbanks from offering short-term financial instruments that function as shadow deposits, such as MMMFs, commercial paper, repos, and digital stablecoins. That prohibition would prevent nonbanks from issuing any financial claims that are payable at par (100% of face value) either on demand or within ninety days from their issuance. Thus, nonbanks would no longer be allowed to finance risky activities by issuing short-term liabilities that are prone to investor runs and threaten financial stability.[255]

A new Glass-Steagall Act would restore a financial industry divided into three independent sectors by strictly separating banks from the capital markets and the insurance industry.[256] The Act would reinstate clear structural boundaries and prohibitions to enforce that separation, thereby greatly reducing the financial power, political clout, and regulatory influence that universal banks and large shadow banks currently wield.[257] A renewed structural separation of the financial industry would "rekindle the heated political rivalries that existed among banks, securities firms, and insurance companies" prior to the repeal of the original Glass-Steagall Act.[258] Structural separation would encourage each sector of the financial industry to "police the boundaries established by a new Glass-Steagall Act and . . . serve as a strong counterweight against the political and regulatory influence of the others."[259]

A new Glass-Steagall Act should include two crucial safeguards to prevent federal agencies and courts from undermining the Act's revived regime of structural separation. First, the Act should stipulate that agency interpretations of its provisions will not receive judicial deference under the *Chevron* doctrine and, instead, will be reviewed on a de novo basis by the courts.[260] Second, the Act should expressly authorize firms from each financial

254. WILMARTH, *supra* note 2, at 336–41, 344–47, 353–56.

255. *Id.* at 13–14, 341–44; Wilmarth, *Crypto Industry*, *supra* note 159, at 312–26.

256. WILMARTH, *supra* note 2, at 2–3, 14, 341–49, 355–56.

257. *Id.* at 347–49.

258. *Id.* at 348–49.

259. *Id.*

260. *Id.* at 349; *see supra* notes 33–35 and accompanying text (explaining that federal courts upheld a series of federal agency rulings that undermined the original Glass-Steagall Act during the 1980s and 1990s, based on the *Chevron* doctrine of judicial deference). In 2010, Congress eliminated *Chevron* deference for regulations and orders of the OCC declaring that the National Bank Act (NBA) preempts state consumer financial laws. Section 1044 of the Dodd-Frank Act provides that the NBA preempts a state consumer financial law "only if" that state law either discriminates against national banks in favor of state banks or "prevents or significantly interferes with the exercise by the national bank of its powers." 124 Stat. 2014 (codified at 12 U.S.C. § 25b(b)(1)). Section 1044 also provides that OCC preemption determinations are not eligible for *Chevron* deference and will be upheld by courts only if they are found to be persuasive based on the factors specified in *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944). *Id.* (codified at 12 U.S.C. § 25b(b)(5)(A)); *see also* Arthur E. Wilmarth, Jr., *The Dodd-Frank Act's Expansion of State Authority to Protect Consumers of Financial Services*, 36 J. CORP. L. 893, 933 (2011) (Section 25b(b)(5)(A) "ensures that reviewing courts will evaluate the OCC's preemption determinations without

sector to file lawsuits challenging agency interpretations that could weaken the statute's structural boundaries.[261]

A new Glass-Steagall Act would greatly improve the stability and resilience of our financial system. It would reestablish structural limitations and risk buffers that prevent crises from spreading across financial sectors.[262] It would greatly improve market discipline by clearly separating banks from the capital markets. The federal government would no longer be required to bail out the entire financial system to prevent large banks from suffering crippling losses related to their capital market operations.[263] Nonbank financial institutions would be more stable and resilient because they would be required to fund their operations with equity and longer-term debt securities.[264]

A new Glass-Steagall Act would create a more diverse and competitive banking system by breaking up universal banks. Large banks would have much stronger incentives to serve all segments of business and society—including consumers and Main Street businesses that lack access to funding from the capital markets—instead of focusing their efforts on Wall Street speculators, multinational corporations, and wealthy investors. Community banks would be likely to attract more deposits as universal banks are broken up and as nonbanks are barred from issuing short-term financial claims. Better-funded community banks would have greater capacity to provide much-needed credit to existing small businesses and new business startups. Stronger community banks would also provide greater support to smaller cities and rural areas, thereby improving the economic and social well-being of geographic areas outside large metropolitan areas.[265]

Securities markets would once again become true markets because they would no longer be bailed out to protect universal banks and large shadow banks. Our political, regulatory, and monetary policies would no longer be held hostage to the interests of giant financial conglomerates.[266] Banks, securities firms, insurance companies, and asset managers would return to their proper roles as servants—not masters—of commerce, industry, and society.

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giving strong deference to the OCC's interpretations of the NBA. . . . Unlike *Chevron*, *Skidmore*'s more demanding standard of review will compel the OCC to bear the burden of persuading the courts that its preemption determinations are valid."). When it passed the Dodd-Frank Act, Congress strongly criticized the OCC for its aggressive actions preempting state consumer protection laws prior to the GFC, which "actively created an environment where abusive mortgage lending could flourish without state controls." S. REP. NO. 111-176, at 16–17 (2010). In view of the equally aggressive and unwarranted actions taken by federal banking agencies to undermine the Glass-Steagall Act during the 1980s and 1990s (*see supra* notes 33-35 and accompanying text), Congress should remove *Chevron* deference from future federal agency interpretations of a new Glass-Steagall Act.

261. WILMARTH, *supra* note 2, at 349. For an analysis of the potential value of the foregoing safeguards, see generally Heidi Mandanis Schooner, *The Role of Rival Litigation in Wilmarth's New Glass-Steagall*, 93 U. COLO. L. REV. 961 (2022).

262. WILMARTH, *supra* note 2, at 2–3, 14, 149–50, 339–40, 355–56.

263. *Id.* at 3–4, 14, 150, 317–18, 339–41, 355–56.

264. *Id.* at 341–44.

265. *Id.* at 341–46.

266. *Id.* at 13, 325–37, 353–56.

CONCLUSION

Professor Corrigan's Article sheds important new light on the toxic symbiosis between universal banks and shadow banks. His Article contributes significantly to our understanding of the hazardous relationships between universal banks and shadow banks, as well as the great risks and costs that those relationships impose on our financial system, economy, and society. Professor Corrigan also presents valuable new proposals for reform, but his proposals do not go far enough to remove the unacceptable dangers created by universal banks and shadow banks.

A new Glass-Steagall Act would provide the most direct, effective, and feasible approach for ending the systemic threats posed by universal banks and shadow banks.[267] Without a new Glass-Steagall Act, universal banks and shadow banks "will continue to dictate our government's policies and control the future direction of our economy and society."[268] In 1914, Louis Brandeis warned the American people that "[w]e must break the Money Trust or the Money Trust will break us."[269] Congress heeded Brandeis' advice when it adopted the original Glass-Steagall Act in 1933.[270] Brandeis' admonition is just as timely and compelling today as it was in 1914 and 1933.

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267. For a similar proposal for structural reform of the banking system and financial markets, see Lev Menand & Morgan Ricks, *Rebuilding Banking Law: Banks as Public Utilities*, pts II.B–D, 41 YALE J. ON REG. (forthcoming 2024), https://cdn.vanderbilt.edu/vu-URL/wp-content/uploads/sites/412/2023/09/14140935/Banking-Full-Report-Final.pdf [https://perma.cc/QKT2-YVXS].

268. WILMARTH, *supra* note 2, at 356.

269. *Id.* (quoting Louis Brandeis, *Big Men and Little Business*, in OTHER PEOPLE'S MONEY 137 (1914)).

270. *Id.* at 18–19, 349, 356.